OutFit

Final Document

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Executive Summary

The purpose of this report is to describe and document the process and choices a five person team made in developing a clothing app. It will cover the initial concept, intended audience, vision, research plan and results, architectural strategy, content and design features, proposed technological implementation, initial schedule, four implementation progress reports, actual schedule, and lessons learned.

The report will describe the team's user and market research, which consisted of a 21-question survey, multiple user interviews, and a competitive evaluation of competitors to determine specific pain-points for people in the area of clothing acquisition, organization, and style sharing. The results were used to inform the conceptualization and design of a mobile app intended to help users find clothes that fit them based on well-fitting items they already own. The report will also discuss the team's usability testing research, conducted in three stages with 20 users, which was used to inform the iterative design process once prototypes had been created.

There are a wide variety of apps intended to help users find or share style inspiration, shop for clothes, or organize their closets. Many apps contain multiple features, including the ability to track clothes usage, plan one's wardrobe or packing list, and suggestions for pairing different items or accessorizing differently. However, few apps focus on the problem of finding the right fit, which was mentioned many times in the survey and interviews as being one of the biggest pain points for users.

Our strategic goals are as follows:
- Develop a simple architecture that attracts and keeps users interested in finding and sharing clothes that fit them best.
- Design an app that seamlessly integrates with users' already existing shopping flows, enabling users to have better success finding clothes that fit in both an online or physical shopping environment.
- Provide users with a unique service that helps them find items that fit them properly, allowing them to save time and energy and avoid frustration.

Our goals as described in this report address the following key focal areas noted as important for development of the clothing app:

- Making the app quick and easy to use—the biggest barrier to using other clothing apps is the complexity and time-consuming nature of the tasks involved.
- Growing the user base to increase the efficiency of our app—the more data we have regarding what clothes fit whom, the better we can provide users with matches to their body shape.
- Provide a variety of options for users who operate on limited budgets—we want to ensure we include a wide range of brands, not just ones for wealthy users.

By using the recommendations in this report to develop viable strategic solutions, the team will be able to design an app that attracts users seeking a solution to their fit-related problems, keep the users coming back to use the app in order to increase the app's efficiency, and provide users with a streamlined, straightforward experience that decreases the amount of time they have to spend on finding clothes.

Initial Concept Discussion

In order to begin realizing this plan, our team used an affinity diagram exercise (see Appendix A for artifacts) within our group to identify common pain-points people have with clothing. We discovered that in general, we disliked spending excessive amounts of time on shopping or organizing our clothes, often struggled to find clothes that fit, wanted to be environmentally conscious and aware of the cost and quality of the clothes, maintained different levels of closet organization, found it difficult defining our preferences, and sometimes were unsure where to go for suggestions. We collectively participated in an exploratory "crazy eights" design activity (see Appendix B for artifacts) to quickly map out a variety of design solutions both general and specific.

We decided to research and design an app that could do one or many of the following things:

- Create a fit (sizing) and style profile
- Find clothes to buy based on that profile
- Identify styles/trends to follow
- Organize clothes in a digital "closet"

- Suggest clothing combinations based on weather, occasion, mood, etc.
- Share trends and styles with others
- Match people with similar profiles so they can share information about where to buy clothes that fit properly.

Audience

When we began thinking about our intended user audience, our initial impulse was to design the app for people like us—graduate students, often unable to spend excessive amounts of time or money on finding, purchasing, or organizing the perfect wardrobe. This audience would have to have at least a basic interest in improving their wardrobe, even if it was a desire to make their processes surrounding clothes more efficient.

Initially, we planned to market to people who do not enjoy spending time shopping, have trouble finding clothes that fit or have trouble styling clothes, and/or who like helping others create styles.

As we progressed with our research, we decided to narrow our target audience to focus on people who have trouble finding clothes that fit, would describe clothing as a necessity, not necessarily a hobby or passion, and prefer to not spend a lot of money on clothes. This incorporates both our initial plan of marketing to people like us without extensive amounts of time or interest in growing their wardrobe as well as an integral piece of information we discovered during our research regarding the large number of people who struggle with finding the right fit.

Mission

The primary focus is to use existing and crowdsourced data to provide users with a fast, straightforward, yet flexible experience that will allow them to explore and search for clothing and clothing styles that are compatible with their body type, style, and fit preferences. Our app will save the user time and help them find the right fit, organize their wardrobe, and explore

clothing items and styles for different moods and occasions that they would like while allowing for suggestions.

Vision

Our vision is to continually evaluate the problem space of finding and buying clothing that people feel good and comfortable in and to incorporate design solutions into our growing database of clothing and network of users. Future iterations will include children's clothing and a desktop component so that power users can have greater control over their preferences and wardrobe in which they can take pictures of, tag, and recommend outfits and combinations.

Value

- User-Centered Process
- Style Sharing
- Less Effort, More Satisfaction
- Managing Time Wisely

Value

User-Centered Process   Wise Time Management

Style-social sharing   Less Effort, More Satisfaction

Mission/Vision
The primary focus is to use existing and crowdsourced data to provide users with a fast and straightforward experience that will allow them to save time while searching for the right fit. Our app will save the user time, find the right fit, help to organize, and fit a style but allow for suggestions.

Vision
Our vision is to assist to find the perfect fit clothes with not only saving time but also recommending what to buy or suggesting when to wear with.
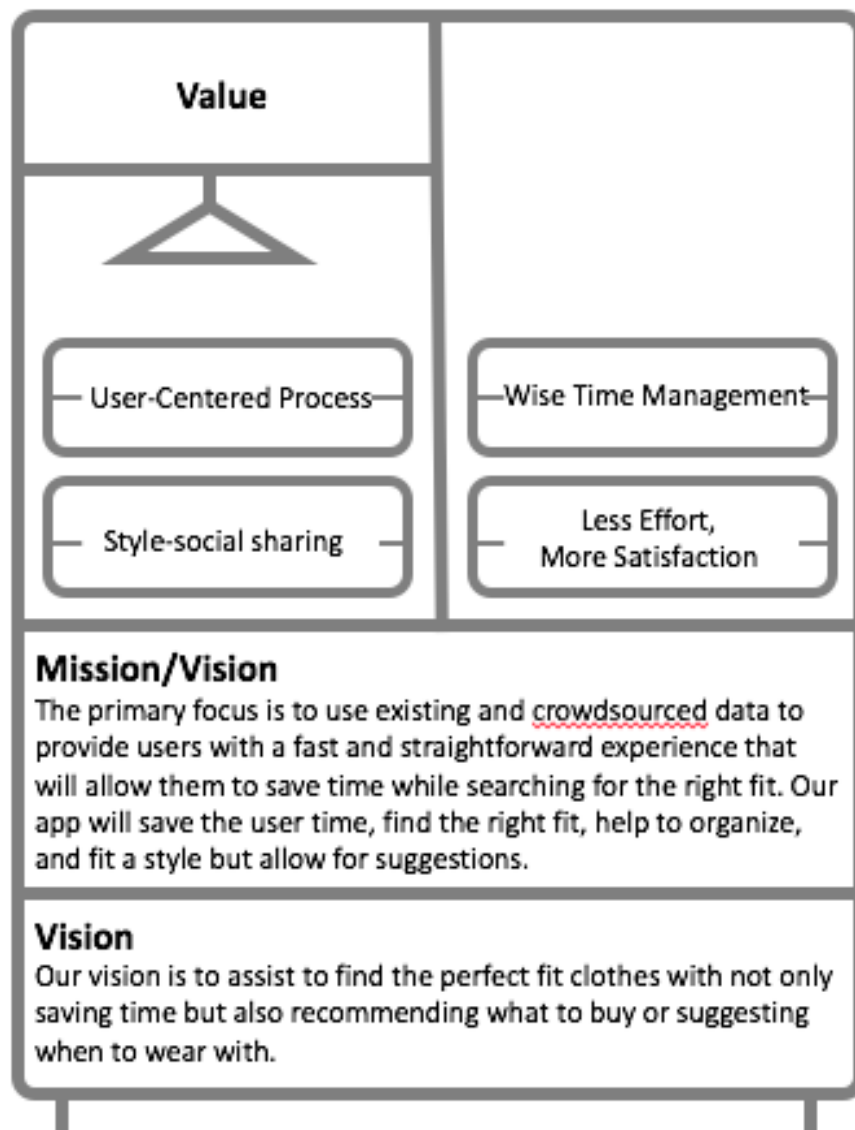
Figure 1. Value, Mission, and Vision

Technological Implementation

We decided we would need to implement tools to incorporate data gathered from users about their measurements, body-type, and preferences and use this data to curate their browsing experience. We would use crowdsourcing to populate our database (users would be able to add items that fit them well) and match the clothing of other users based on their measurements, clothing choices, and body types.

We planned to leverage a search engine and databases for our bottom-up approach to finding items that fit. We would require a content management system within the app that would allow users to view images of their clothing, and images of people wearing those items of clothing. We planned to use crowdsourcing to tag and add other metadata values to each article of clothing.

The app would also be highly personalized for each user, with each edit they make to their style and fit profile resulting in a more heavily filtered set of results, customized to meet that user's specific expectations and needs.

Potential Risks and Dependencies

Our biggest challenge at the beginning of the project was honing our feature set and choosing the set of problems we wanted to solve with our app. We addressed this by conducting user research to determine priorities of our target market. Once we identified their priorities and problem areas, we were able to make informed decisions about which solutions to implement, design, and iterate upon.

Because many of our features were focused on a specific pain point, we planned to continue user interviews and testing to continually evaluate and improve how we used fit profiles to affect users' experiences with other parts of the app. In early stages of conceptualizing the app, we shifted our focus area and feature set several times. We ran the risk of following other clothing apps' examples and attempting to include too many features, or overcomplicating the users' onboarding process.

Once we began developing more detailed wireframes and content maps, we experienced dependencies based on our technological limitations, as many wireframing tools do not allow direct collaboration. We planned to assign one person to act as the leader for each stage of the process, in order to streamline the process and increase efficiency in handoffs.

Preliminary Research

Research Plan

We planned to conduct our research in two stages. The first stage would involve a competitive evaluation and survey, and the second would involve one-on-one interviews.

The competitive evaluation would allow us to look at apps with similar features to understand the clothing app and service market space and examine which problems they attempt to solve. We would also perform a strength/weakness/opportunity/threat (SWOT) analysis to identify various strengths and weaknesses of the most popular (most downloaded or highest rated) apps.

We then conducted a 21-question survey to narrow our target group and gather quantitative data about users we think would benefit from using our app. We distributed this survey on Reddit, the Insider and Outsider listservs, and to our social media contacts in order to get answers from a broad range of respondents. The survey included demographic questions as well as questions related to shopping habits (both the "finding" and "purchasing" aspects), organizing and managing clothing, and sharing trends and styles with others in social environments.

Once we had a better understanding of our target users, what they might want in a clothing app, and problems they encountered with shopping, organizing, or sharing clothing or trends, we identified potential interviewees to gain more insight into these problems. We created a screener and interview protocol and conducted 5 user interviews to gather more qualitative insights.

We searched for interviewees who:
- Had trouble finding clothes that fit (our screener asked people to rank how hard it was to find clothes that fit, on a scale of 1 to 5, 1 being very easy and 5 being very difficult)
- Would describe clothing as a necessity, not necessarily a hobby or passion
- Preferred to not spend a lot of money on clothes

Our research questions for the user interviews included:
- ● What issues do they experience when identifying clothes that fit?
- ● What strategies have they found successful in finding clothes that fit?
- ● As people who struggle with fit, do they use certain shopping methods over others?

Finally, we asked users from our target market to participate in a card sort to help us organize the hierarchy and organization of tasks on our site and clothing categories. This informed our process and allowed us to iterate on our previous designs as needed.

Technological Implementation

We used Qualtrics to design, distribute, and analyze results from our survey. To perform screen-capture during our user interviews, we used TechSmith Snagit and Camtasia. We used Optimal Workshop to develop card sorts and tree diagrams as we moved into the next stage of our user research. We also used usertesting.com to gather feedback on our prototypes when we reached that stage in the process.

Research Results and Discussion
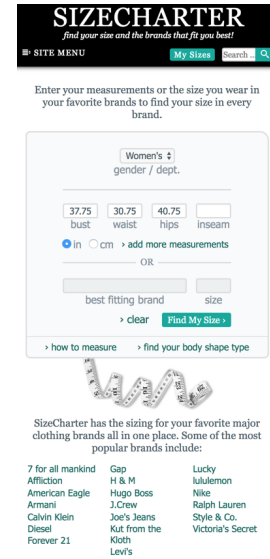
Competitive Analysis

The competitive analysis revealed that there are many apps that focus on shopping, sharing or suggesting styles, planning outfits, and organizing clothes, but few that focus just on fit. While we began our competitive evaluation with examining ten different apps in different areas of the market (results are compiled in Table C.1 in the Appendix), we decided to narrow our focus to three apps - Stylebook, ClosetSpace, and Size Charter, which are outlined in the table below.

Table 1. Competitive Analysis

Company Info	**Name:** Stylebook (left brain/right brain) **Location:** Princeton, NJ **Company Size:** 2-10 employees **Website:** www.stylebookapp.com	**Name:** ClosetSpace (Stylistics) **Location:** New York, NY **Company Size:** 11-50 employees **Website:** closetspace.com	**Name:** Size Charter (Love to Know Corp) **Location:** Burlingame, CA **Company Size:** 51-100 employees **Website:** sizecharter.com

Product

Target Audience	Women (ages 15-40)	Women and men (average is 25 yr old female)	Men, women, pregnant women
Strengths and Weaknesses	**Strengths** -Features a variety of features. -Integration with Pinterest. **Weaknesses** -Too many features -Very specific audience - separate app for men	**Strengths** -Wide variety of features. -Founding company is fashion analytics firm **Weaknesses** -People may not like the idea of their data being sold	**Strengths** -Extremely simple. Focuses only on fit. **Weaknesses** -Doesn't provide next steps for user. -No images or examples of items.

Survey Results

We designed a 21-question survey (see Appendix D for a complete list of the questions) and distributed it via the Insider (a school-wide listserv), Facebook, Reddit, and Tumblr. We closed our survey after a week after receiving 2,809 responses. This allowed us to begin analyzing our results (highlights listed in Appendix E) several days before our initial target date of March 2.

The majority of our respondents were female (78%), and 13.8% self-described as being neither male nor female, which we did not expect but found interesting. Over 80% of respondents were 18-34 years old. Approximately 50% reported an annual household income of less than $35,000, and nearly 80% mentioned they spent less than $100 the last time they purchased clothing.

The results allowed us to narrow our problem area to the difficulty people have with finding clothes that fit (over 60% of respondents said finding the right fit was somewhat to extremely difficult). We were also able to determine that many people have stopped using clothing apps because it was time-consuming to upload pictures and maintain their digital closets.

91% of our respondents indicated that they browse and purchase their clothes at physical stores, with 61% indicating that they browse and purchase clothes online. Some of the users we interviewed revealed that they never or rarely shop online for clothes (unless they know exactly what they are looking for) because they usually have to return items due to poor fit. Even when they used sizing charts to attempt to find the right size, the items might still not be "flattering"—the style aspect of fit.

These insights helped inform our definition of "fit". A clothing item fits a person when it both suits their physical measurements and they find it flattering (what we call "style" in the Venn diagram below).
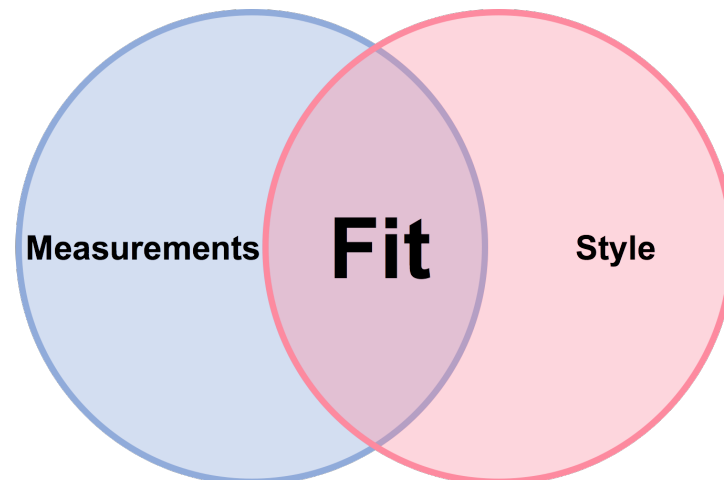
Figure 2. Venn diagram describing our definition of fit

User Interviews

Once we completed our survey, we selected and interviewed four individuals with difficulty finding clothes that fit in order to gather more detailed information on why they found this process difficult and what strategies they developed to overcome this obstacle.

We noticed several common threads in the responses from these interviewees. Although each had varying levels of interest in being stylish or trendy, all four listed "comfort" as one of the three adjectives they would use to describe their style.

Nearly all the users described shopping for clothing as "frustrating" and "time-consuming." Users mentioned that that their frustration with online shopping stemmed from the fact that it was impossible to know how well a clothing item would fit them until they had tried it on. "I just got tired of sending things back," one said, when explaining why she no longer makes online purchases.

Most of the users did not indicate they were interested in using an app to organize their closets or gather statistics on their most or least-worn outfits. All users indicated they would be very interested in an app that would provide "suggestions for clothing based on current items you

have that fit you well," as well as a feature that would show them "how clothing items fit on people with similar body types." (See Appendix F for the complete script for user interviews).

Conclusion

Based on the interviews, survey, and competitive analysis results, we decided we should develop a mobile app that focused on helping users find clothes that fit. We wanted to incorporate features that would allow users to log online purchases through email or browser add-ons, as well as features to accommodate people with small clothing budgets. The survey also indicated that people use weather and seasons as a key factor in organizing and planning their wardrobe, so we intended to design a feature that would incorporate flexibility based on these factors.

In the table below, we listed some key observations from our research, the conclusions we reached after analyzing the observations in the context of the other findings, and the implication our conclusion has for our app's architecture.

Table 2. Observations from clothing app research

Observation	Conclusion	Implications for app architecture
Features		
Users said they often stopped using clothing apps because it was time consuming to add their entire closet.	User must be able to receive full benefit of app after investing minimal time/effort.	User should register three-five favorite items, which can then be used to match them to potential fits.
Around 78% of respondents said they spent less than $100 the last time they went shopping for clothes, and 20% indicated they purchase clothes at thrift stores or wear second hand clothing. Many	Many users do not (or cannot) spend much money on clothes and seek less expensive purchases.	App should include less expensive brands as well as features for users who operate on small clothing budgets (such as sale notifications on saved items).

suggested this was due to a small clothing budget.		
78% of respondents said they prefer to try on clothes before purchasing. Others said that they found online sizing charts to be unhelpful, and trying something on was the only way to determine whether something fit.	Users experience a lot of uncertainty about whether an item of clothing will fit. They have to see it on themselves before they can make that determination.	App should contain a feature that allows users to preview the item of clothing, either on themselves (using AR/VR or a smart mirror) or by viewing images of another person wearing the clothing.
A large number of our survey respondents identified as neither male nor female (13.8%), and many mentioned that they often wear clothes more commonly worn by the opposite gender.	Splitting clothes into categories for men and women may not be the best way to organize clothing.	We categorized using words like "feminine" and "masculine" rather than "woman" and "man".

Strategy Discussion

Information Architecture Administration

The information architecture of this app combines a top-down and bottom-up approach. We developed a clothing taxonomy for the app, but would use user-generated tags and metadata to allow users to refine their searches and filter results. While clothes would be primarily organized in our pre-defined hierarchy, we would allow users to create their own tags to allow for creative experiences and increase the number of our searchable metadata values to improve searching for niche styles and subcultures.

We planned to integrate two main organization schemes in our app - the primary hierarchy would be search-focused, and within the different features (shopping, sharing items) we would apply a topical scheme focused on the clothing (type, style, season, etc.). Because our survey results indicated that a significant number of oru respondents identified as neither male nor female, we planned to create categories that focused on style rather than clothing for men/women, instead showing the users various masculine, feminine, and androgynous styles and asking them to evaluate how well each fits their own style as part of the onboarding process and fit profile.

The other organizational scheme would be created from pre-defined and user-generated metadata, allowing users to choose style, occasion, decade, etc. categories through which they can browse. Every clothing item shown would adhere to the user's physical fit profile. In addition, each time a user "likes," "dislikes," buys, or saves a clothing item to their wishlist, it would further refine their fit profile and improve the recommendations that they are shown.

Originally, we did not design our app to deliver users to subsites, intending instead to link them to a retailer site where they could purchase the item(s) they found. As our project progressed, we found that users expected to be able to purchase items directly from the app, so created a cart system that would allow them to do so.

Blueprint and Content Map

Once we refined our feature-set and ideas regarding how our users would interact with them, we developed a blueprint, first as a whiteboard sketch, and then using Sketch to demonstrate the relationships between areas of our app.

The initial sketch reveals our initial thoughts about how the app should be organized. We wanted to mirror other popular apps (specifically Tinder and Spotify - see Appendix G.3 for a related artifact) in the way that some of our features worked. For example, the home screen would provide users the opportunity to swipe right on articles of clothing they liked, or left to express that they disliked the item. The discover feature was intended to work like Spotify's feature, in that it would allow users to explore music they might not necessarily pick for themselves.
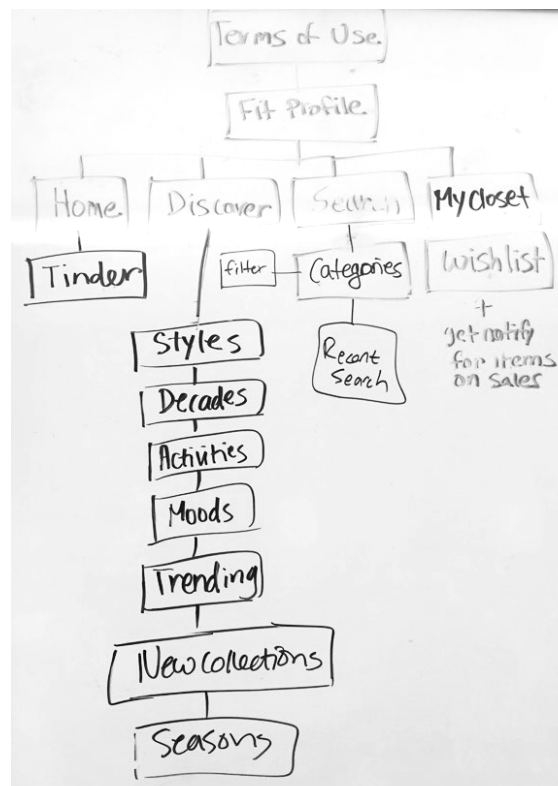

Figure 4. Initial Sketch for Blueprint of Basic Architecture and Information Flow

Our initial blueprint reflects most of the features as our original sketch, with a few updates and modifications. We expanded the profile idea to include both the user's fit and style profile, since

users in our interviews indicated it wasn't just physical fit, but whether the item looked good on them that was important. We also used the blueprint to emphasize how data would be gathered to improve the user's fit and style profile, which would then increase the efficiency of our app's matching algorithms.

Blueprint

User's fit profile
* Required

Terms of Use

User's style profile

Profile

Home   Discover   Search   My Closet   Settings

Shuffle   Styles   Categories   Wish List

Users indicate whether or not they like an item, which informs profile

Seasons

Recent Search

* Get notified when selected items go on sale

Decades

Activities

Moods

Selections inform profile

Trending

New Collections

Figure 5. Blueprint of the Basic Architecture and Information Flow

As we refined our concept and began developing new feature ideas and flows, we developed a content map to help visualize users' interaction with material, and to establish how it should be intellectually organized within our app. The concept map contains many of the same features as

the blueprint, but reveals more information about the steps within the onboarding process, as well as the different paths a user would take depending on whether they are an initial user or a return user.

Figure 6. A content map including task flows

Content Inventory

We began creating sketches and initial wireframes of the site, establishing what screens and flows we'd need to create to provide users with these features (see Appendix H for wireframe brainstorming artifacts). In order to keep track of our pages and ensure we were not missing important steps i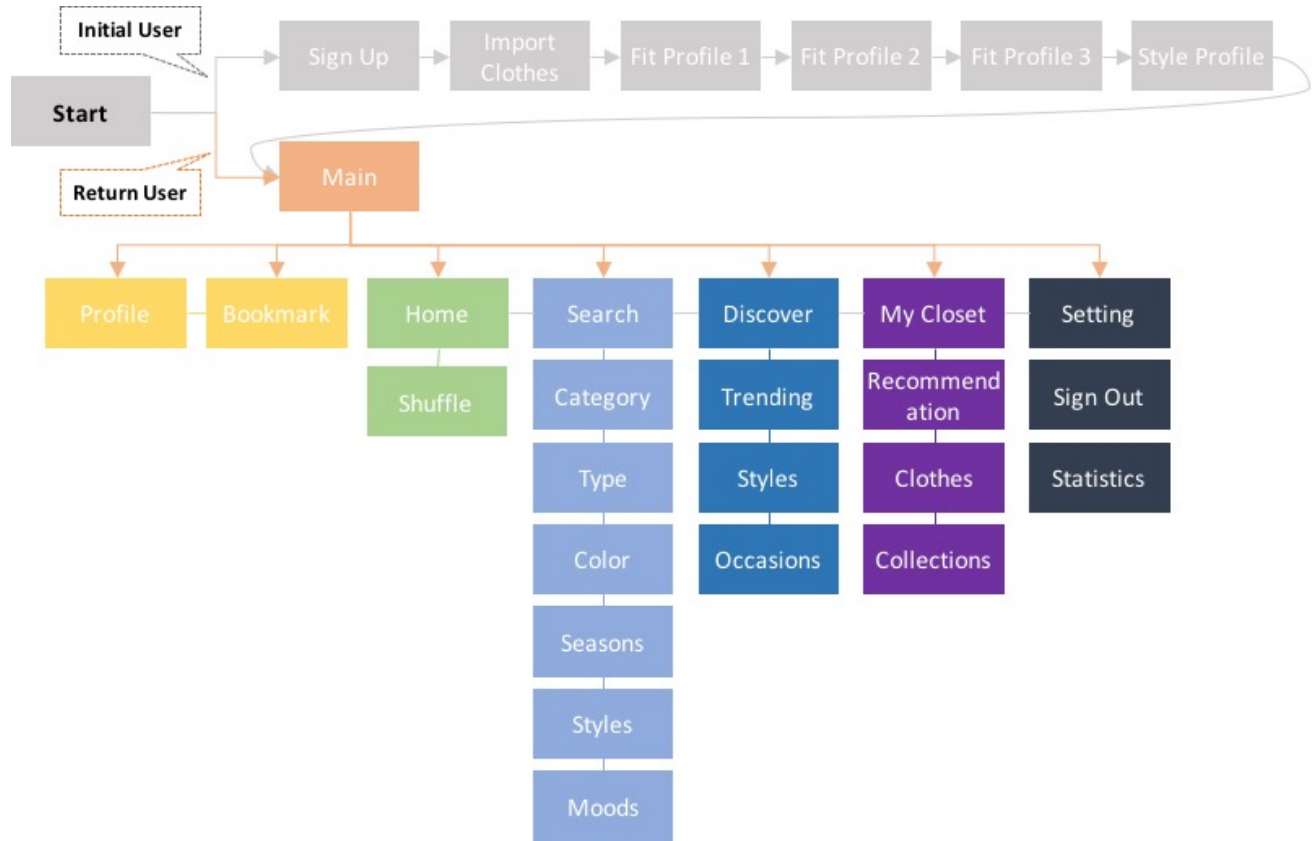n the process, we created a content inventory. This complements information found in the wireframe, which is included later on in this section.

Table 3. A content inventory of all app pages

#	Page
1.0	Create an account
1.1.1	Import Clothes
1.1.2	Import Successful
1.2.1	Fit Profile - Measurements
1.2.2	Fit Profile - Body Shape - Stomach
1.2.3	Fit Profile - Body Shape - Shoulders
1.3	Style Profile
2.0	Home Screen - Feed
2.1	Wishlist - Success Message
2.2	Purchase - Redirect Message
3.0	Search for Specific Items
3.1	Search Results
4.0	Discover - Browsing Items
4.1	Trending - Results

4.2	Styles - Results
4.3	Occasion - Results
5.0	Digital Closet
5.1	Recommendations - List
5.2	Looks - List
5.3	Items - List
5.4	Clothing Item Detail Page

Controlled Vocabulary

In order to develop a controlled vocabulary and understand how different pages and pieces of data should connect, our team developed a metadata matrix listing the different types of information we planned to use to define and categorize clothing items. We developed the metadata values based on information we gathered during our competitive analysis phase, and informed the process by data gathered during our survey and interviews. For example, season is listed as its own metadata set because it is one of the most important features respondents said they considered when searching for and organizing their clothing.

We also developed a list of style and clothing categories (three tiers for clothing, to include all the subcategories), which can be found in Appendix I.

Table 4. A metadata matrix for our app.

Vocabulary	Description	Examples	Maintenance
Clothing category	Categories of clothing items available	Tops; bottoms; shoes	Moderate
Clothing subcategory	Subcategories of clothing items available	Blouse; sandals;	Moderate
Clothing brand	Brands of clothing items available	Hollister; Lands End	Easy
Price range	Cost of clothing items	$5-$20, $21-50,	Easy
Material	Materials clothing items are made from	Cotton; polyester; rayon	Easy
Color	Color of clothing item	Navy; Black; Red	Easy
Season	Time of year clothing is commonly worn.	Winter; Spring; Summer; Fall	Easy

Occasion	Occasions clothing items may be appropriate for	Wedding; work; date night	Easy
Style	Styles of clothing items	Hipster; vintage; classic; streetwear	Difficult
Descriptive Tags	User-generated terms	Dinosaur; birds; The Grateful Dead	Difficult

Content Model

We also created two content models to help visualize the connections between features or items and other features. The first artifact is a content object linking table, which lists content objects (like the home page) and other objects that might be linked to it by similar metadata attributes. We used this to find connections between our most important features, as well as other features we might not necessarily have thought about linking to other objects, such as user-generated pictures. This kind of information would be important were we to actually create the app and implement a database (see Appendix F, Figure F.2 for a related artifact).

Table 5. A content object linking table.

Content objects	Linked content objects	Common metadata attributes
Home page	Item pages, external purchase site, Style, Occasion,	Item pictures, style occasion
Item page	User-generated pictures of clothing, style, occasion, external purchase site	Clothing category, clothing subcategory, clothing brand, occasion, styles, material, season
Search	Item pages, Style, Occasion	Category, type, color, price-range, material, season
Discover	Trending, Styles, Occasions	Item pictures, styles, occasions, material, season
My Closet	Outfit Recommendations, Style, Item pages, Clothes, Collections	Style, occasion, category, subcategory, type, color, material, season
Closet Item	Style, Occasion	Style, occasion, user-generated reviews
User-generated pictures	Item pages, reviews	Clothing category, clothing subcategory, style, occasion

Style	Item pages	Clothing category, clothing subcategory, style, occasion
Occasion	Item pages	Clothing category, clothing subcategory, style, occasion

The second content model is a visual layout of our app to explain how navigation functions between the different pages. While the initial version began as a sketch in a brainstorming session (see Figure G.1 in Appendix G), we eventually developed this content model, which does not show all our app pages, but demonstrates an early iteration of the low-fidelity wireframe.
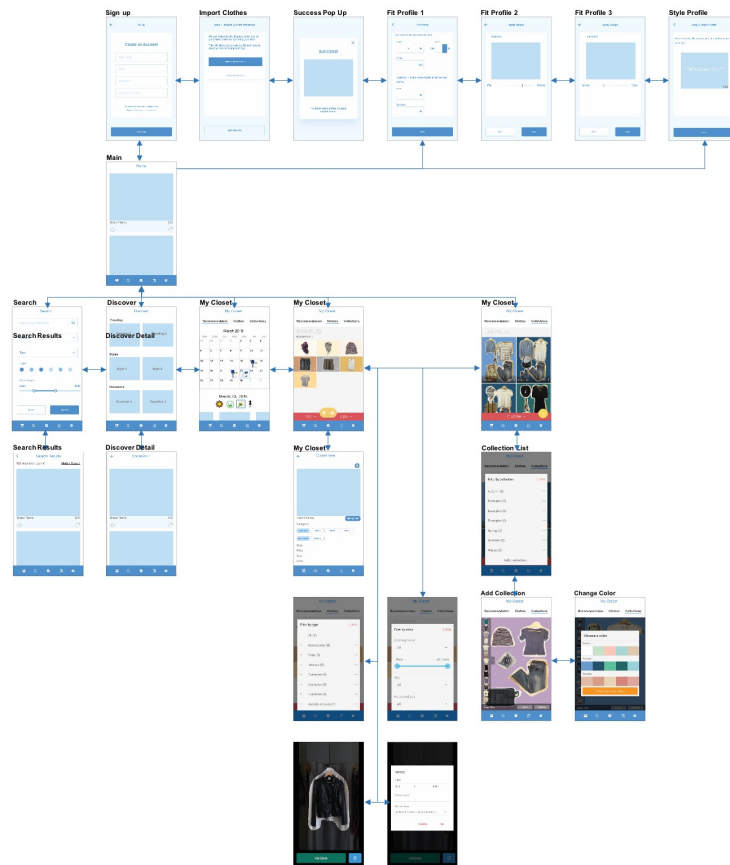

Figure 7. A content model, showing navigation

Design Discussion and Deliverables

Initial Wireframes

After completing our blueprint, our team sketched out potential app flows and features, and then began developing a wireframe for the app using Adobe XD.
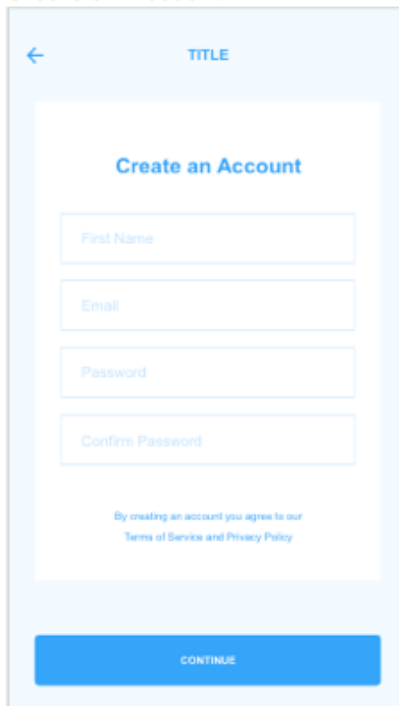
The sketch below covers the onboarding process for new users. Users would be asked to complete a personal information page, including details about their height, weight, and measurements (optional). They would then either manually upload 3 items and append metadata describing them, or allow the app to search their email for purchase history and confirm whether the items were a good fit or not. Finally, the app would ask them to add more details about their body shape, with a focus on waist, belly, and hips.

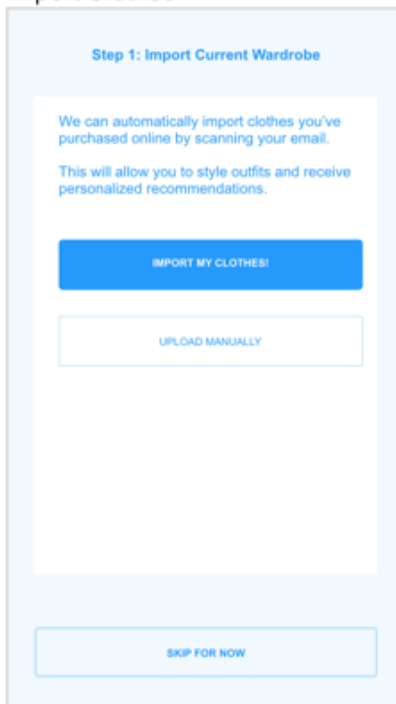*Figure 8. Sketch of new user onboarding process*

The wireframes are included on the pages below, with annotations explaining what users can do on each page.

Create an Account

Create an Account

← TITLE

Create an Account

First Name

Email

Password

Confirm Password

By creating an account you agree to our
Terms of Service and Privacy Policy

CONTINUE

Import Clothes

Step 1: Import Current Wardrobe

We can automatically import clothes you've
purchased online by scanning your email.

This will allow you to style outfits and receive
personalized recommendations.

IMPORT MY CLOTHES!

UPLOAD MANUALLY

SKIP FOR NOW

If users give permission, the app will be able to
scan their email to look for clothing receipts.
Items they've purchased will be automatically
uploaded to their "digital closet".

If they do not want to have their email account
scanned, there is the option to upload clothes
manually, or skip this step entirely.

Import Successful

SUCCESS!

×

42 items were added to your
digital closet.
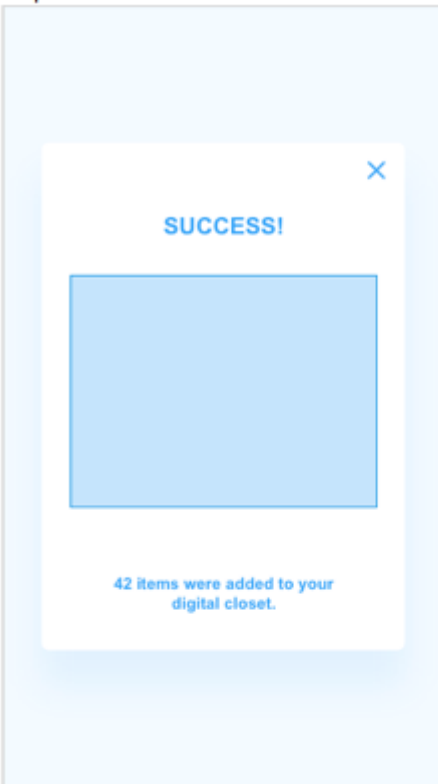
The users will be informed how many items were imported into their digital closet. Once in the app, they can manage their digital closet by market items as "returned" if they didn't keep the purchase. They will also be able to mark items that fit them well so the app can better refine the user's fit profile.

Fit Profile - Measurements

← **Fit Profile**

Text about how we need this info.

Height*   Metric

FT   IN   CM   IN

Weight*

LBS

Optional: Provide more details to refine your profile:

Waist

IN

Chest/Bust

IN

NEXT

Users will be required to enter in their height and weight as a minimum, so the app has some data to start with for their fit profile.

If users want to enter detailed measurements to make their fit profile as accurate as possible, there are optional fields for measurements.

Fit Profile — Body Shape

Body Shape

Stomach

Flat ———————+——— Round

SKIP   NEXT
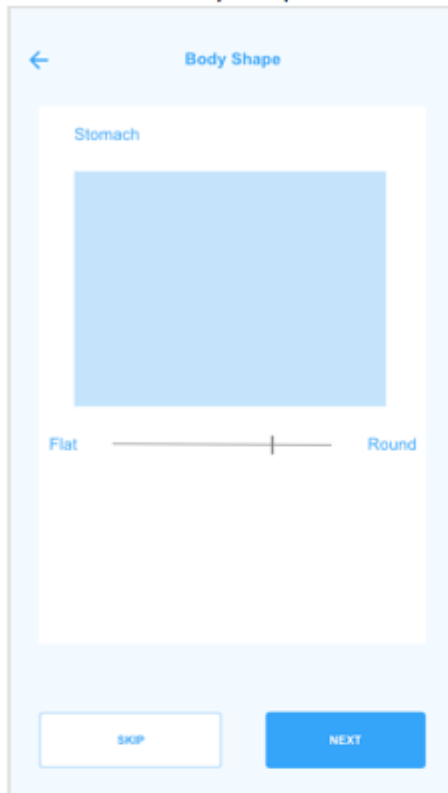
Users also have the option to describe their body shape using a graphic. The graphic will show a sketch of that body shape, and users can move the slider at the bottom to change the graphic to best represent their body shape.

Fit Profile — Body Shape

Body Shape

Shoulders

Narrow ———+——————— Wide

SKIP   NEXT

Style Profile

Step 2: Style Profile

Rate these outfits so we can get a better sense of your style.

Animation will indicate they can swipe right if they like it and swipe left if they don't

1/10

Done!

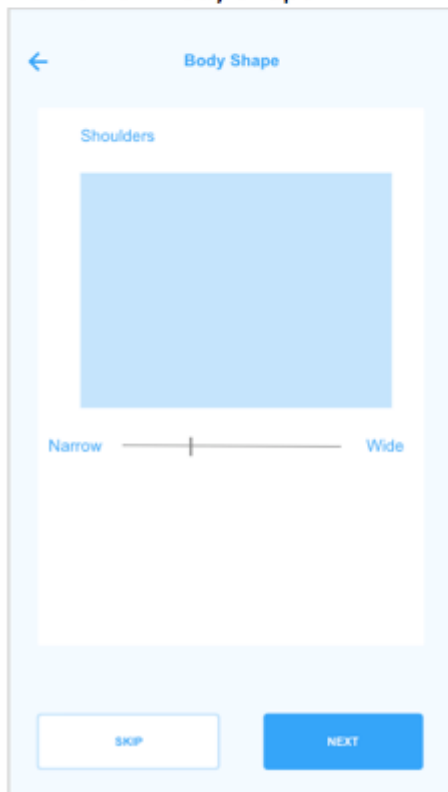In order to get a baseline understanding of the style of clothes the user is interested in, they will be asked to give feedback on 10 outfits.

The outfits will be shown on a card and they can swipe them left if they do not like the outfit and right if they do like the outfit. An animation will demonstrate this the first time.

Home Screen - Feed

Home

Brand Name $28
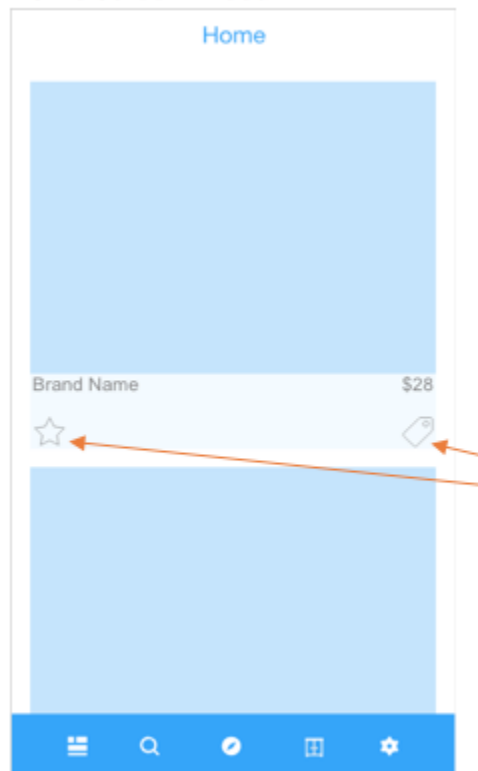
The home page has a feed of clothing items the users may be interested in. This feed will continue to get more refined as the app learns the users style and fit preferences.

Users can help the app refine their style profile by swiping left on items they do not like and swiping right on items they do like.
Purchase item by clicking the tag icon.
Add item to wishlist by clicking the star icon.

The more items they give feedback on, the better the app will understand their preferences.

Only items that are believed to fit the user (based on their fit profile) will be shown.

Home   Search Discover Closet Settings

Wishlist – Success Message
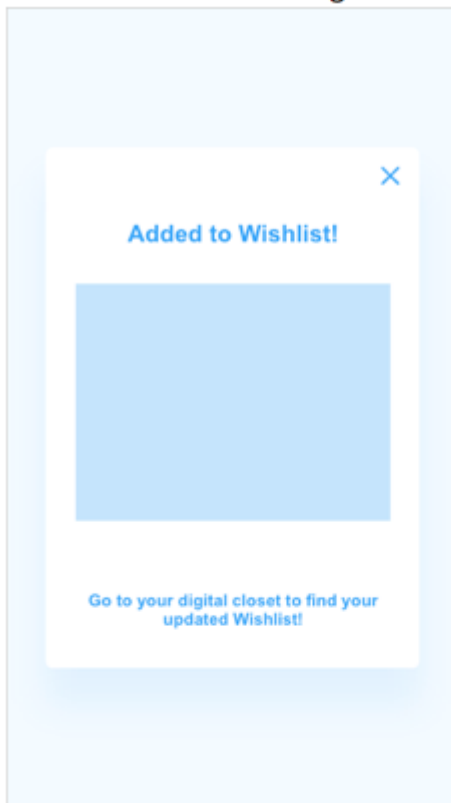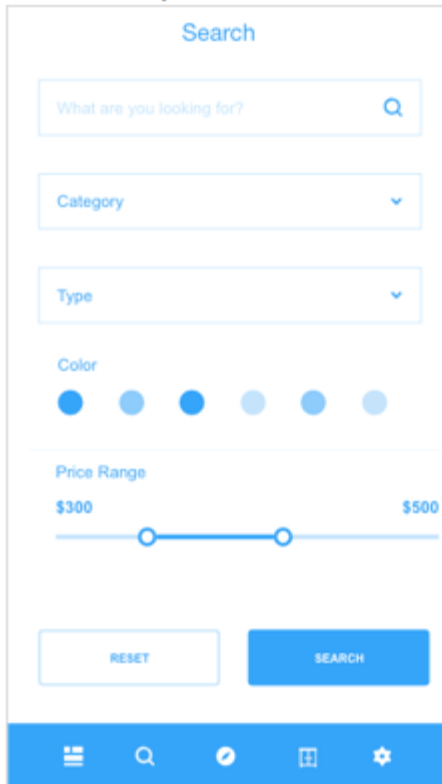
Users will be notified how many items were successfully uploaded and where they can find them in the app.

Purchase – Redirect Message
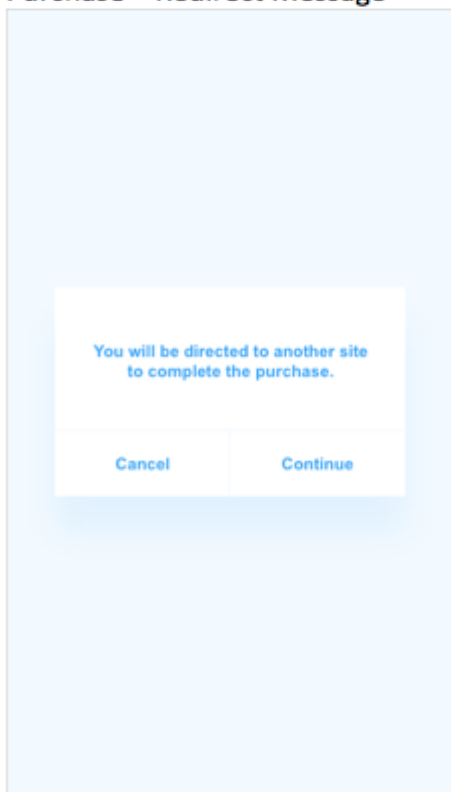
If users want to purchase an item, they will be directed to that item's vendor website outside of the app. This will be an affiliate link by which our company generates revenues.

Search for Specific Items

If users are looking for a specific type of item, they can search for it or use these categories to narrow it down.

Search Results

The search results will be presented similar to the feed on the home screen. Only items that are believed to fit the user (based on their fit profile) will be shown.

Again, users have the options to add items to the wishlist or purchase them on a third party website.

Discover – Browsing Items

Discover

Trending

| Trending 1 | Trending 2 |

Styles

| Style 1 | Style 2 |

Occasions

| Occasion 1 | Occasion 2 |
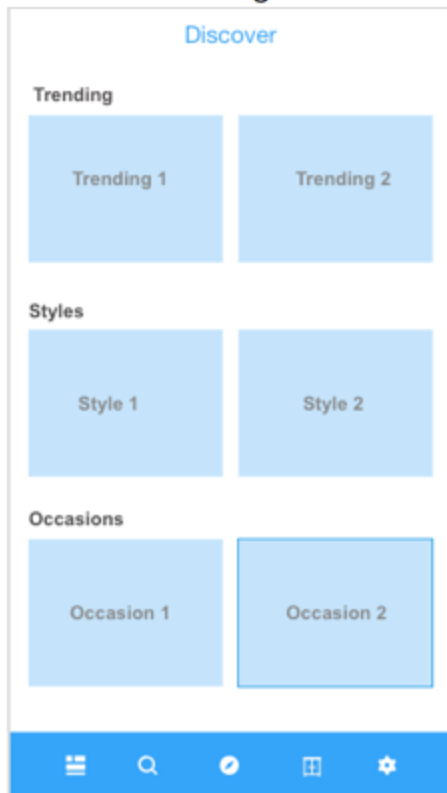
This page presents a method for users to browse clothing items by categories.

For example, "Occasions" might include "Weddings", "Cocktail Party", etc. Within each category, users can slide the cards to the left to reveal more options.

Occasion - Results

Occasion 1

Brand Name $28
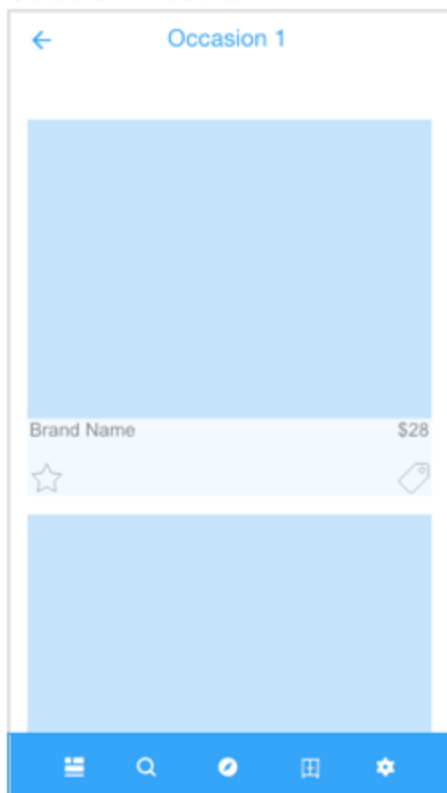
When a user selects a card (e.g. "Occasion 1") on the previous screen, they will be directed to a results page similar to the Home screen feed and search results page.

Only items that match the user's fit profile will be shown.

Users have the ability to wishlist or purchase the item.

Digital Closet

My Closet

Recommendations

Looks +

Category ⌄

Items +

Category ⌄
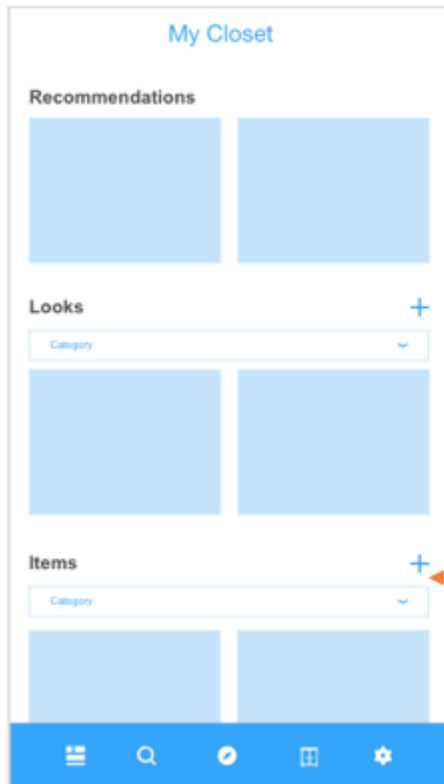
In the "Closet" tab, users can manage their digital wardrobe.

First, the app can provide recommendations of outfits based on weather and occasion.

The users can also add "Looks" which are outfits they have made by pairing items from their closet. They can tag the looks with labels so they can search for them easily.

Users can also see all of the items in their closet, find the items by category, and add them into looks.

The user's wishlist will also appear on this screen.

Clothing Item

← Closet Item

Brand Name   PERFECT FIT

Category

ADD TAG   TAG 1   TAG 2   TAG 3

ADD LOOK   LOOK 1
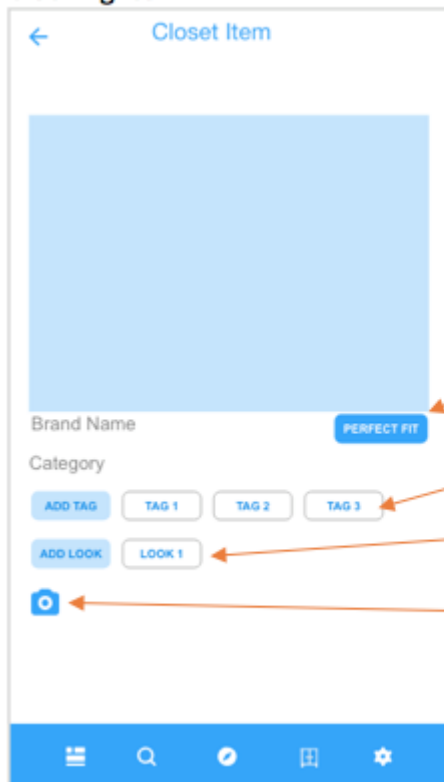
For each clothing item, the user can:

Identify the item as a "Perfect Fit" so the app can refine the user's fit profile.

Tag items with certain style categories so the app can refine the user's style profile.

Create a "look" or outfit, using the item.

Add a photo of them wearing the item so other users can benefit from seeing people with similar body types wearing the item.

Initial Visual Identity and Design

After we established our feature set, overall architecture and content map, and basic taxonomy, we began working to develop a unique visual design, which can be defined by its focus on simplicity and boldness.

Color

The process of finding clothing that fits can be complex and frustrating, and often leaves people feeling insecure about themselves and unhappy with their clothes-finding experience. We wanted our app's design to reflect that this app is intended to completely alter their shopping experience, and make it simple and easy rather than complex and frustrating. Our initial color palette (red, navy, black, and white) was classic and simple but with bold contrasts.

We developed color palettes and primary and secondary color combinations using the Google material color tool. We also used this tool to determine the best approaches for accessibility when designing with these colors.
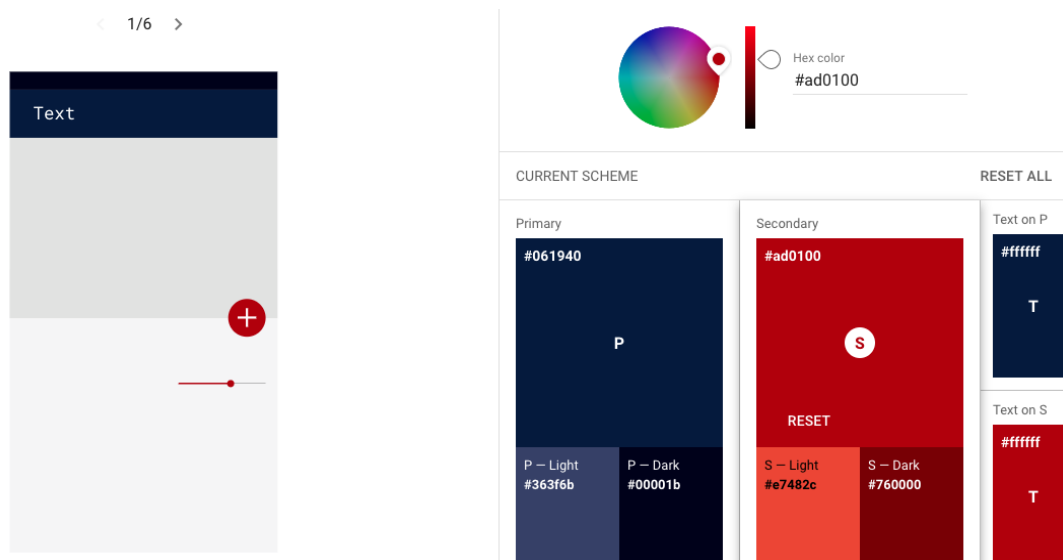
Figure 9. Primary & Secondary Color Combination

Figure 10. Color Palette Accessibility

Moodboard

Once we had settled on those colors, we designed a moodboard to communicate a general idea of our product and its style. The four words - Organized, Personalized, Affordable, and Explorative - are selected to illustrate the key strengths of the product that our team wishes to emphasize. Images are carefully chosen to describe the four words implicitly and explicitly, and the theme colors are embedded to create the overall feel of the product.
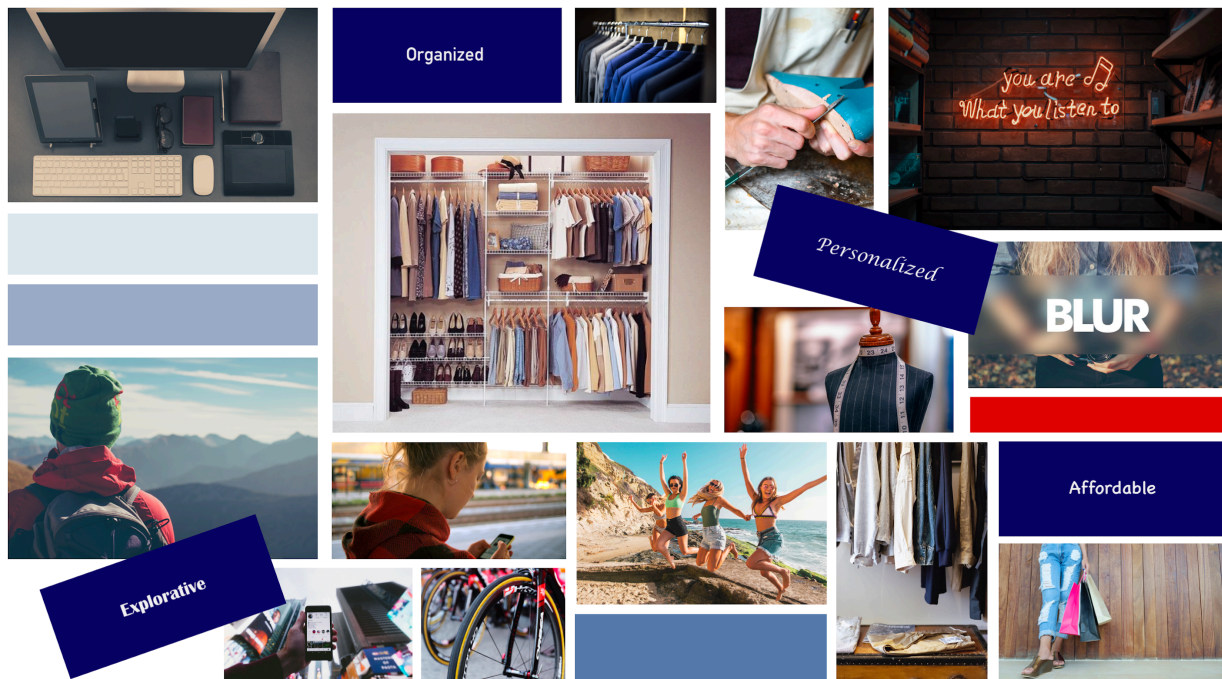
Figure 11. Moodboard for our app

Typography and High Fidelity Mockups

Next, we developed a style tile using Photoshop. The style tile is intended to serve as a point of reference for all colors, fonts, and icons used in the app, and also features some potential background patterns we can use for image panels in various pages. Background patterns should contain black, white, or grey markings only in order to avoid clashing with colors of clothing items. Patterns should also be fairly simple and light-toned, so the background is not too busy.
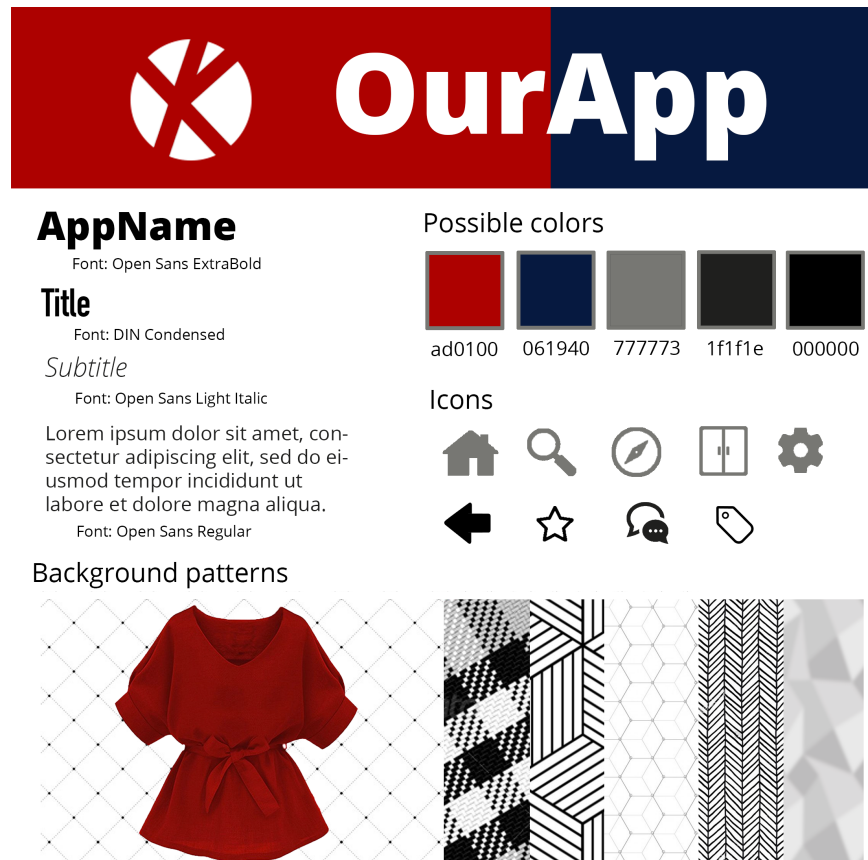
Figure 12. Style tile for our app

We chose Open Sans (ExtraBold, Light Italic, and Regular) and DIN Condensed as the fonts we planned to use across the app. We chose these fonts based on their simplicity and based on information we gathered regarding recommended fonts. Afterward, we used the logo and title fonts to further emphasize the "bold" nature of our app.

We then began developing high-fidelity mockups for app pages using Photoshop. These mockups were intended to be starting points for our high-fidelity blueprints rather than final concepts and designs. We began with developing a look for the Home feed page, as this will be the first page new users see after the onboarding process, and the primary landing page for return users.

The mockup below on the left, with the red bar at the top, indicates a version where users swipe right and left for items they like or dislike to improve the app's recognition for their preferences.

Underneath the item's descriptive text, it features icons for adding the item to user's wishlist (star), viewing reviews (chat bubbles), and purchasing (price tag).

The mockup on the right, with the navy bar at the top, features a second version of the same page, with a heart button replacing the swipe left or right feature (only positive feedback to enhance app's ability to predict preferences), a bookmark icon for adding the item to user's wishlist, and a preview of reviews underneath the item's descriptive text. Since having both the heart and bookmark icons may potentially confuse users, we tested this after implementation and considered combining the features, or attempting to gather data for refining preferences using another method.
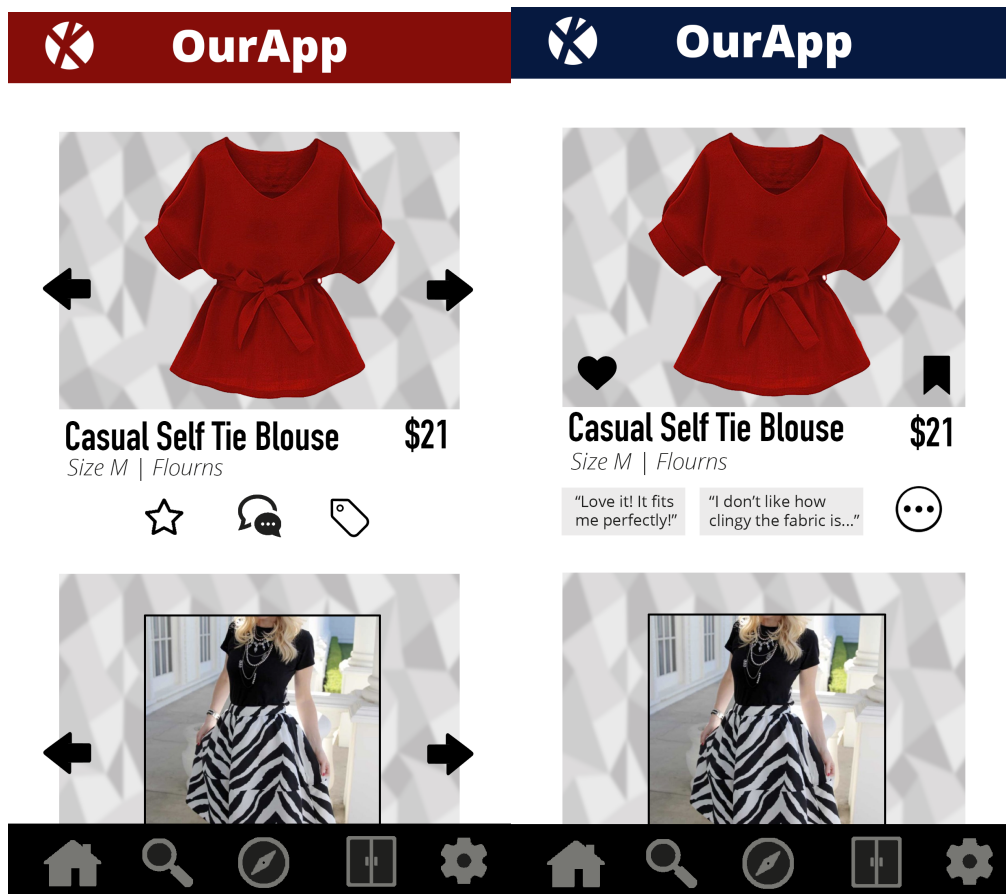
Figure 13. High-Fidelity mockups of Home - Feed page

Branding

Finally, we began drafting logos we might use for our app. We wanted to communicate the functionality of our app's main features (fit, search, and discover), but also tie them to the final step we hope users will take at the end of each experience with the app (purchase). Thus, our ideas included a shopping cart with a mannequin, a shopping cart with a closet, a shopping cart with a hanger, and a hanger with a tag, a shirt, and discount information.

Figure 14. Drafts for the app's logo

We also began developing a list of potential names for our app. As with the logo, we wanted to find a name that would reflect our key features, but we ran into difficulty because the word "fit" can apply not just to clothing but also to fitness. We often would find the perfect name for the app (like "PerFit") only to discover there was already an app (or in the case of PerFit, a "protective underwear" company) with that name.

Eventually, we decided to focus more on the visual design, and leave the branding as a secondary part of the project.

Final Visual Identity and Design

As we began designing our high-fidelity prototypes, we quickly realized that some of the colors we chose in the first stage might clash with clothing items users uploaded or searched for on the site. This caused us to transition to a primarily black and white palette, with a few greys. Our high-fidelity designers also chose to use only one font, Roboto, in order to keep the textual elements simple and consistent.

The final style tile for our app, included below, features the logo we decided on - "OutFit" (the name we finally selected) has a ruler underneath to emphasize the "fit" promise of our app, which we eventually determined was the most important and overarching feature of the app. The tile also shows some of the updated icons, background images used across different areas of the app, examples of clothing images used in product pages, and some sample buttons.

Figure 15. Updated style tile

Prototype and Testing Preparation

Using Adobe XD, team members created a low-fidelity prototype of these flows, while others focused on developing a high-fidelity prototype. We began recruiting users for testing, and also distributed an open card sort intended to gather data to help us organize the styles and occasions in the "Discover" section of our app.

Low-Fidelity Prototyping

As we continued to develop high-fidelity wireframes, we decided to focus on refining a few key tasks and flows in our app so we could test them first.

These key flows included:
- the onboarding process
- the home feed and item detail pages
- the search and search results page
- the bottom navigation

We chose these tasks and flows not only because they are key features of our app, but because we feel fairly confident about the flows we have chosen and want to ensure we receive user feedback early on so we can implement changes that might affect other flows in the app.

Our team made a few changes to the UI based on team input, mostly focusing on the item tile and item detail page. We changed the start (for favorite) to a heart and bookmark. The heart would be used to "favorite" the item, and bookmark would be used to save it for future purchasing or notifications about discounts.

We also had a few research hypotheses when approaching our user testing, which we wanted to confirm or deny to justify changing the functionality or design:
1. We think users will be confused about the functionality of the heart and bookmark icon because they are located in close proximity.

2. We think users will want more information about why we think certain sizes will fit them ("Try a size 6" vs. "a size 6 fit 70% of people your size").

After we tested these features, we created a prototype of the closet, discover, and collections areas in order to gather user feedback on those flows and design features.

High-Fidelity Prototyping

For the high-fidelity version, we made the following changes:
- changed our color palette a little, removing red as an option for buttons, text, and background, in order to simplify the design and avoid potential accessibility issues
- changed our font from Open Sans to Fira Sans in order to make the design a little more playful.
- updated our icon library as below
- added a background image for the on-boarding process in order to set it apart from regular processes
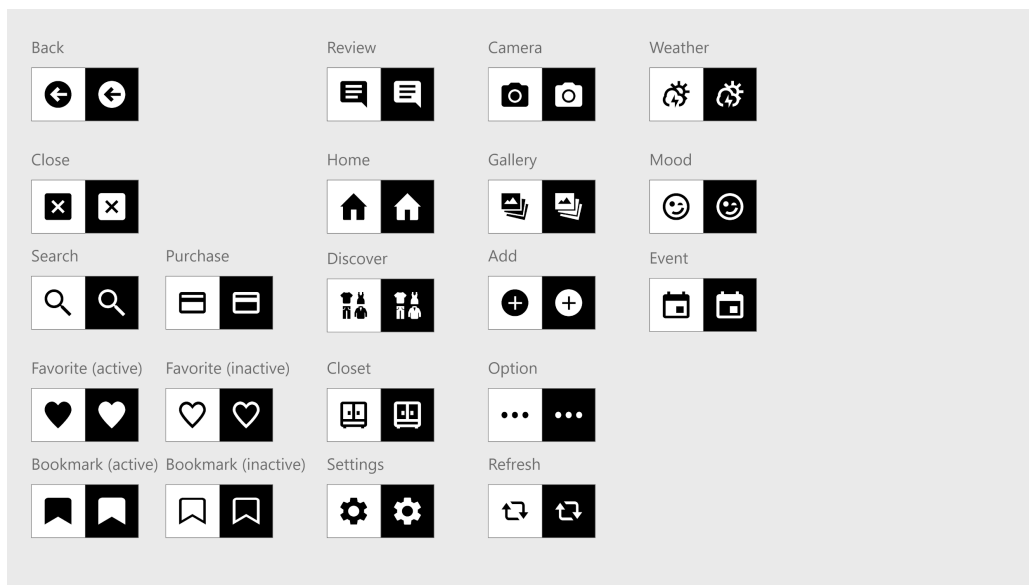
Figure 16. Icon Library

Card Sort

Using Optimal Workshop, we developed an open card sort intended to inform our terminology and organization of categories for our "Discover" section. During our team meetings, we discovered that there was a good amount of overlap between some of our Discover Categories (specifically Occasions, Styles, and Outfits). We created cards with collections from each Discover Category and distributed to our contacts through email.

Low-Fidelity Prototype Testing & Implementation

Once we finalized our low-fidelity prototype, we began a rolling series of usability tests, first testing a set of four users in person, then making a few changes before rolling out the test to another four users, for a total of eight users.

We continued developing our high-fidelity app, altering logos and colors to continue improving usability within the app. Additionally, we completed our card sort to determine how to group our occasions, styles, and outfits in the browse/discover feature of our app.

Usability Testing

We performed our initial round of low-fidelity prototyping testing on four individuals in person.

Our usability test asked users to complete the following tasks:
1. Create an account and add some of your clothes. Do you want to add from your email, or add clothes manually? Is there another way you'd prefer to add clothes?
2. Add information about your fit, and indicate how you feel about the items featured to help us create your style profile.
3. Take a look at the home page. When you see the main page, what do you think you should be able to do on the app? What do you think you should be able to do here? Can you guess which icons mean which actions on the main page? How would you "like" an item?
4. Add an item to your wishlist. Once you've added the item, how would you navigate to your wishlist? (Don't actually do it - just identify how you'd get there). What do you think the wishlist section is for?
5. Next, let's test the browse feature. Which icon do you think leads to browse? What do you think this section is for?
6. Now please try searching for an item.
7. Take a closer look at one of your search results and figure out how to purchase the item.
8. Navigate to the closet feature. Which icon do you think leads to the closet? What do you think this section is for?

9. Where do you think you would go to update your fit profile?
10. Please rate the app 1~5 scale based on four frameworks
    - Layout (Location of icons, Consistency of interaction)
    - Task Flow (Task scenarios)
    - Labeling (Icons)
    - Total Usability

We were relieved to find that in general, people liked the concept of the app and understood many of its features - one user remarked that "The layout already seemed familiar to me even though I'd never seen it before." Users understood the different functions of the heart and bookmark (wishlist) icons, which answered one of our research questions going into the testing. They also understood the closet icon and many of the features within the closet section. While this is encouraging, there were also many areas of the app that needed development, which are detailed in respective sections below. A screenshot of the spreadsheet where we analyzed this round of usability testing is included in Figure J.1 of Appendix J.

Onboarding Process

All but one of our interviewees had privacy concerns for the onboarding step involving importing clothes from email. They specifically mentioned that they typically preferred to add things manually for the purpose of curating their list of uploads (one mentioned that uploading everything from their email might "clutter" the resulting uploads). However, once the users more fully understood what the import email feature could do, they tended to agree it was a better way to add items. For one user, the convenience of adding by email outweighed the privacy concerns, and also ensured that her most recent purchases were added (the alternative being adding items from your personal closet, which you might have bought long ago).
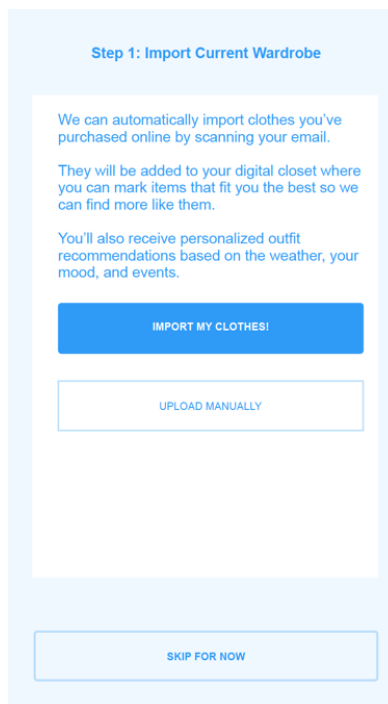
Figure 17. Onboarding Process

Insight: When we explain the import from email feature, we must emphasize the benefits and more fully explain the process.

Users also mentioned that they would like to further customize their fit profile. Three suggested they might like to add the size and brand of an item they would normally

purchase or wear. Several users also requested further measurement details, specifically an option for inseam length. One user suggested that it might be easier to ask for clothing sizes rather than specific measurements (chest, waist, etc.) to simplify the process.

Insight: We should provide more options for deeper customization of fit profiles.

Several users were confused about how to "rate" items on the style profile page. Currently, users are prompted to click the heart icon to like the item, but are offered no icon for disliking - our idea was that they would swipe to make an item go away. One user suggested they would like to add the degree to which she liked the item (on a 1-5 star scale, or something like that). The same user also wanted a "never see this again" button, which would ensure they would never see the particular item again. Two users expressed the desire to be able to go back and change their answers, and suggested a carousel with rotating items so you could come back and change your ratings.
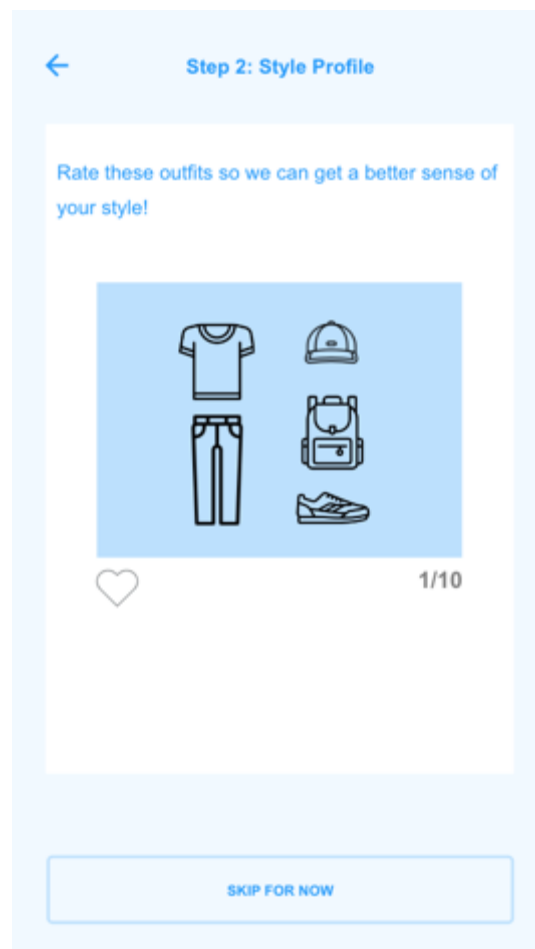
Figure 18. Style Profile

Insight: We should create consistency in the wording and interaction on this page for rating the item - either allowing users to like and dislike, or rate the item on a scale.

Another piece of interesting feedback from users was confusion over how to close the pop-up window that appears when a user has successfully created an account or added an item to their wishlist or cart. These pop-ups are the only instance in which an 'x' appears in the top right corner, rather than a CTA button at the bottom, and in one case the usability test administrator had to explain how to close the pop-up window to a user.

Insight: In order to provide consistent user experiences, we should change the pop-ups to include a "Close" or "Okay" CTA button rather than expecting users to close it using an 'x' in the top right corner.

Home Page

The users indicated some confusion with the home page and main navigation bar at the bottom of the screen. For the latter, users were having trouble identifying icons and their associated features, but we had already planned to solve this by incorporating text into the navigation to further describe the features the icons represent.

Some users were also confused about the function of the home page, and why it is different from the browse feature. One user indicated he thought the profile should be the home page (because it contains information provided by and focused on their own fit profile). He was surprised to learn that the home page contains a feed of recommended items. Our two remote users understood the home page better, perhaps because they were more familiar with mobile apps like this one.

Insight: We should provide more information about what the home page is, perhaps text at the top that explains that the items in the home page feed are recommendations tailored to users' style and fit profiles.

All of our users were confused by the "discover" icon as well as the feature itself. The mix of occasions, styles, and outfits was confusing - one user said that if they were looking for an outfit for a certain occasion (like a cocktail party) they would probably just search for it.
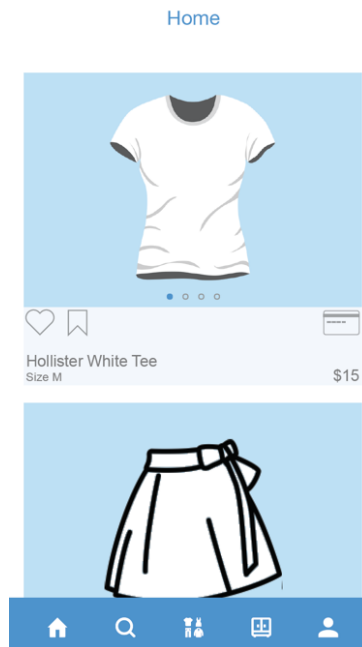
Figure 19. Home Page

Item Tile

The item tile is shown in part on the home page, but is fully shown on the item details page. The tile displays the type of item, tags, image, brand and item name, recommended size, price, a set of icons for liking, adding to wishlist, and purchasing the item, and a section with reviews and user-generated pictures of the items.

In general, users did not understand the tags at the top of the item page - especially if these are the five most popular tags, they might only show item type rather than particular styles or descriptors. One user wanted to be able to correct the system if it recommended a size they knew was incorrect for a particular brand or item.

Another user mentioned that the wishlist feature should be changed so that the pop-up (explaining the item has been added to their wishlist) only appears the first time the user

adds the item to their wishlist - for future adds, an animation appears to show that the item has been added successfully. Users also mentioned some confusion with the term "wishlist" for this feature, so we will continue to revisit our terminology as we continue testing.
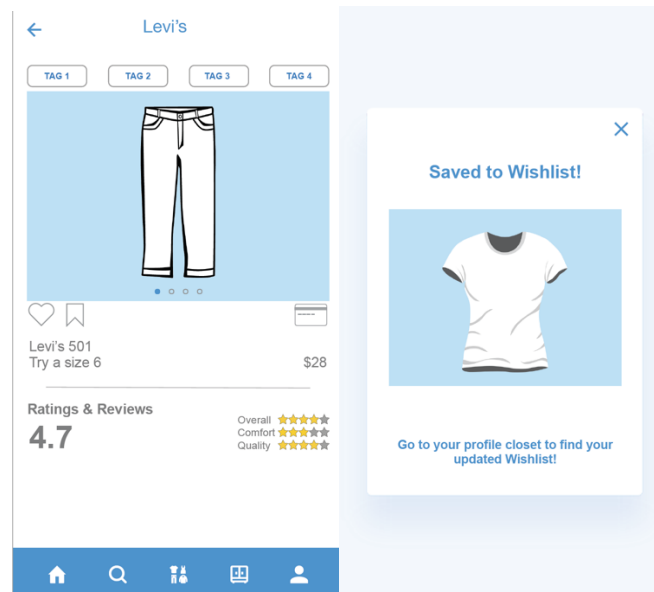
Figure 20. Item Tile, and Figure 21. Wishlist Pop-Up

Users also expressed confusion with the purchase icon (a credit card), explaining that they were unsure what clicking on the icon would do - would it instantly purchase the item? Add the item to a cart? Redirect to another site? They also disliked that clicking on the icon took them to an external site, and explained that it might be troublesome if, for example, they wanted to purchase two items from the same retailer. Because they felt it was inconvenient leaving the app every time they want to make purchases, users mentioned that they would like to buy items within the app.

Users also expressed an interest in knowing how many reviews/ratings there are, and where they were coming from (added within the app or pulled in from retailer websites).

Search

While users were fairly happy with the search process, two users mentioned they would like to add the ability to search for a certain size or size range, even though the app is intended to help them complete that step. There was some confusion about what is meant by "category" and "type" in the search filters, but we anticipate users will understand better once they are able to operate dropdowns and see examples.

One user indicated a desire to see search results ranked by their likeliness to fit, with a percentage of how likely it is for the item to fit displayed somewhere on each item. Users also wanted more color options in the search filter and the ability to keep certain brands from appearing in their results.

Closet

For the closet section of the app, users expressed some confusion about what was automated and what they had to set manually. For example, one user was confused by the weather icon and whether it was automatically generated (based on external weather data) or whether she was supposed to set it based on the current weather. We received similar feedback for the celebration/occasion icon. Only one person understood what the emoticon/mood icon was supposed to do.

Profile

Users were confused about where to go to change or update their fit profile - their top picks were the account or setting icons.

Insight: Offer an option under the profile for "Fit Profile" to make it easier for users to find and edit their fit preferences and details.
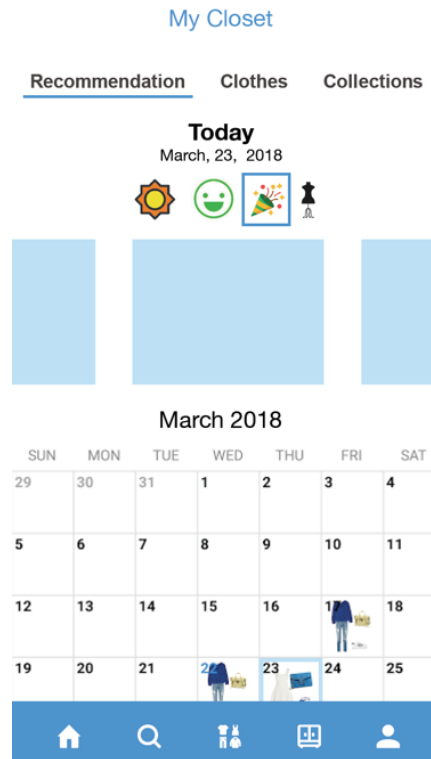
Figure 22. Closet Feature

There was also confusion over how the calendar functioned. Users were unsure whether the app was recommending certain outfits for certain days, or whether they had the ability to plan outfits for certain days (the latter is correct).

Users also disliked the term "collections," and suggested renaming this "outfits."

High-Fidelity Prototyping

After developing a color scheme, mood board, and icon set, we took our eight primary screens and designed high-fidelity mockups. After reviewing them as a team, we decided to darken the colors further to make them more subtle in an effort to emphasize focus on the clothing items in-app and to minimize the possibility that our UI would clash with clothing item colors or patterns. After settling on a color scheme and design language, we began building out the eight different screens as design specifications.

While one of our goals in developing the app was to keep the look simple and clean for users, we decided to add a background image for all screens to make the app more unique and to maintain consistency with the onboarding process. However, we used a background image with only black and white and lower levels of opacity to prevent the image from clashing with clothing items, distracting from the app's features, or making the interface look too busy.

We further developed the item tile and how it appears in the item detail page, as well as in the home, browse, and search results pages, aiming for consistency. We added a progress bar to represent the percentage an item is likely to fit the user, and changed our cart icon to a CTA button. Additionally, we moved the tags from above the image preview (only in the item detail page) to below the reviews, and added a label that explains "Find more items like these" so users know they can use the tags to browse for items in those categories.

We also worked to develop consistent designs for the browse and closet sections, so users will see the same options for navigating within the pages.

The wishlist feature we designed to appear like a collection of tiles (like in a photo library) that users can browse or filter as needed. We did not extensively develop this feature in our low-fidelity prototype. We also changed the navigation bar at the bottom, making the icon for the selected page white while the other pages look slightly greyed out.

Card Sort Results

We tested our card sort on eight users in order to gather insight into how we should organize and categorize our browse/discover categories. Our cards consisted of thirty different descriptive tags drawn from our occasions, styles, and outfits categories, including tags like formal, vintage, wedding, gym session, etc. Instead of a closed card sort, we decided to make this a hybrid card sort, providing our users with three categories (occasions, styles, and outfits) and allowing them to create new categories as well.

Our results revealed that people agreed the most on tags categorized as "style," and the least on tags categorized as "outfits." In consequence, we decided to omit occasions and outfits in our discover/browse section, and focus only on styles there. We would then allow users to filter

by occasion in our search feature. The goal is that this will keep our browse/discover section easy to navigate and on the same level of granularity taxonomy-wise.

Figure 23. Screenshot from Optimal Workshop Card Sort results.

Implementing Changes Based on Results

We made the following changes based on the results of our usability testing:

- Made onboarding process less text-heavy - specifically screens that talk about the different steps.
- Included more information about what importing clothes from email entails, specifically as it relates to the users' privacy, and emphasize benefit.
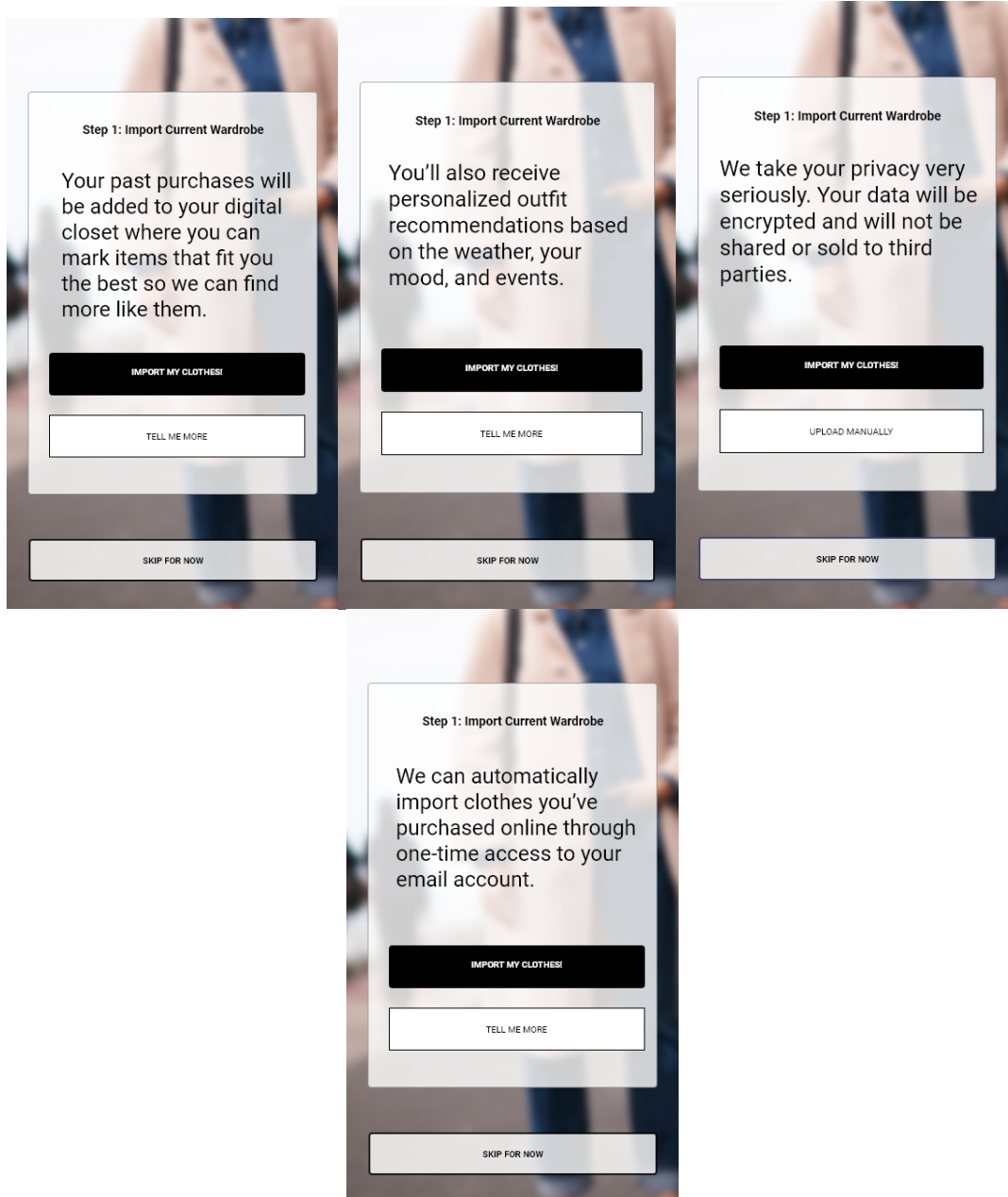
Figure 24. Import Wardrobe

- Described/showed what it looks like to upload clothes manually.
- More options for deeper customization of fit profiles - an area to add sizes/brands you know fit you well, as well as inseam or other measurements.
- Create consistency in the wording and interaction on this page for rating the item - either allowing users to like and dislike, or rate the item on a scale.
- For "success" pop-up window, change (x) button to "okay" or "close" button at the bottom.
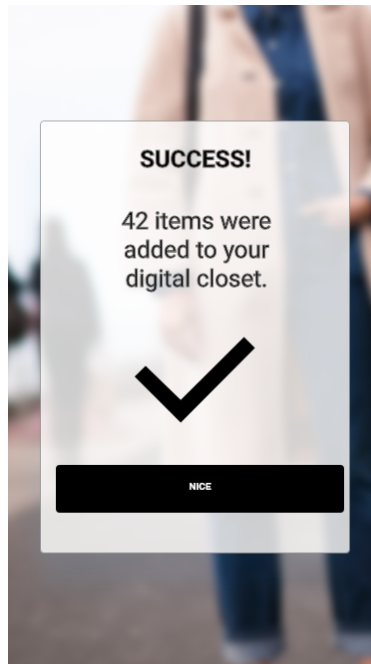
Figure 25. Success Pop-Up

- Provide text at the top of the home page that explains that the items in the feed are recommendations tailored to users' style and fit profiles.
- Add option under the profile for "Fit Profile" to make it easier for users to find and edit their fit preferences and details.
- Changed the name of the Discover feature to "Browse" to clarify for users.
- Removed occasions and outfits from the Browse page, so that only styles appear, based on analysis of card sort results.
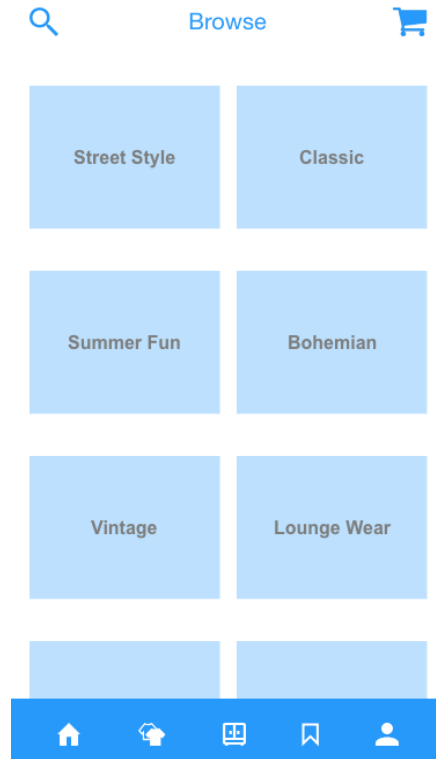
Figure 26. New Browse Section

- Within closet section of the app, added temperature numbers to weather graphic to show that data is from an external source.
- Explained the mood and occasion icons, in the onboarding process and within the clothes section.
- Provided more instructions on how the calendar works in the app (planning, not recommendations).
- Changed the term "collections" to "outfits" per user suggestions.
- Changed the purchase icon in the item tile from a credit card to a shopping cart, in order to help users understand the functionality.
- Added the ability to purchase items within the app (like Chegg) rather than redirecting users to external sites.
- Added a cart icon to the top right side of each screen.
- Changed the global navigation menu to include Home, Browse, Wishlist, Closet, Profile (Search removed and instead added as an icon to all screens).
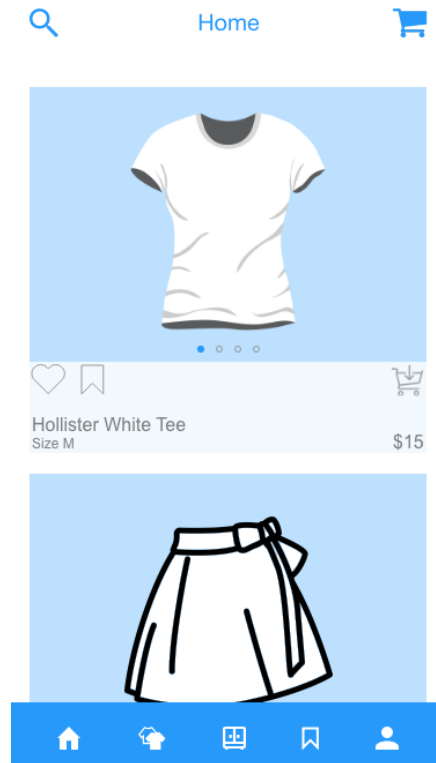
Figure 27. New Home Screen

We tested these features again, as well as the closet, browse/discover, and collections areas in greater detail. We conducted three rounds of usability testing of four participants each.

Task Design and Testing Status

We are also tracking the status of our tasks in the table listed below, so we can keep track as different members of our group work on different flows and tasks.

Table 6. Task Design and Testing Status

Task	Low Fi design	Low Fi testing	Hi Fi design	Hi Fi testing
Bottom nav			x	
Onboarding basic		x	x	
Onboarding (manually add)		x		
Onboarding (fit)		x	x	
Home screen			x	
Browse			x	
Wishlist page	x			
Search		x	x	
Closet		x	x	
Cart		x		
Profile		x	x	

High-Fidelity Prototype Testing & Implementation I

The next stage of our project included finalizing the first complete high-fidelity prototype of our app, updating our usability testing protocol, and performing six more usability tests using usertesting.com.

For this round of testing, we were interested in gathering data from users about the following ideas:

- We think introducing the "import clothes" option so early in the onboarding process will be a barrier to users, since this requires users to input a large amount of information very early in the process. Users may choose to skip the process before they understand the benefits of this section, which would severely impact the performance of the app. Instead, we think it would be better to explain the steps to users and provide them options to select the onboarding step they would like to complete first.
- In previous tests, users requested that the fit profile in the onboarding process would allow them to add specific items and sizes as well as their measurements. We incorporated these changes into our prototype.
- In previous tests, users requested the ability to add sizes or size ranges to searches in case they wanted items that fit them differently than the recommended "best fit" (wanting an extra large t-shirt, extra tight dress, etc.). We will use feedback from this round of usability tests to determine whether this is a consistent ask, or if users understand (and trust) the functionality of our high-fidelity prototype better than our low-fidelity prototype when it comes to understanding the sizes they need.
- Users previously exhibited confusion with the functionality of the home, browse, and closet features of the app. We anticipate that users will understand the features better in the high-fidelity prototype.
- Because our cart and wishlist functions are still untested for the most part, we will use feedback from this round of testing to make changes to those features.

High-Fidelity Usability Test Protocol

We performed our first round of high-fidelity testing with six participants on usertesting.com. Our usability test asked users to complete the following tasks on the completed draft of our high-fidelity prototype (https://xd.adobe.com/view/ed171ab1-3a5d-4363-b201-d2246cbcbad3)

We provided users with the following starting instructions:
Imagine that you have difficulty finding clothes that fit you. You hear about this new app that claims to help you find clothes that fit perfectly so you decide to try it out.

For the onboarding process, we asked the following questions to gather more information about how users felt about adding clothes into the app:

- Do you want to import your clothes into the app? Why or why not?
- You decide to import your clothes into the app. Which method do you want to use? Why?
- How do you feel about the process of importing your clothes? What, if anything, makes you *not want* to do this importing process?

For some of the app's features, we focused on asking users what they thought they should be able to do on each of the pages (like the Home screen and Closet).

For the Browse and Search features, we provided users with scenarios in order to see whether they chose the intended feature to complete the tasks ("You want to find some new clothes for work, and you work in a casual environment" for browse, and "You want to find a blue jacket that is under $50" for search).

Usability Test Results

Responses from users and the insights gained from them are detailed in the sections below. Overall, users thought the layout was very clear, the aesthetic was classic and attractive, and that the app was a unique idea. A screenshot of the spreadsheet where we analyzed this round of usability testing is included in Figure J.2 of Appendix J.

Onboarding Process

User feedback for the onboarding process was very similar to what we have seen in previous tests. All users were not comfortable with the idea of allowing the app to scan their email to import previous purchases, and while they went through the process of adding items by taking pictures, they were concerned it would take too long to add enough clothes by taking pictures. One suggested that perhaps importing the current wardrobe isn't the best way to help the app find the right style for you, but that this might work better if you were able to select items that fit best.

Users liked the new options to select items with the size you usually wear in that item type, but suggested adding something to distinguish between men and women's sizing. They also suggested adding instructions for how to find your measurements (for chest/bust, hips, shoulders, inseam) on the other fit profile pages. Users did not always understand that the sliders and measurement input options were optional.

Insights: Strongly consider making adding clothes (either by email or adding images) a less prominent feature in the onboarding process, since it continues to be a significant barrier. Refine the fit profile to clarify measurement options and instructions for users.

Figure 28. Should update fit profile

Home Page

Adding the "Daily Recommendations" header to the top of the page provided users with a better understanding of how the home page functions. Users liked the bar with the percentage change of matching, but didn't notice it immediately. One suggested it should be another color to help it stand out better since she considered this to be one of the more important and unique pieces of information.

Insights: We should consider making the size and fit percentage more prominent in some manner.
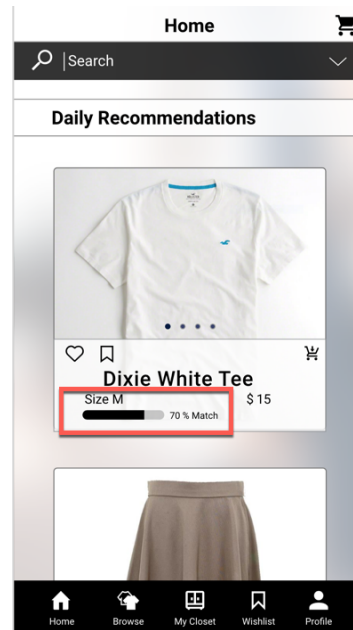
Figure 29. Change size of percentage match

Browse and Search

Most users did not use the browse feature immediately to complete the scenario we provided. Users each had different interpretations of how the search/filter options would work. Several suggested wanting to sort by price or percent match.

Some users were confused by how to get to the filter option - they thought the arrow was unclear. Others understood it immediately. Users were confused about the words on the filter option, and had several suggestions for items they would want to filter for instead ("newness" instead of "recency", would move price higher, consider using either brand or retailer but not both).

Insights: We may want to re-evaluate the search and browse features and determine how to explain the functionality of browse section. We should also refine the filter panel to align with user suggestions and use a more commonly understood filter icon for the filter dropdown to clarify the purpose of the feature.
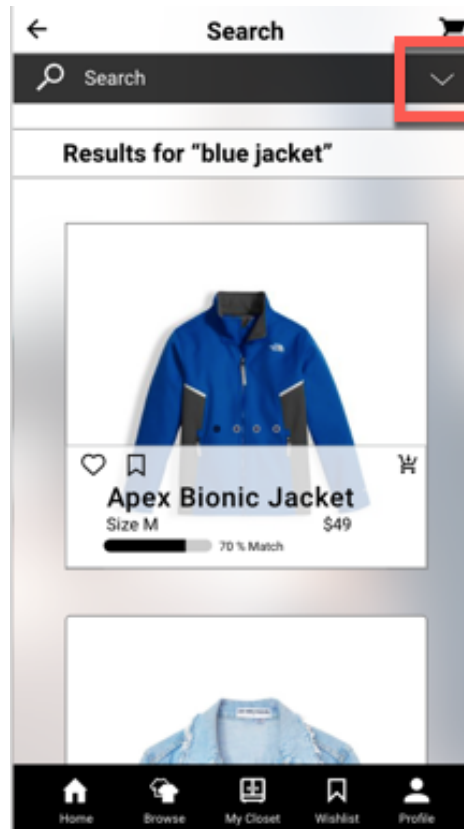
Figure 30. Change size of percentage match

Closet

Although we expected users would understand the closet feature better in the high-fidelity version of our prototype, it was clear that many of them were still confused by what the feature actually allowed them to do. Each had different interpretations about what the Weather, Temperature, and Occasion tabs would do, and several suggested that weather and temperature could be combined. Another suggested that occasions be added to the metadata tagging option when users import items during the onboarding process.
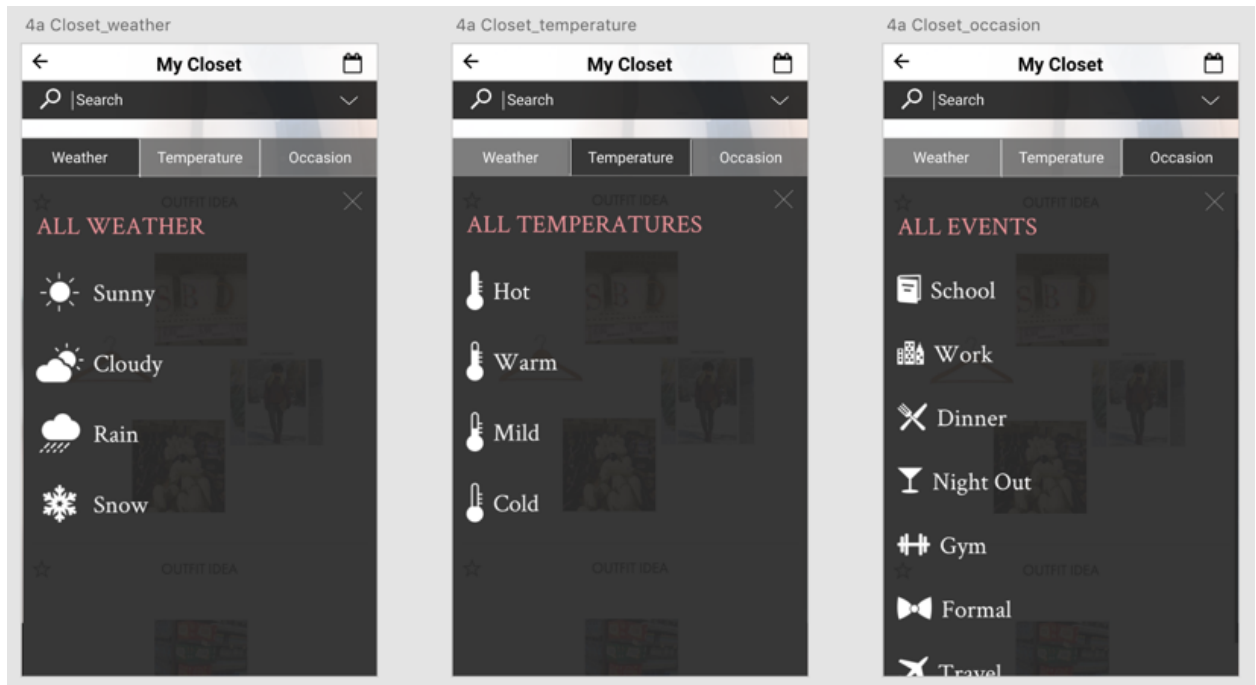
Figure 31. Weather, Temperature and Events in Closet

One user commented that the closet feature seems like it is deviating a little from the intent of the app, but it's still a nice addition.

Insights: Users are still confused by the functionality of the closet app. We should refine the design and be explicit about what can be achieved in this section of the app. We must also ensure it aligns with our overarching goal of finding the perfect fit.

Cart

Users found the cart process fairly straightforward. The only suggestion was that the order total should be on the first page so users have the option to remove items from their cart and lower the total before reaching the last screen.

Insights: Users would like to see the order total before adding billing information.
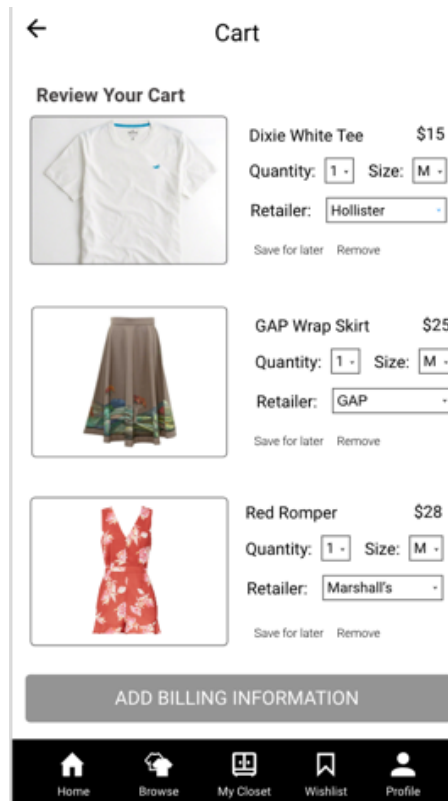
Figure 32. Original Cart Screen

Implementing Changes Based on Results

We were pleased to find that this round of usability testing answered most of our outstanding questions identified at the beginning of this implementation progress report:

- The "import clothes" option is consistently the largest barrier we have seen for users within our prototype.
- Users liked having the ability to select specific items and sizes that fit them, but added additional suggestions for refining this feature.
- There were no comments about wanting to complete searches for items of different sizes than our recommended fit.
- Users understood the home and browse sections better, but were still confused about the closet feature.
- Users were fairly comfortable with the cart and wishlist function, and only suggested minor changes.

We made the following changes before the next round of testing:

- Adjust the onboarding process to make adding clothes (either by email or adding images) a less prominent feature, since it continues to be a significant barrier.
- In the fit profile, add instructions for users showing them how to gather their measurements.
- Reformat the percentage fit bar on Item Tile to allow users to find it faster.
- Re-evaluate the search and browse features and determine how to explain the functionality of browse section. We should also refine the filter panel to align with user suggestions and use a filter icon for the filter dropdown to clarify the purpose of the feature.
- Refine the design of the closet section and be explicit about what can be achieved in this section of the app.
- Ensure the closet section clearly aligns with our overarching goal of finding the perfect fit.
- In Cart, add order total to "Review Cart" screen, before billing information.

Next Steps

As we implemented the changes listed above, we continued refining our high-fidelity prototype and ensuring the design is consistent throughout. We also created a backlog of changes each of us claimed to finalize design on the final prototype (see Appendix K, Figure K.1).

Task Design and Testing Status

We updated the status of our tasks in the table listed below in order to keep track as different members of our group worked on different flows and tasks. This proved to be an efficient way to update everyone on particular areas during meetings.

Table 7. Task Design and Testing Status

Task	Low Fi design	Low Fi testing	Hi Fi design	Hi Fi testing
Bottom nav				x
Onboarding basic			x	x
Onboarding (manually add)			x	x
Onboarding (fit)			x	x
Home screen				x
Browse				x
Wishlist page				x
Search			x	x
Closet			x	x
Cart				x
Profile				x

High-Fidelity Prototype Testing & Implementation II

After we implemented the last round of improvements to our high-fidelity prototype, we initiated six more usability tests with remote users, using usertesting.com. Although we realized we would not be able to implement changes based on insights gathered from the results, we decided it would be sufficient to capture and analyze those results in a final implementation progress report. A screenshot of the spreadsheet where we analyzed this round of usability testing is included in Figure J.3 of Appendix J.

Usability Test Results

For this round of prototype design, we focused on improving the search and closet sections, as well as improving a few minor areas of other screens in the app. For example, users indicated a desire to see a place on the main cart screen where they could see the total before proceeding to the screen where they add billing information.

We also switched the sequence of stages in the onboarding process, so users completed style profile first, then fit, then were prompted to upload three of their best-fitting items, hoping this would make the upload process less of a barrier for users. We added a notification icon to the home page, where users can receive notifications about items in their wishlist that are on sale.

For the closet, we made the following changes:
- Within "My Recommendations", we added the ability for users to customize what kinds of items would be recommended, so they could receive random pairings based on items added and the categories of items they selected.
- The ability to create outfits within the "My Outfits" feature.
- The ability to add new items, or sort items based on filters.
- The ability to add items or outfits to the calendar to plan what they will wear.

We also changed the search filter to look like the "Add Item Details" page used in the onboarding process, to establish continuity and consistency across the app. We added a filter icon to the search bar to allow users to open the filter menu.

The results of the usability tests are included below, with specific details and insights under each subsection.

Onboarding Process

Our final round of usability testing yielded similar results as our previous rounds. Users generally liked the style profile, although one user suggested it might be nice if they could like individual items rather than having to like all items in the outfits shown. One user commented that they were surprised they weren't given an option to choose whether they were male or female, but this is the first time in all our usability tests that this was mentioned.

Once again, users liked the sliders and multiple options to add measurements to the fit profile. Unsurprisingly, all users expressed concerns regarding privacy when prompted to upload clothes via email - the words "intrusive" and "creepy" were used to describe the idea. Users also questioned why they would need to add tags or metadata to items they had uploaded since they weren't trying to sell the items, but eventually they understood the functionality.

Insights: The new order of steps in the onboarding process seems to work well for users. The only thing we might consider changing is adding more explanation for why users might want to add or edit details for their items.

Home Page

The only change we made to the home page was the addition of a bell icon for sale notifications for items saved to users' wishlists. Users correctly guessed the function of the home page, and also understood that the bell stood for notifications. However, all of them expressed surprise that the notifications were for sales on items. All users responded positively to this discovery - they thought it would be a useful feature.

Insights: We might want to consider explaining more about notifications in the onboarding process, or by adding a pop-up to the home screen explaining how users can edit or change their notification preferences.

Browse and Search

We received similar results to previous rounds of testing with the browse and search features. Most users had no difficulty navigating to the browse feature and understanding its purpose, however all users had difficulty finding the filter icon. Once they managed to open the filter panel, they liked the options for filtering.

Insights: Explain more about filtering options either in the onboarding process or in a pop-up on the home screen to orient users to the environment. We should also consider how we want the filter to behave - should filter options only apply to the current page users are on, or should they behave more globally across pages (i.e. person only ever sees results that cost less than $50)?

Closet

Users expressed confusion about features in the closet section of the app. They all had different interpretations of what was included in the closet and what the features in this section were intended to accomplish. For example opinions differed over whether items in the closet were items they had favorited or items they had purchased and uploaded.

All the users were surprised by the calendar, and equally confused about the functionality. Some users thought these were clothes you had worn on these days, while others recognized that it was intended for planning outfits. Users also had difficulty creating outfits, but we realize that some of the issues they had were related to the limited functionality of the prototype.

Insights: We should continue refining and clarifying features within the closet section. Again, perhaps some kind of pop-up or tutorial when users first open the section would

help them understand what the section is intended for and how they can use the different features.

Implementing Changes Based on Results

Based on these results, we have determined that the following changes would be good next steps if we planned to complete another set of improvements based on this feedback:

- Add further explanation to onboarding process, specifically relating to editing items and adding tags.
- Add further explanation to home screen regarding notifications, especially about how to change their notification settings.
- Add further explanation about filtering options either in the onboarding process or in a pop-up on the home screen to orient users to the environment.
- Decide whether filter options should only apply to the current page users are on, or should they behave more globally across pages.
- Continue refining and clarifying features within the closet section. Add a pop-up or tutorial when users first open the section would help them understand what the section is intended for and how they can use the different features.

Final Design Commentary and Critique

This section will provide a discussion on our final product design, as well as a reflection on our iterative design process and collaboration. We will discuss what was accomplished, what was not accomplished, and lessons learned from the project.

Areas of Success

Over the course of the semester, our team successfully researched, planned, designed, tested, and implemented changes on an app intended to help people find clothing that fits them perfectly. While members of our team split into individual roles, we were still able to share the duties and responsibilities of planning, architecting, researching, and designing. Our collaboration was not perfect, but the different roles we assumed complemented the others well, and there were remarkably few gaps in our experience levels and skill sets.

We developed functional low-fidelity and high-fidelity prototypes and ran three rounds of usability testing, with a total of 24 users. The table below summarizes some of the most important insights gathered from our usability research, and the changes that were implemented as a result.

Table 8. Insights from Usability Testing and Resulting Changes Implemented

User Insights	Changes
Confusion over upload clothes process in onboarding	Added explanation and clearer CTAs
Confusion over how to "dislike" items in style profile onboarding process	Changed heart icon to "like" and "dislike" buttons
Desire to add measurements and items/brands/sizes that fit you well to fit profile (deeper customization)	Added more measurement options and ability to add items/brands/sizes you know fit you well

Lack of clarity over bottom nav icons and features	Added text labels to bottom nav icons and explained icons in context of their features during the onboarding process
Overwhelmed by options and categories within Browse feature	Narrowed categories to only show different styles
Confusion over how to purchase items, and desire to purchase things within app	Changed purchase features to include cart and allow users to purchase multiple items from the same retailer

Our final feature set is described in detail on the next page. The link to the final prototype is below.

Link to final prototype: outfit.netlify.com
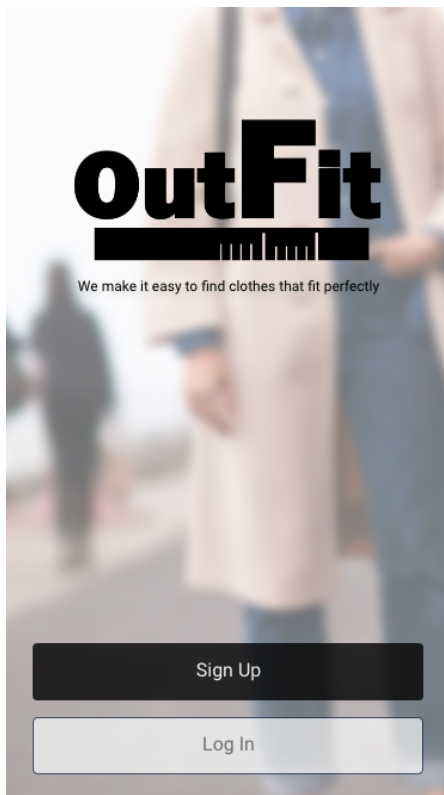
Onboarding

The onboarding process begins by introducing users to the different features (and icons) featured in the app, then asking users to create an account.

After a user creates an account, they are taken to the style profile flow, where they are shown ten images of outfits and asked to like or dislike the items. This data is stored in the app for future recommendations.

After the style profile, the user is asked to complete a fit profile, where they can add information about items that fit them in certain sizes, as well as personal measurements and body shape information.

Finally, users are asked to upload images of three items that fit them well to start their closet. They are provided the option to upload from email or by adding an image from their phone. Once they have edited metadata on the item, their fit and style
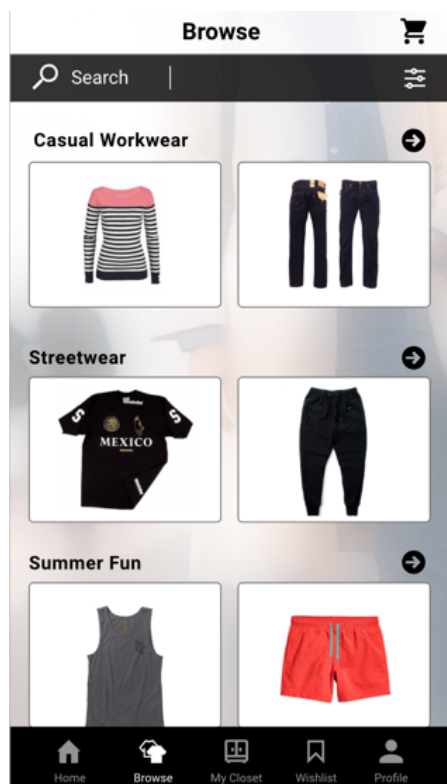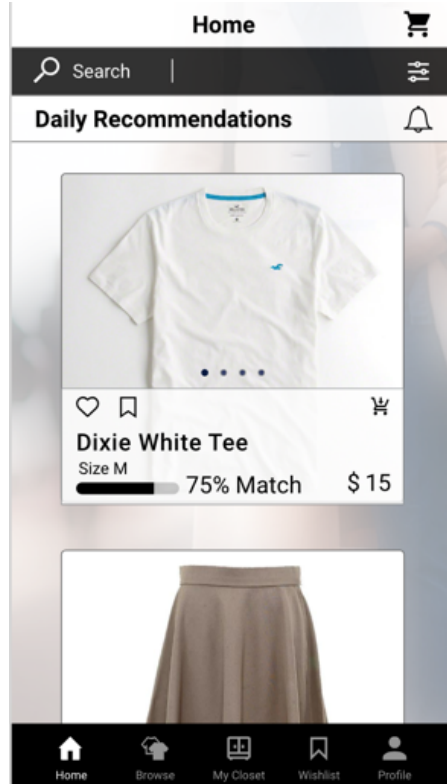
profile is complete.

Home

Users can navigate to the home page by clicking the house icon in the bottom nav.

The home page is a continuous feed of personalized recommendations. This page is the landing page for returning users.

Each item tile has a heart icon for "liking" the item (this data can be used to provide more specific recommendations), a bookmark icon for adding the item to the user's wishlist, a cart icon for adding the item to the user's cart, and information about the size and percent patch of the item.

The home page also contains notifications about sales for items. Items on the home page can be filtered by selecting the filter icon.

Browse

Users can navigate to the Browse page by clicking the shirt icons in the bottom nav.

The Browse section is intended to allow users to look through different styles of clothing for new ideas about what to wear.

Items can be filtered using the filter icon at the top right side of the page.

This section of our prototype also shows the item detail page, which contains ratings and reviews as well as tags that apply to the item.
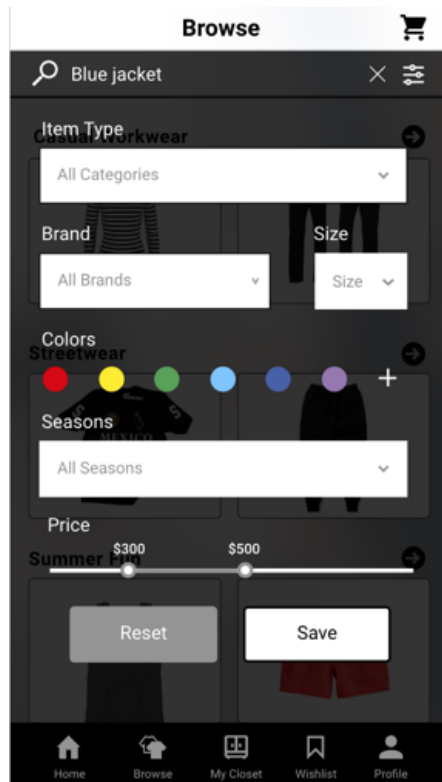
Search and Filter

A search bar is present at the top of every screen outside the onboarding process.

Users can search for keywords in the search bar, or select the filter icon to filter by Item Type, Brand, Size, Colors, Seasons, and Price.
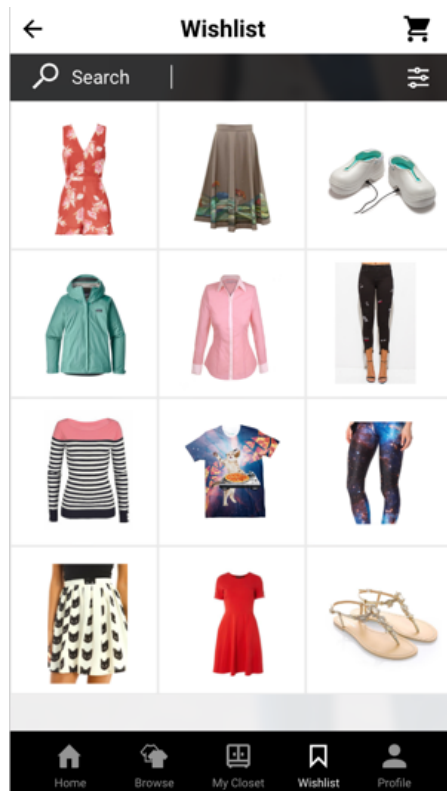
Wishlist

Users can navigate to their wishlist by clicking the wishlist icon in the bottom nav.

The wishlist is intended to serve as a place for users to save items they like but do not yet wish to buy.

Users can remove items from their wishlist, search, or filter with the filter panel.
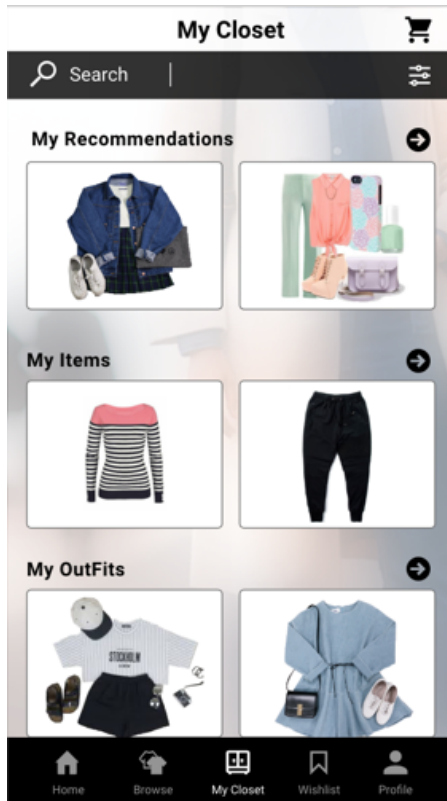
Closet

Users can navigate to the closet feature by selecting the closet icon on the bottom nav.

In the closet feature, users can:
- Add items our outfits to their calendar
- Select customized recommendation filters for outfits
- Add items to their closet by phone or email
- Update metadata on items
- Combine items of clothing to create outfits
- Search and filter items or outfits.
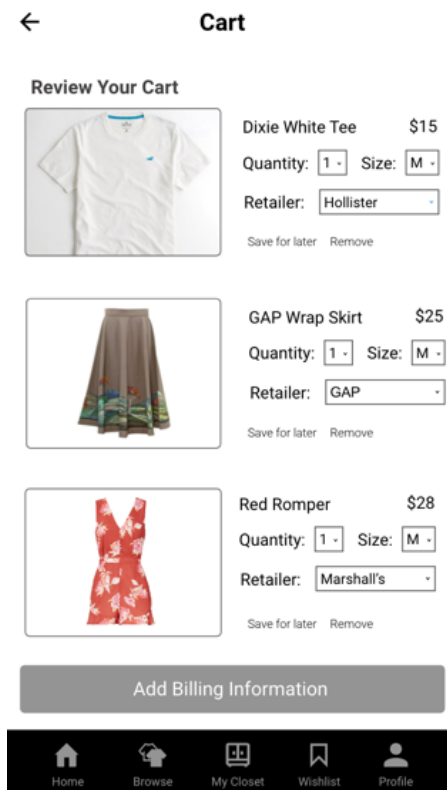
Cart

The cart icon on the top right side of the screen will lead users to the purchase flow, where they can purchase items found in the app from outside retailers.
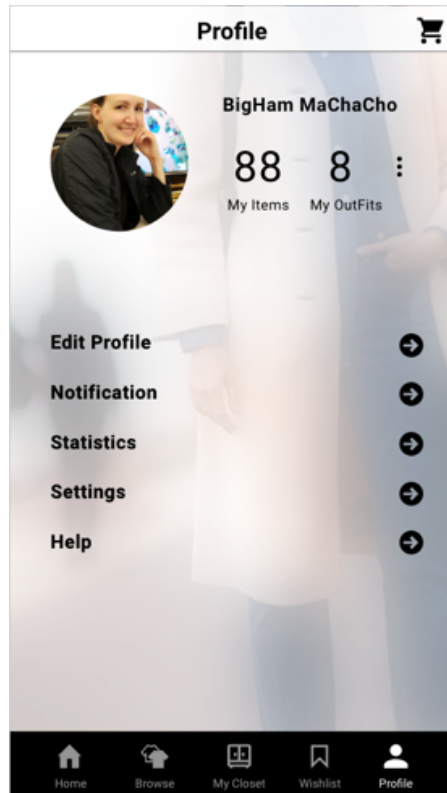
Profile

The profile icon on the right side of the bottom nav leads to the profile section, where users can make changes to their fit or style profile, edit notifications, or view statistics on their clothes.

Areas for Improvement

While we made great progress and accomplished a number of things, there are still some loose ends we were unable to tie up, both from our last round of usability testing and from earlier in the semester, when we established goals and ideas in the planning and research stage.

Here are some things we would change if we had more time or did this project over again.

Research
- We might have thought twice before releasing our survey on platforms like Reddit or Tumblr, since this might have skewed our results toward certain populations.
- We would do more research into what kinds of features people could see themselves using in apps like ours, and what situations might cause them to use those features.
- We would have done further research into what people liked and did not like about clothing apps.

- We would have researched alternative methods for importing closet items, rather than uploading via email receipts or adding pictures from phone or gallery.
- We would have researched or implemented other methods of finding clothes that fit, perhaps a "smart mirror" or something like Amazon's Echo Look.
- We would complete more user interviews in the initial research phase, especially with non-binary/transgender respondents, who made up a large part of our survey response group.
- We might have focused usability testing on specific flows, rather than asking users to navigate through many flows and evaluate each. For example, if we'd done shorter tests for specific features, we might have been able to gain deeper and more focused insights.
- We would have done more usability testing focused on the design itself, rather than the overall flows. We spent little time asking users how they felt about the app's look and feel.
- We would have attempted to complete more usability tests in person, rather than doing so many on usertesting.com. Sending instructions for remote users is difficulty because you cannot moderate and help if they misunderstand instructions or run into issues.

Design
- We would look into modifying our features so people could use them to complement in-person shopping (more features on the wishlist, maybe the ability to view the best fitting items from a particular retailer).
- We would design more features or aspects to make this app more helpful to people with a smaller clothing budget, to enable them to learn about sales on their favorite items, or perhaps a trading feature.
- We would incorporate the ability to sort by price and percentage fit into page filters.
- We would further develop the closet, browse, and search features to ensure the interactions are consistent between them and the rest of the app's features.

Collaboration
- We would have worked harder to coordinate design efforts, especially while we were developing low-fidelity and high-fidelity prototypes simultaneously. It would have been a good idea to implement some kind of tracking tool like Pivotal or Asana, to track tasks and changes.

- We would have communicated more on which aspects were structural and merited discussion before altering, and which aspects of the design had more leeway for changing without consulting the group.
- We would have prepared more specific agendas for team meetings, had clearer expectations for what kind of work we should do in the meetings (and what work should be handled after the meeting was over), and prepared stronger action item lists after meetings.
- We would have spent a little longer organizing our folder structure within our shared Google Drive.
- We would have developed a better version control system for when we had multiple people working on the same version of the prototype.

Lessons Learned

This semester taught us many lessons, both regarding the actual iterative research and design process, and relating to teamwork and collaboration.

Regarding research, we learned the importance of establishing scenarios or use cases to help users understand their motivation and information needs. We learned that when users take issue with certain aspects of your process or design, this doesn't necessarily mean you have to (or even should) make changes. User feedback should be taken in context with other results and the overarching goals and features of the app. We also learned that it's important to take feedback users provide when they say "I'm personally okay with [this thing], but others might not be," with a grain of salt, since the goal of testing with multiple users is that we will gather results from a range of people.

We also learned a good deal about design and collaboration. One lesson was that it's important to save meeting time for larger discussions rather than wasting it on doing trivial updates like centering text on buttons. Little design details should be the last priority (or at least, saved for the last round of high-fidelity updates). Additionally, we learned that if you make large, structural design decisions in later stages of testing and implementation, you should have a good "business case" or reason for the change. And a smaller but no less important lessons is that,

when using Adobe XD, you can copy and paste in prototype mode to preserve links between artboards and save yourself a lot of time…

We also learned the very important lesson that context is just as important as users or content when it comes to architecting an app like this. In our case, context became important when we began testing the onboarding section of our app, and had nearly every user balk at importing items from their email. Due to the increased awareness of company data collection tactics brought on by Facebook's recent privacy issues, our target users were suddenly more wary about giving our company access to their email than they might have been a year ago.

Despite the difficulties we encountered, we were satisfied with our results and proud of our prototype. There is nothing quite so satisfying as hearing one of your users end their usability test by saying, "I think [the app is] pretty freaking awesome, and I'd totally use it."

Final Schedule

Feb	22	Mar	8	15	22	29	Apr	12	19	26
Concepting										
		User & Stakeholder Research								
			Design & Prototyping							
					Implementation & Testing					

Figure 32. Gantt Chart of Schedule

Feb 8: Initial site proposal and user research plan discussion
- Our team formed and began discussing ideas for our project. We created an affinity diagram to identify problem areas for people's interactions with clothes, and used crazy eights to suggest potential solutions to the pain points we discovered.

Feb 15: Competitive analysis and survey creation
- Our team submitted the **initial site proposal and user research plan**.
- Molly, Dixie, and Monica created a list of potential competitors and gathered information about their features, audiences, and operation. They began developing a competitive analysis spreadsheet to collate this information.
- Yoomi and Brent developed a set of survey questions, which was then evaluated and edited by the rest of the team. Dixie, Yoomi, and Brent added the questions to Qualtrics. The survey was completed on February 19.

Feb 19: Survey distribution
- Dixie and Monica distributed the survey among personal contacts. Brent posted the survey to The Insider, an email listserv for students, staff, and faculty of the University of Texas School of Information. Molly distributed the survey on two Reddit threads, as well as on Facebook and Tumblr.

- Our team collaboratively wrote our **initial user research report**. These were submitted by Feb 22.

Feb 26: Data analysis

- After receiving **more than 2800 responses**, we closed our survey and began analyzing the data. Monica led the data analysis and created a deck to synthesize the results of the survey. Dixie and Molly also contributed to the data analysis.
- Our team collaboratively wrote a **second user research report** and developed a **project schedule**. These were submitted by March 1.

March 2 - 9: User interviews, sketching, blueprints, and wireframing

- Molly completed two user interviews and scheduled two more.
- Yoomi developed an initial concept map for the app and proposed a set of features.
- Our team created sketches of the app together and agreed on our basic concept, organization schemes and systems, and feature-set for the app.
- Brent and Monica began developing a high-level blueprint and sitemap for the site.
- Dixie began creating a wireframe for the user on-boarding process.
- Molly documented the research progress, results, strategy elements, and schedule. Our team worked together to draft a **strategy document**, which we submitted prior to March 15.

March 10-18: Research and design

- Over the break, Molly and Dixie interviewed users and record their research.
- Dixie, Brent, Yoomi, and Monica continued developing the blueprints and wireframes, and start thinking about hifi design.

March 19-25: Design

- Our team collaboratively completed and submitted a **design document** on March 22.
  - Brent designed a content-object linking table and content modeling.
  - Dixie updated our low-fi wireframes.
  - Yoomi began developing a high-fidelity wireframe and created a sitemap.
  - Monica created a moodboard.
  - Molly developed a style tile.

March 26-April 1: Design and Usability Testing
- Identified key flows to prototype and test first. These included the onboarding process, the home feed and item detail pages, the search and search results page, and the bottom navigation.
- Developed a card sort using Optimal Workshop to gain insight into the taxonomy and wording of the discover/browse feature of app.
- Submitted **Implementation Progress Report I** on March 29.

April 2-8: Design and Usability Testing
- Settled on the name "OutFit" for the app.
- Began first round of low-fidelity prototype usability tests, which we ran on four individuals in person.
- Continued developing high-fidelity prototype.
- Submitted **Implementation Progress Report II** on April 5.

April 9-15: Design and Usability Testing
- Finalized design decisions and changes, including a new logo for the app and consistent background images.
- Completed low-fidelity prototype usability testing with two in-person and two remote users, for a total of eight users in this initial round of usability testing.
- Submitted **Implementation Progress Report III** on April 12.

April 16-22: Design and Usability Testing
- Completed high-fidelity prototype for all features.
- Began high-fidelity prototype usability testing, with a first round of eight remote users.
- Submitted **Implementation Progress Report IV** on April 19.

April 23-26: Design and Usability Testing
- Made last round of changes based on results of usability testing, and refined features further.
- Completed final round of high-fidelity prototype usability testing on eight remote users and analyzed results.
- Prepared final prototype, presentation, video, and document for submission on April 26th.

April 26: Presentation

- Submitted the final site and report, and presented the project presentation together.

Appendix

Appendix A: Affinity Diagram

Figure A.1: Affinity Diagram for Fit

Figure A.2: Affinity Diagram for Style

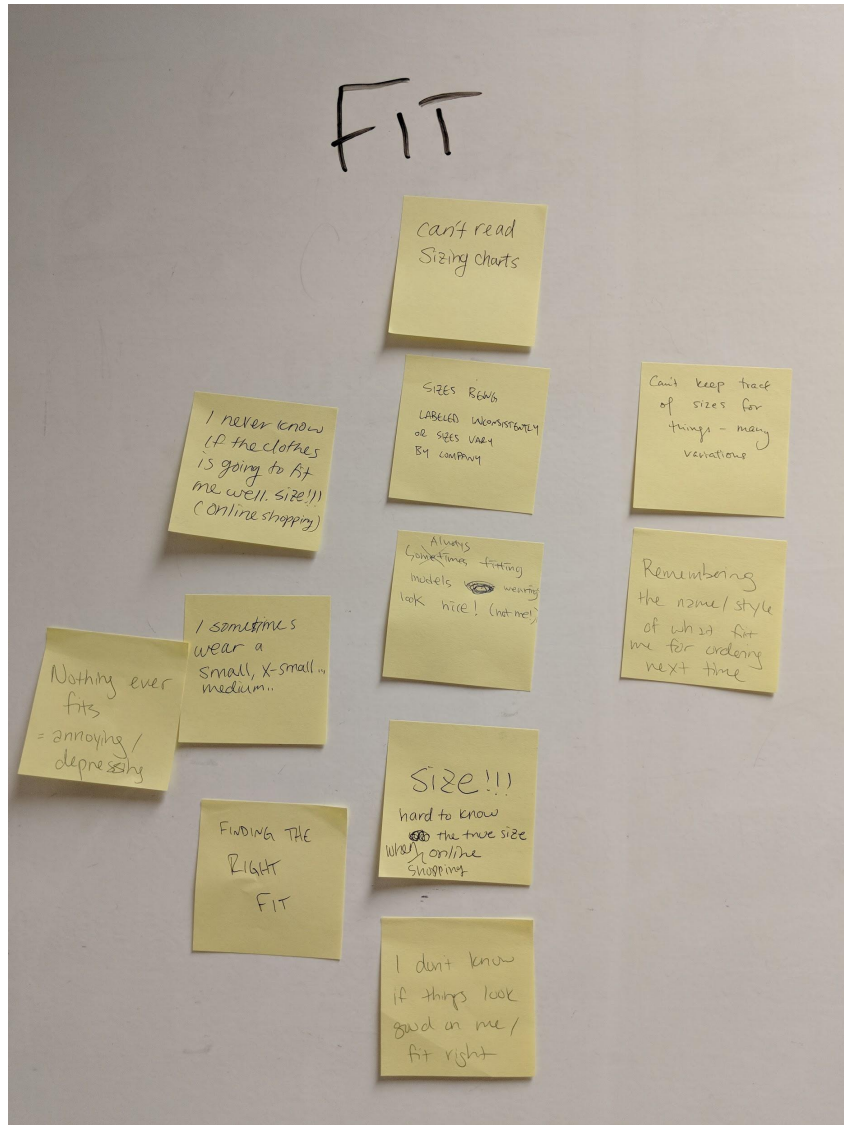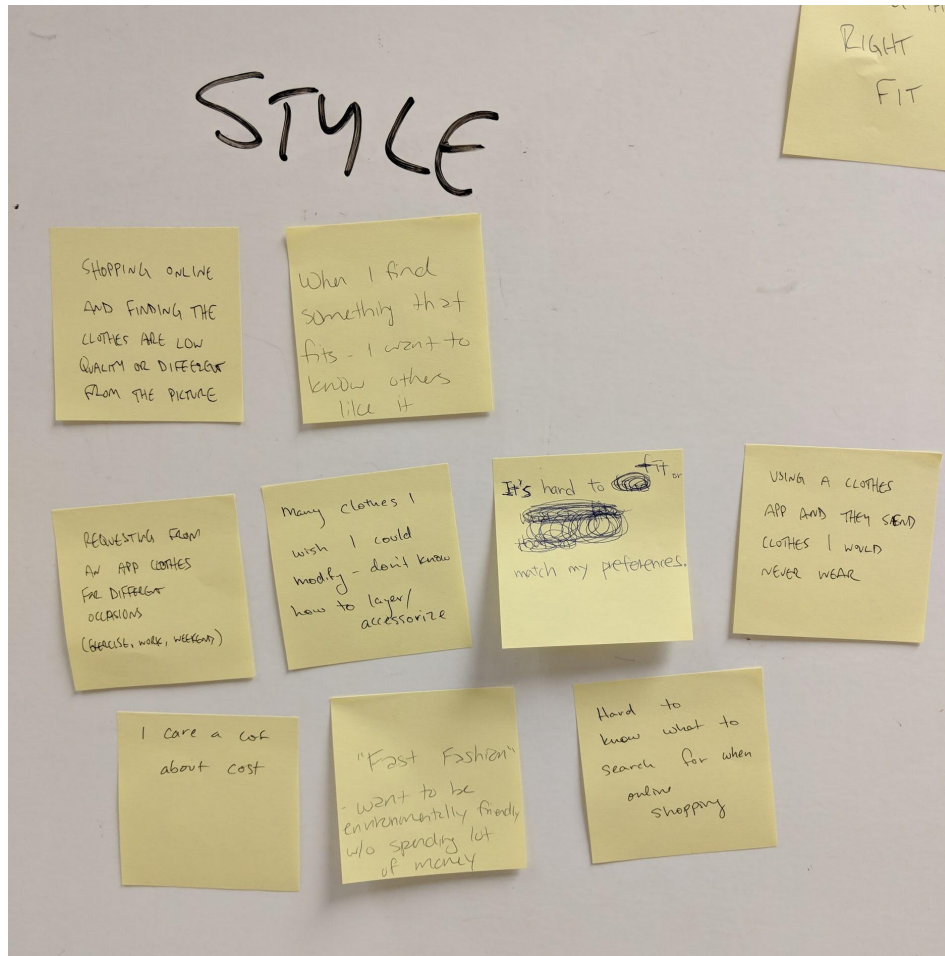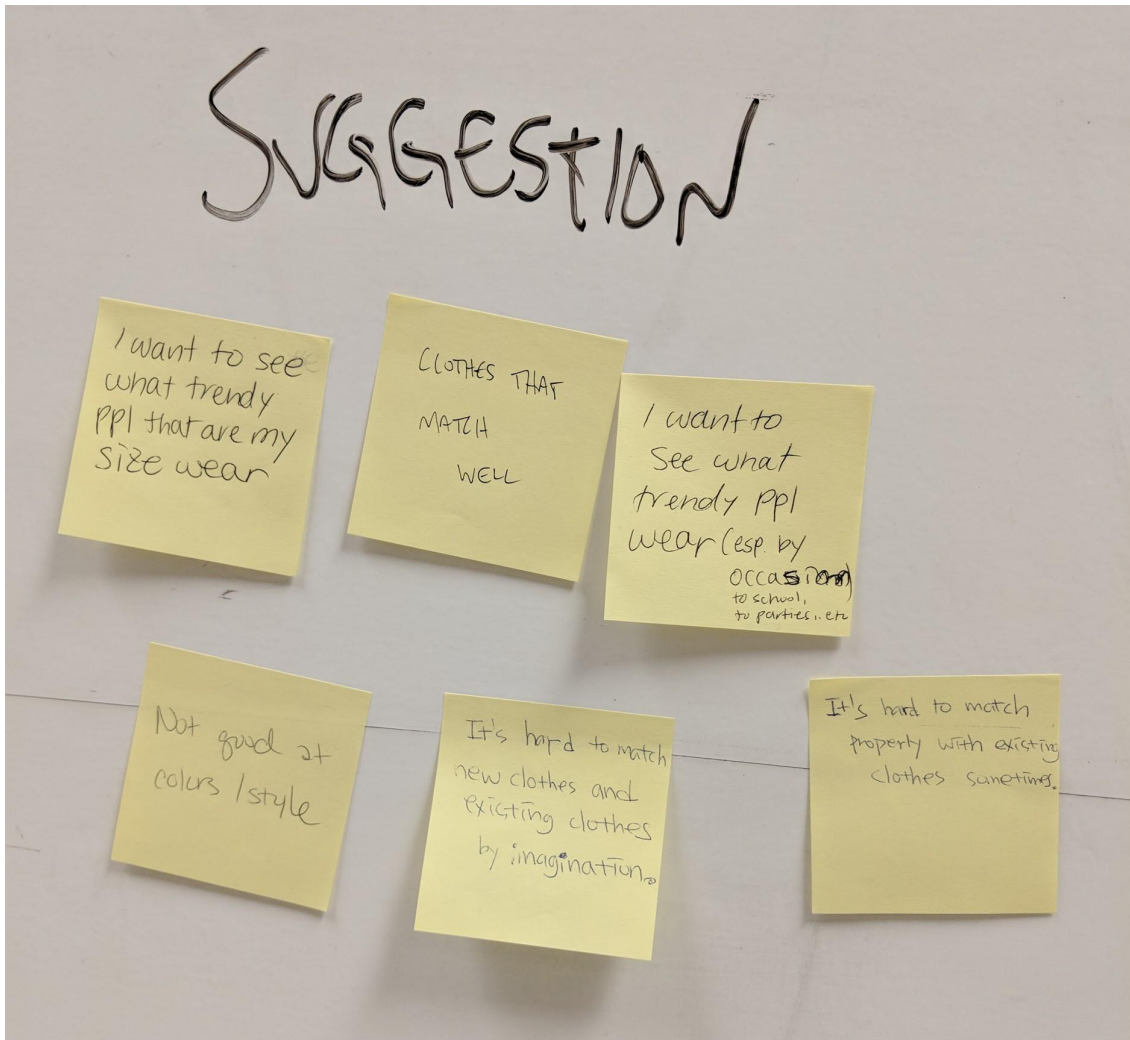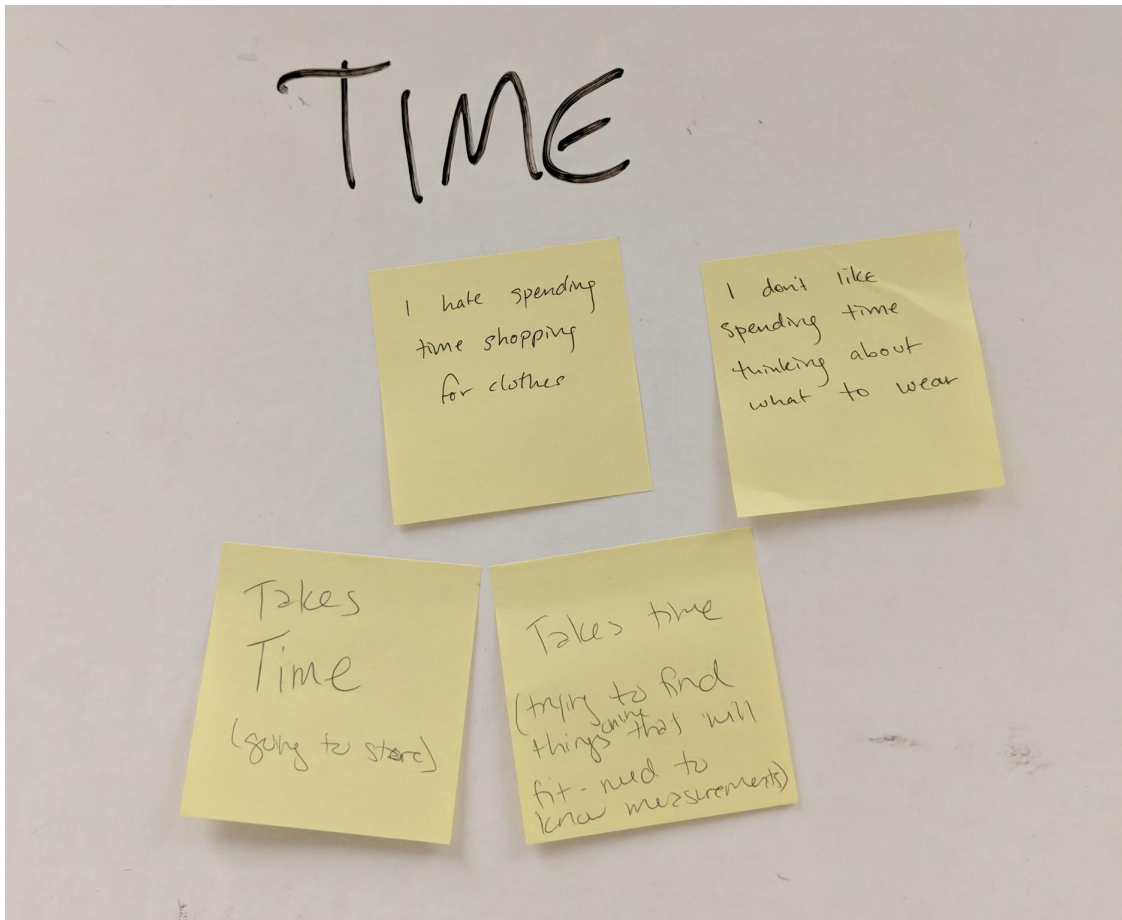*Figure A.3: Affinity Diagram for Suggestion*

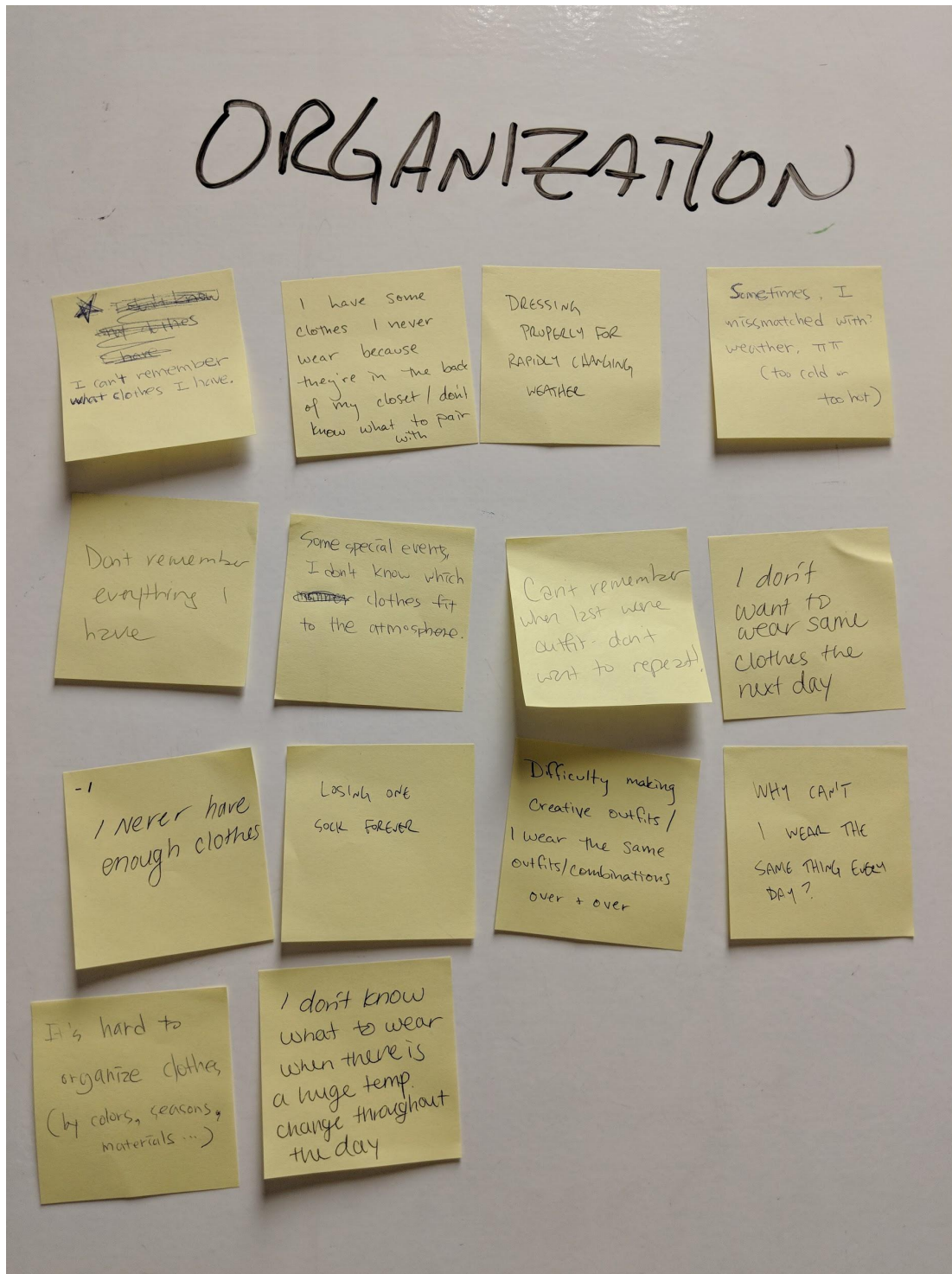Figure A.4: Affinity Diagram for Time

Figure A.5: Affinity Diagram for Organization

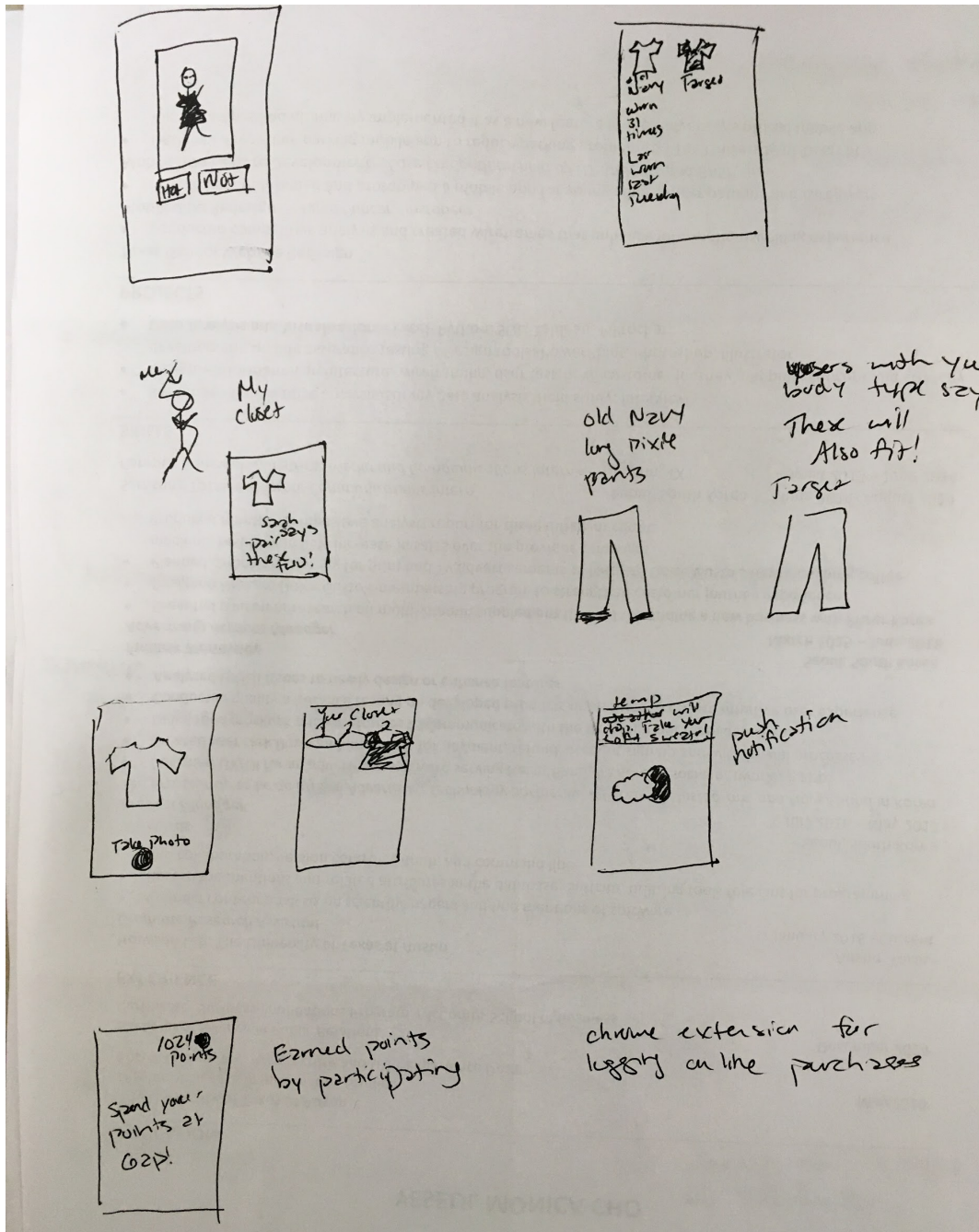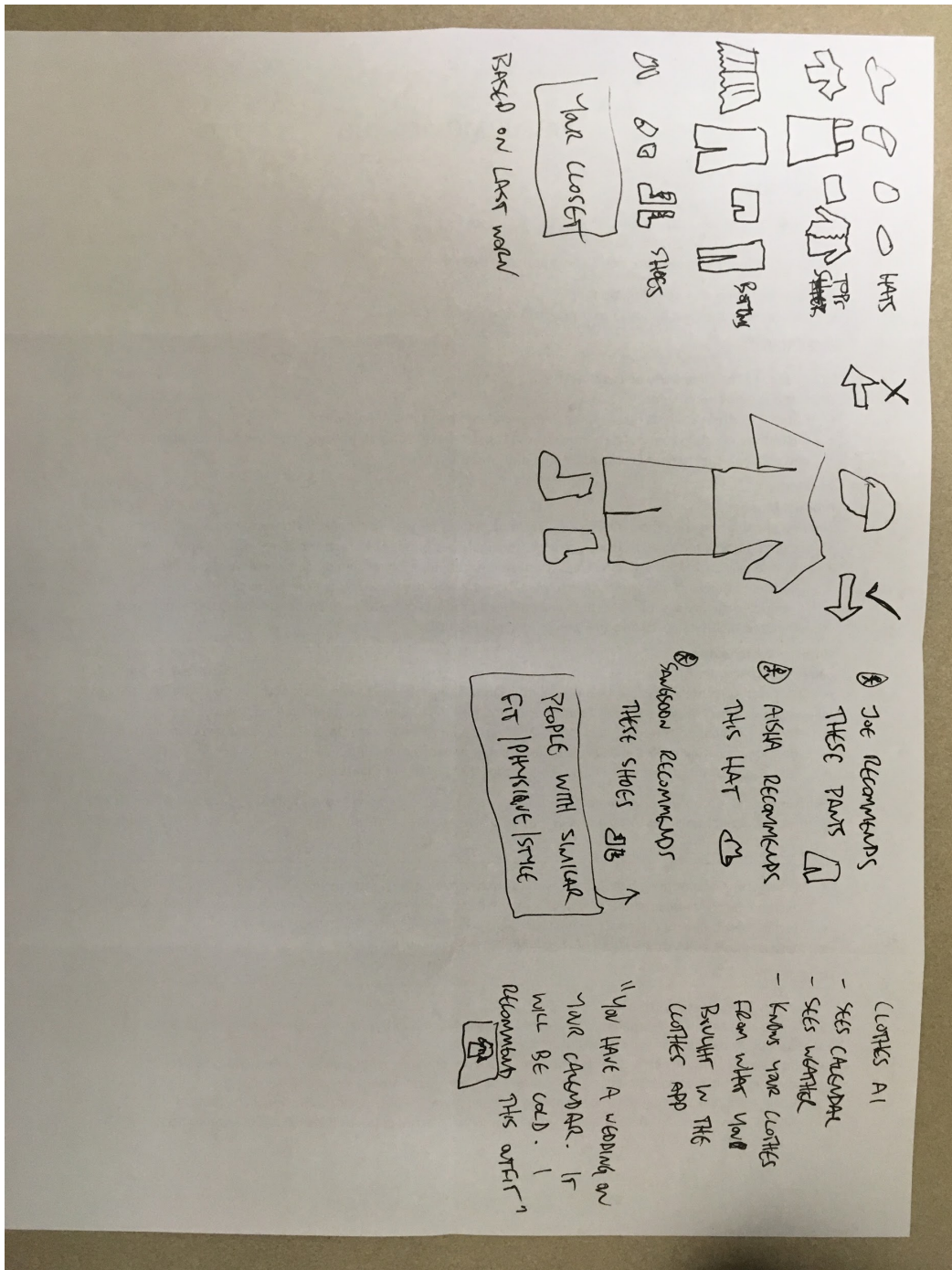# Appendix B: Crazy Eights

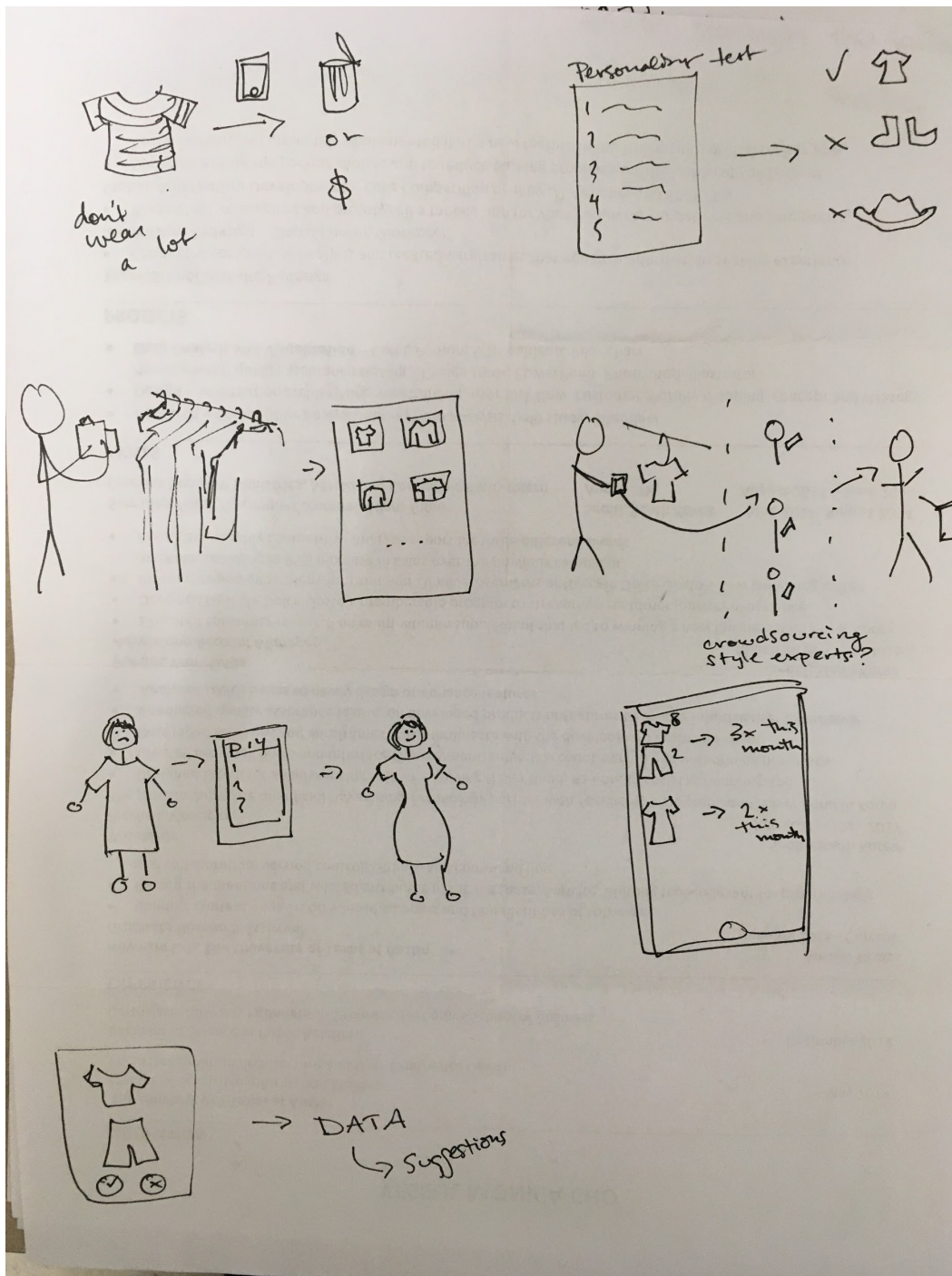Figure B.1: Dixie's Crazy Eights

Figure B.2: Brent's Crazy Eights

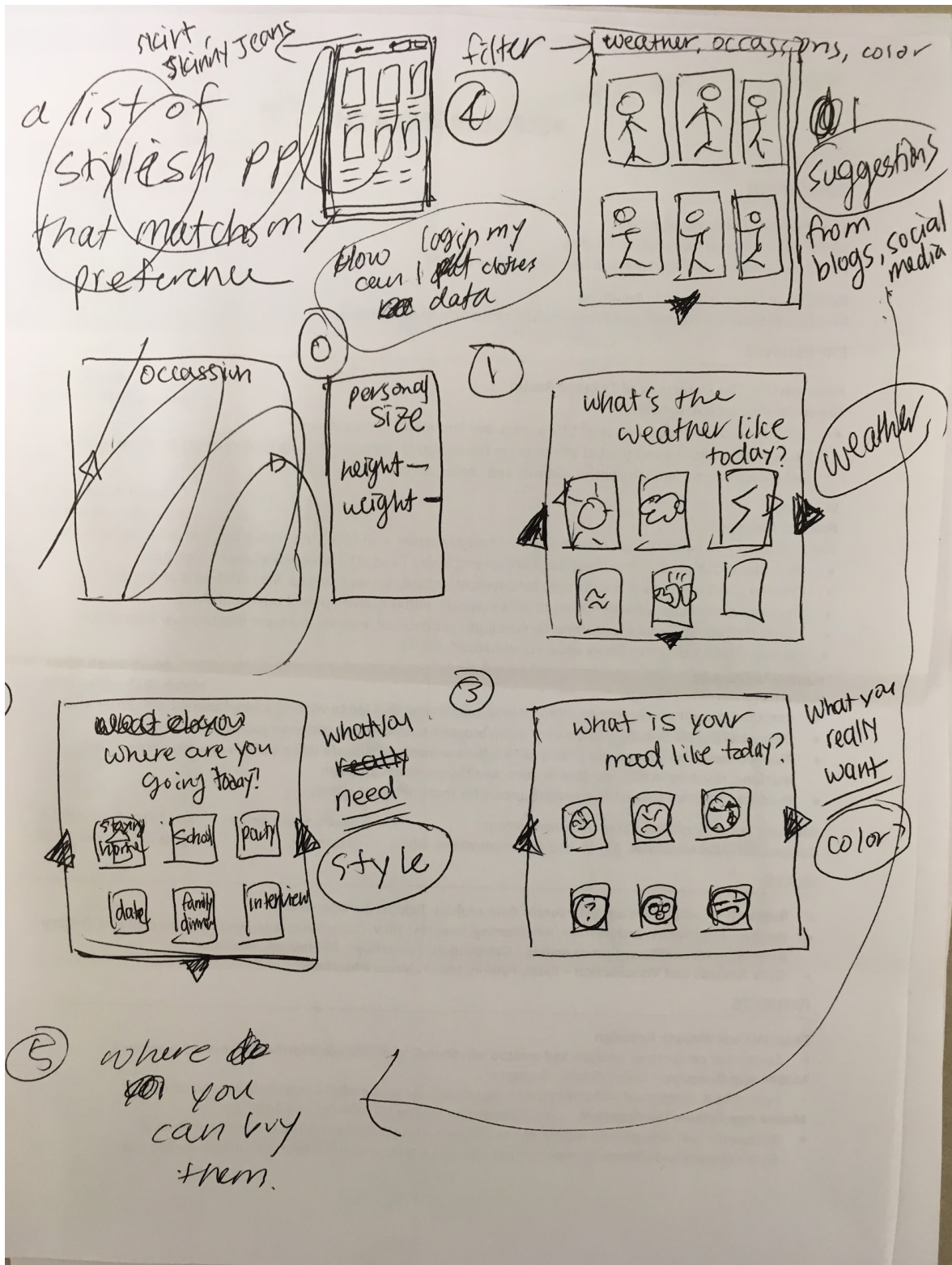*Figure B.3: Molly's Crazy Eights*
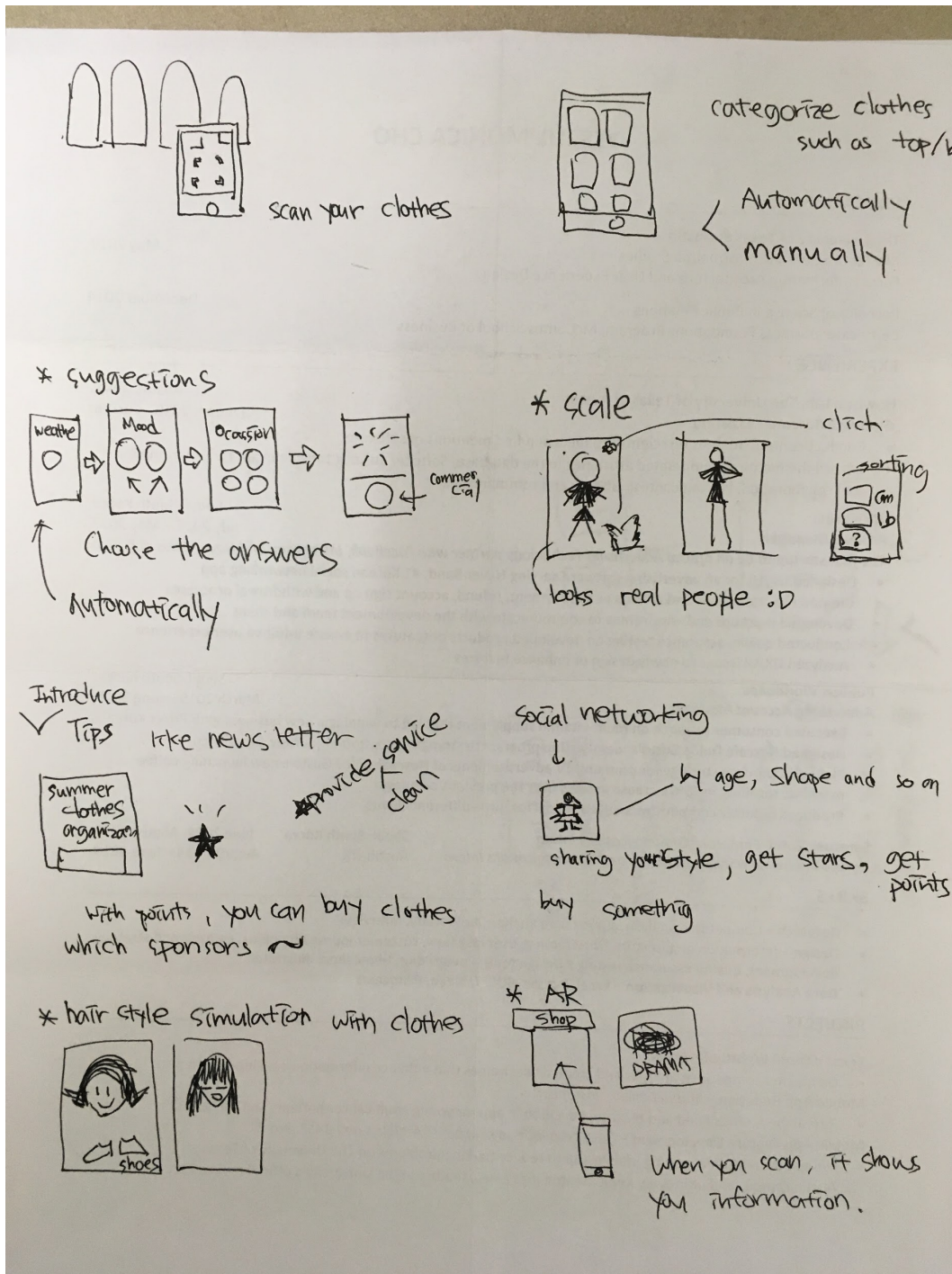
Figure B.4: Monica's Crazy Eights

Figure B.5: Yoomi's Crazy Eights (Part 1)
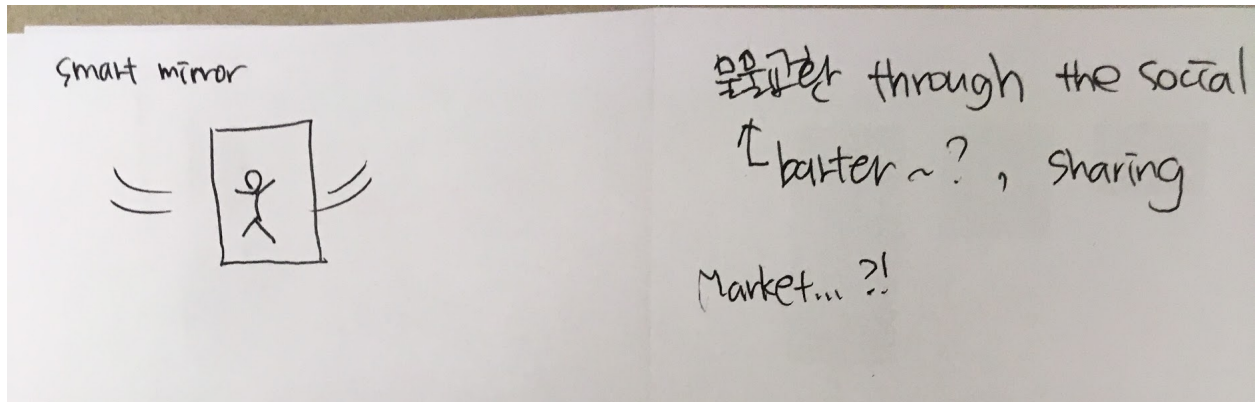
Figure B.6: Yoomi's Crazy Eights (Part 2)

Appendix C: Original Competitive Evaluation Results

Name of App	Dixie			Monica			Molly			
	Finery	Netrobe	Closet Space	Like to Know It	Pose	Stylicious	Stylebook	GlamOutfit	Rackery	Size Charter (website)
Features	Online wardrobe (logs purchases) Upload items via Google search or photos Recommends outfits based on style, locati Plan/schedule looks Suggests items to return Notifications about return deadlines Wishlist sale notifications Automated price adjustments Universal wishlist (Pinterest-like button) Share outfits with other members Featured wardrobes (celebrities)	Add items online Pack for trips Follow other user Features for blog Links with blogge	Daily outfit recom	Shop products in pictures (your screenshots) Browse your likes Discover other ready-to-shop My influencers	Snap, tag & share your style (Love, share, comment, and follow) Follow designers, stylists, and other Pose memebrs View trends from fav designers save and purchase items Directly connects with designers' social media	Logs your clothes via taking pictures of your own clothes (closet organizer) Lookbook - create looks (outfits planner) Calendar - plan when to wear Shopping Collects wish items Bookmark items and see what's on sale Style inspiration(trend): price + where to buy Recieve advice Connects to tumblr	Size tracker Looks Closet Packing list Calendar Inspiration library Shopping Style expert Style stats Share	Organize your wardrobe Get style suggestions from stylists Discover styles from people with similar body type Plan outfits	Takes measurements Suggests brands	Takes measurements Suggests brands and sizes Style tips Find your fit
Target Audience	High-end (ish), trendy Women (for now) Next children, then men	Women, blogger	Women & men	Women ages 18-40	Women ages 18-35	Women ages 18-40	Women Ages 15-40	Women	Primarily women Ages 18-35	Men, women, pregnant women People who shop by brand Non-mobile users
Cost	Free (online only)	Free (online - iPhone app only??)		Free	Free	Free	$3.99	Free	Free	Free
Revenue Source	Affiliate links with online retailers Future: online marketplace for buying, selling, borrowing (% transactions)			No idea	advertising	Affiliate links with online retailers	Affiliate links with online retailers; one time download fee	Unsure	Affiliate links with online retailers	Affiliate links with online retailers
Technologies	Scans online purchases (via email) Chrome extension IBM Watson's AI Cloud Vision	Removes background from images		Retrieve screenshots	Following Tagging	Data retrieval from brand sites Log data via camera Move around photos to create looks Tagging Calendar	"Quick add" Integrate buys with closet Wifi share	Organize Calendar/plan	Data retrieval from brand sites Find size using selfies	Data retrieval from brand sites
Taxonomy/Info Organization	<See screenshot>				very similar to instagram	Top level: featrues Within Shopping: by category (bags, shoes, accessories, clothing, jewelry, intimates)	Top level - features Within closet - Tops/Bottoms/B ags, etc	Top/Bottom/Sho es/Accessories, etc	Sort by Male/Female Sort by brands	Sort by Male/Female/Maternity Sort by brands
Strengths	Partnerships w/ 500+ retailers (10,000 bra Comprehensive set of features Easy to integrate with chrome extension/e	Removes background from images		Strong user base (it has 24.6K ratings on ios app store/4.9 out of 5) Active user feedback Unique/Easy to use/Simple feature Convinience	Strong userbase (about 2 million users)	Diverse features (from organizing clothes to shopping) Directly connects with retailers Easy to find items on sale	Comprehensive set of features Share images between devices Integration with Pinterest	Free; personal stylists offer suggestions Desktop app	Simple, free, one function	Simple, one function Accurate (apparently) No account needed
Weaknesses	Startup Features need to be explained (?) Currently branded to wealthy women No app			Heavily depend on its accuarcy (there were some customer complaints on not being accurate)	Went out of business about 2 yrs ago.. (I think after they started advertising on the app in 2013), Slowly died out?	Lagging often Too many features Items are mostly luxury brands-too expensive Some photos aren't in high quality product's overall quality not top-notch	Possibly too many features No desktop app Separate version of Stylebook just for men	Startup Have to add closet manually and categorize after upload	Startup Currently not available outside of India	No mobile app Bare bones UI
Opportunities	Expanding to marketplace, men, children			New way to retain user visit	Native ads	Increase in potential retail partners	Increase target user group	Integrate more with brands/shoppin g; more social media	Use new technologies to enhance features (selfie > fit)	Partner with brands
Threats			Finery	inaccuracy might lead to losing users	INSTAGRAM	Competitiion within the market Overflowing shopping apps Apps that targets more affordable brands Apps with high UX/UI quality	Too specific audience?	Not sure how this is funded		No accounts Potential funding issue

Figure C.1. Original Competitive Evaluation Results

Appendix D: Survey Questions

Title of Survey: Habits of Clothes Shopping and Organization

Description: The purpose of this survey is to collect information about people's habits and attitudes concerning shopping for and organizing clothes. If you would like to see the results of this study after its completion, enter your email address below.

○   No thanks. (1)

○   Yes, please. My email address is: (2)

_____

Q1 You identify as:

○   Female (1)

○   Male (2)

○   Non-binary/third gender (3)

○   Prefer to self-describe: (4) _____

○   Prefer not to say (5)

Q2 What is your age range?

○   17 and under (1)

○   18 - 24 (2)

○   25-34 (3)

○   35-44 (4)

○   45-54 (5)

○   55 and over (6)

Q3 What was your total household income last year?

○   Less than $20,000 (1)

○ $20,000 to $34,999 (2)

○ $35,000 to $49,999 (3)

○ $50,000 to $74,999 (4)

○ $75,000 to $99,000 (5)

○ $100,000 or more (6)

Q4 Which describe you at your job and/or at school? Choose all that apply.

☐   I interact with people a lot. (1)

☐   I can express myself with my clothing. (2)

☐   I work with my hands and/or do physical labor. (3)

☐   I work in an office. (4)

☐   I never wear what I wore the day before. (8)

☐   I wear a uniform. (5)

☐   People notice what I wear. (6)

☐   The clothing I wear all day depends on the weather. (7)

Q5 How do you shop for clothes and accessories? Choose all that apply.

☐   I browse and purchase in person at physical stores. (1)

☐   I browse and purchase online. (2)

☐   I browse online and then purchase the clothes at the store. (3)

☐   I browse in stores and then purchase the clothes online. (7)

☐   I use an online personal style service like Bombfell, Stitch Fix, Trunk Club, etc. (4)

☐   I ask my friends for recommendations based on their clothing. (5)

☐   Other (6) _____

Q6 How difficult is it for you to find particular items (like pants) that fit?

○   Extremely easy (1)

○   Somewhat easy (2)

○   Neither easy nor difficult (3)

○ Somewhat difficult (4)

○ Extremely difficult (5)

Q7 How often do you try on clothing before you buy it?

○ Always (1)

○ Most of the time (2)

○ About half of the time (3)

○ Sometimes (4)

○ Never (5)

Q8 The last time that you bought clothing, approximately how much money did you spend?

○ Less than $100 (1)

○ $100 - $299 (2)

○ $300 - $499 (3)

○ $500 - $999 (4)

○ $1,000 or over (5)

Q9 Please rank the following clothing attributes in order of importance
_____ Comfort. (1)
_____ Style. (2)
_____ Price. (3)
_____ Current trends. (4)

_____ Quality. (5)
_____ Environmental-friendliness. (6)

Q10 Where do you find inspiration for clothing styles? Choose all that apply.

☐   I buy whatever looks good at the store or online. (1)

☐   Social media (Instagram, Snapchat, Pinterest, etc.) (2)

☐   Friends and family members. (3)

☐   I don't have a good source of inspiration for style. (4)

☐   Other: (5) _____

Q11 Which most accurately describes your attitude about buying clothes?

○   It's just a necessity; I'm not very passionate about it. (1)

○   It's definitely a hobby of mine. (2)

○   Clothes are life. (3)

○   Other: (4) _____

Q12 When purchasing clothes, how important are brand names to you?

○   Extremely important (1)

○   Very important (2)

○   Moderately important (3)

○   Slightly important (4)

○   Not at all important (5)

Q13 How often do you organize your closet?

○   Every day. (1)

○   Weekly. (2)

○   Monthly. (3)

○   Once a season. (4)

○   Yearly. (5)

○   Never. (6)

Q14 How do you organize your clothing? Choose all that apply.

☐   Season. (1)

☐   Formal/Casual. (2)

☐   Occasion. (3)

☐   Item type or length. (4)

☐   Color. (5)

☐   Material. (6)

☐   I don't organize my clothing in any specific way. (7)

☐   Other: (8) _____

Q15 How frustrating do you find these tasks?

	Very frustrating (1)	Somewhat frustrating (3)	Not at all frustrating (4)	N/A (5)
Shopping for new clothes (1)	○	○	○	○
Finding clothes that fit (2)	○	○	○	○
Organizing my clothes (3)	○	○	○	○
Trying to dress stylishly (4)	○	○	○	○
Trying not to repeat outfits (5)	○	○	○	○

Q16 Have you ever used a phone app, website, or other tools to manage your clothes? If yes, which app or which methods do you use?

○   Yes. (1) _____

○   No. (2)

Skip To: Q18 If Have you ever used a phone app, website, or other tools to manage your clothes? If yes, which app... = No.

Q17 Do you still use the app, website, or other tool? Why or why not?

○   No, because: (1) _____

○   Yes, because: (2) _____

Appendix E: Selected Survey Results

Q1   Gender

Survey Data Insight

#	Answer	%	Count
1	**Female**	**77.82%**	**2186**
2	Male	6.41%	180
3	Non-binary/third gender	11.64%	327
4	Prefer to self-describe:	2.74%	77
5	Prefer not to say	1.39%	39
	Total	100%	2809
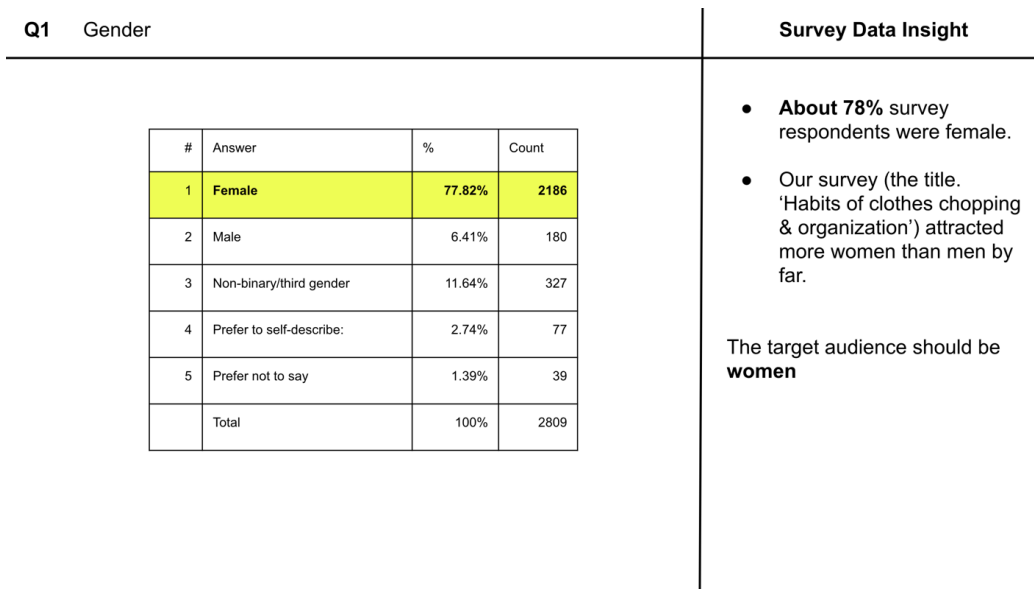
- **About 78%** survey respondents were female.

- Our survey (the title. 'Habits of clothes chopping & organization') attracted more women than men by far.

The target audience should be **women**

Figure E.1: Gender Results of Survey

Q2   Age

Survey Data Insight

#	Answer	%	Count
2	**18 - 24**	**48.77%**	**1370**
3	**25-34**	**31.90%**	**896**
1	17 and under	10.50%	295
4	35-44	5.66%	159
5	45-54	2.42%	68
6	55 and over	0.75%	21
	Total	100%	2809
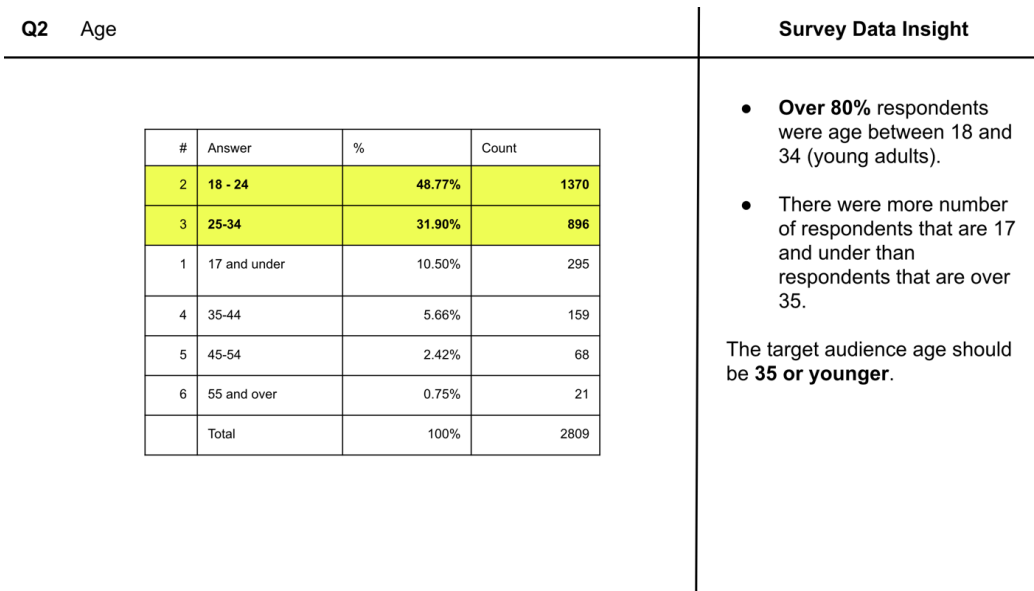
- **Over 80%** respondents were age between 18 and 34 (young adults).

- There were more number of respondents that are 17 and under than respondents that are over 35.

The target audience age should be **35 or younger**.

Figure E.2: Age Results of Survey

Q3   Income

Survey Data Insight

#	Answer	%	Count
1	**Less than $20,000**	**28.67%**	**795**
2	**$20,000 to $34,999**	**21.10%**	**585**
3	**$35,000 to $49,999**	**14.93%**	**414**
4	**$50,000 to $74,999**	**14.93%**	**414**
5	$75,000 to $99,000	7.93%	220
6	$100,000 or more	12.44%	345
	Total	100%	2773

- **About 80%** respondents have income less than $74,999/yr.

- **About 65%** (more than half) of our respondents make less than $49,999/yr.

Our product should aim to serve the audience with income lower than $50,000/yr.

The items available to purchase on our app should be in the low to moderate price range.

Figure E.3: Income Results of Survey

Q4   How to Describe Yourself

Survey Data Insight

#	Answer	%	Count
7	**The clothing I wear all day depends on the weather.**	**24.60%**	**1944**
1	I interact with people a lot.	18.38%	1453
2	I can express myself with my clothing.	15.76%	1246
4	I work in an office.	10.54%	833
8	I never wear what I wore the day before.	9.72%	768
6	People notice what I wear.	8.62%	681
3	I work with my hands and/or do physical labor.	7.34%	580
5	I wear a uniform.	5.05%	399
	Total	100%	7904

- Weather is a significant factor when choosing an outfit (**about 70%** of respondents chose the option)

- More than half of the survey respondents (51%) interact with people a lot.

- About 44% of respondents enjoy expressing themselves with their outfits.

*Percentage calculation for multiple answer questions: count/2809*100

Figure E.4: "How would you describe yourself?" Results of Survey

Q5   Shopping Habits   **Survey Data Insight**

#	Answer	%	Count
1	**I browse and purchase in person at physical stores.**	**43.70%**	**2559**
2	I browse and purchase online.	29.18%	1709
3	I browse online and then purchase the clothes at the store.	10.89%	638
7	I browse in stores and then purchase the clothes online.	6.42%	376
4	I use an online personal style service like Bombfell, Stitch Fix, Trunk Club, etc.	0.67%	39
5	I ask my friends for recommendations based on their clothing.	5.93%	347
6	Other	3.21%	188
	Total	100%	5856

- **91%** of our respondents indicated that they browse and purchase their clothes at physical stores.
- About 61% of our respondents browse and purchase clothes online.
  - About 55% said they would "purchase" their clothes at a physical store.
    - *(#1 % + #3 %)*
  - About 36% said they would "purchase" their clothes online.
    - *(#2 % + #7 % + #4%)*
- Out of 168 "other" responses, **34 people (20%)** indicated that they purchase clothes at thrift stores or wear second hand clothes

Figure E.5: Shopping Habits Results of Survey

Q6   Difficulty of finding clothes that fit   **Survey Data Insight**

#	Answer	%	Count
4	**Somewhat difficult**	**48.34%**	**1357**
2	Somewhat easy	18.24%	512
5	Extremely difficult	16.39%	460
3	Neither easy nor difficult	14.29%	401
1	Extremely easy	2.74%	77
	Total	100%	2807

- **Almost 50%** of the respondents said that finding clothes that fit is somewhat difficult

Figure E.6: Difficulty Finding Clothes that Fit Results of Survey

Q6   Difficulty of finding clothes that fit   **Survey Data Insight**

Black: actual
Green: expected
Purple: actual - expected

		Female	Male	Non-binary/third gender	Prefer to self-describe:	Prefer not to say	Total
How difficult is it for you to find particular items (like pants) that fit?	Extremely easy	62 / 59.93 / 2.07	9 / 4.94 / 4.06	3 / 8.97 / -5.97	1 / 2.11 / -1.11	2 / 1.04 / 0.96	77
	Somewhat easy	382 / 398.51 / -16.51	55 / 32.84 / 22.16	55 / 59.67 / -4.67	12 / 14.05 / -2.05	8 / 6.93 / 1.07	512
	Neither easy nor difficult	317 / 312.11 / 4.89	19 / 25.72 / -6.72	47 / 46.73 / 0.27	11 / 11.00 / -0.00	7 / 5.43 / 1.57	401
	Somewhat difficult	1089 / 1056.20 / 32.80	71 / 87.05 / -16.05	151 / 158.14 / -7.14	30 / 37.24 / -7.24	16 / 18.38 / -2.38	1357
	Extremely difficult	334 / 357.25 / -23.25	26 / 29.44 / -3.44	71 / 53.49 / 17.51	23 / 12.60 / 10.40	5 / 6.22 / -1.22	459
	Total	2184	180	327	77	38	2806

Figure E.7: Difficulty of Finding Clothes that Fit Cross-Tabulation

Q16   Other apps, websites, or tools?   **Survey Data Insight**

#	Answer	%	Count
1	Yes.	2.83%	79
2	No.	97.17%	2716
	Total	100%	2795

- We can update our competitive analysis

Those who answered "yes" use or have used...

Organize & Outfit Pick

Stylebook

Closetspace

Pureple

Smart Closet — CLOSET

Styling & Shopping

POLYVORE

Polyvore

poshmark

Pinterest

Glamoutfit

Stichfix

Wish

Closet+
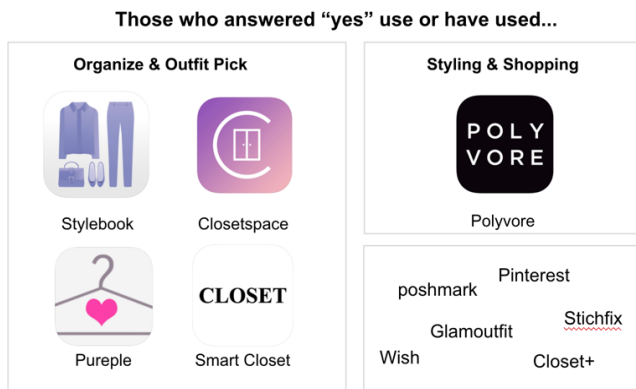
Figure E.8: Other clothing apps used by users

Q17 Do you still use the app, website, or tool?	Survey Data Insight

#	Answer	%	Count
1	No, because:	67.47%	56
2	Yes, because:	32.53%	27
	Total	100%	83

WHY NO?

-

"Time consuming"
"Too much effort to enter in all the clothes I own"
"Too much of a hassle to use"
"Hard to maintain"
"Taking pictures with the best angle and re-organizing closet is tedious"

"It's very setup for straight size, femme individuals and I am neither"
"Have never put money into it, and I still am figuring out my size in different clothing"
"As a plus-sized woman, it didn't find my clothes very well"

"Focused too much on high end expensive brands"

Figure E.9: Insight on other clothing apps from users

Q17 Do you still use the app, website, or tool?	Survey Data Insight

#	Answer	%	Count
1	No, because:	67.47%	56
2	Yes, because:	32.53%	27
	Total	100%	83

WHY YES?

-

"It helps keep a record of what I have for when I go shopping and need to see if an article of clothing I'm trying on matches or could be made into an outfit with my current closet."
"It is helping me curate, catalogue my clothes, remember what I have when shopping, make packing lists, and create outfits"

"I'm broke and it's good for broke girls like me"

"Sometimes I can't find items in stores"
"they custom make clothes that fit me perfectly "
"Stores do not carry my size"

"Kind of, mostly to style others because it's like a dress-up game in real life..."
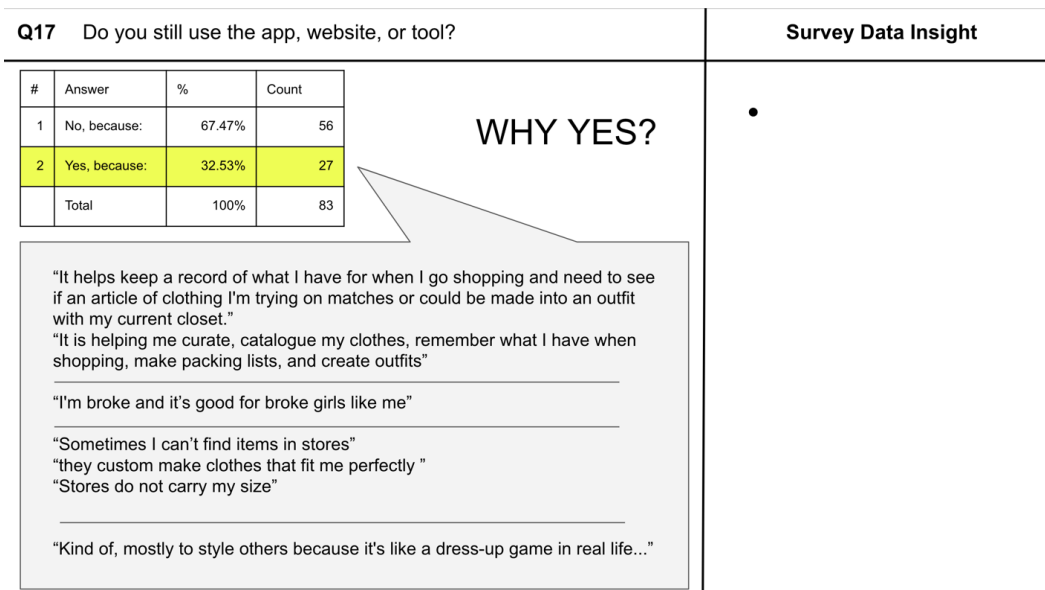
Figure E.10: Insight on other clothing apps from users

Appendix F: User Interview Script

We conducted four user interviews after completing our competitive evaluation and survey to gain more detailed insights into why certain users might have trouble identifying and finding clothes that fit.

For our screener, we asked people how difficult it was for them to find clothes that fit, on scale of 1 to 5, 1 being "very easy" and 5 being "very difficult". We decided we would only interview people who say 4 or 5.

Introduction Script

First, thanks so much for allowing me to spend time with you today. I want to make sure I'm being as efficient as possible today and respecting the time you've given us. I'm a graduate student and am performing research for a class project. We are looking at how people shop for clothes, and want to understand their goals and pain points. That's where you come in.

Have you ever participated in a research interview like this before?

I want to mention that this is a completely voluntary activity and you do not have to answer any questions that you do not want to and can stop at any time. The information you provide today will be used only for purposes of this class project, and your comments will remain anonymous.

If possible, I would like to record this session for note-taking purposes since I will not be able to write as fast as you are speaking. The recording won't be used for anything other than our internal analysis. Do I have your permission to record the session?

[If they say yes, start recording and then ask them for permission a second time, just so it's on record]

Do you have any questions for me before we begin?

1. General Information About Clothes Habits

Goal: get high-level information about how their feelings toward shopping, organization, and managing their clothes, this will help us understand context for more specific things we ask about.

The first thing I'd like to do is get a high-level sense for your current environment as it relates to shopping for and managing your clothes.

Let's talk about style first. How important is it to you to dress in a certain style?

Please use 3 separate words (adjectives) to describe your style.

Can you please rate the importance of style to you on a scale of 1 to 5, 1 being "not important at all" and 5 being "extremely important", how would you rate it?

      Why did you give it that rating?

Are there certain sources or places you go to find style inspiration? What are they?

      Do you use social media to help identify styles or trends you are interested in?

      Can you tell me about which sites or app you use?

Now let's talk about shopping. In the last two months, have you made any clothing purchases in a physical store?

      How many clothing purchases do you think you have made *in stores* in the last 2 months/6 months?

      When you made these purchases, had you been looking for something specific, or had you just been browsing?

      Within this same time period, were there other times you went shopping in a store for clothing but did not make a purchase?

         Why didn't you make any purchases in that/those instances?

In the last 2 months, have you made any clothing purchases online?

      How many clothing purchases do you think you have made in the last 2 months?

      When you made these purchases, had you been looking for something specific, or had you just been browsing?

      Within this same time period, were there other times you went shopping online for clothing but did not make a purchase?

      Why didn't you make any purchases in that/those instances?

Please use 3 separate words (separate adjectives, etc.) to describe your feelings toward shopping for clothes.

Please rate how much you enjoy shopping for clothes on a scale of 1 to 5, 1 being "don't enjoy it at all" and 5 being "enjoy it very much".

Why did you give it that rating?

Are there an certain websites or apps that you frequently use for shopping for clothes?

Why do you use these specific websites/apps?

Besides specifics stores and brands, are their other sites or methods you frequently use to shop for clothes online? (Examples: aggregators like Zappos, Amazon, etc.)

Have you ever used social media-related apps to make clothing purchases (Like to Know It through Instagram, etc.)?

Have you ever used any personal shopping or online subscription services like StitchFix, Bombfell, Trunk Club, etc.?

Why or why not?

What did you think about it? What were your likes and dislikes?

Now let's talk about how you organize and manage the clothes you do have. Do you have any sort of organization system (by season, item type, style, colors, etc.)?

On a scale of 1 to 5, how it important is it to you that your clothes are well organized? 1 being "not important at all" and 5 being "extremely important".

Why did you give it that rating?

How well organized are your clothes, currently, on a scale of 1 to 5? 1 being "not organized at all" and 5 being "extremely organized".

Do you use any websites or apps to help you organize your clothes (digital closets, etc.)? Why or why not?

Now let's talk about choosing outfits and putting together clothes. How much do you enjoy selecting clothes and putting together outfits, on a scale of 1 to 5? 1 being "do not enjoy it at all" and 5 being "enjoy it a lot".

Do you use any websites or apps to help you put together or style your outfits?

Why or why not?

Are there any big problems you have in searching for or managing your clothes, that we haven't already talked about?

2. Problems with Finding Fit

When you made recent clothing purchases, did you have any trouble finding items that fit?

      Can you tell me about that experience?

Are there any types of clothing items in particular that you struggle with finding because of fit?

On a scale of 1 to 5, how difficult is it for you to find clothes that fit? 1 being "very easy" and 5 being "very difficult".

When shopping online, how do you go about selecting a size? Is there anything in particular you do to figure out if you think a clothing item will fit, before purchasing it?

When shopping online, do you experience any specific challenges in being able to tell if a clothing item will likely fit you?

Have you ever used any websites, apps, or other tools designed to help you find clothes that fit? Why or why not?

Have you found any successful ways to identify clothes that fit (without trying them on in store)?

Have you ever sought out clothing recommendations from people who have a similar body type as you? Why or why not?

Do you have any other thoughts about your problems with finding clothes that fit that you would like to share with me?

3. Ranking Features

We'd like to understand your feelings toward a potential online tool that could help you with shopping for and managing your clothes.

Please rate from 1 to 5 how important each of the following features are to you. Put 0 if the feature is completely unimportant.
- (Shopping) Getting suggestions for clothing based on a certain style
- (Shopping) Getting suggestions for clothing based on current items you have that fit you well
- (Shopping) Identifying other people with similar body types to assist with clothing recommendations
- (Shopping) Seeing how clothing items fit on people with similar body types
- (Shopping) Receiving alerts that desired clothing items are on sale

- (Organizing) Importing and uploading your current clothes to a "digital closet" to help you manage them
- (Organizing) Planning outfits in advance
- (Organizing) Collecting data on least & most used clothes

4a. Exercise: Evaluating Competitors

If one of the comps we identified is halfway decent at suggesting brands/items based on fit, have the user test it out to get feedback on likes/dislikes

Now I'd like to get your feedback on a tool that is supposed to help people with identifying clothing that fits them. I have no affiliation with this tool at all, so nothing you can say about it can hurt my feelings! I'd really appreciate your honest, candid feedback so I can understand what you like and dislike about it.

[Ask them to open the website up] Please give me 3 separate adjectives to describe your first impressions of this website?

Now pretend you need to find a certain clothing item that fits. What would you like to look for?

Great, now what would you do to go about finding this item?

What did you like about this tool?

What did you dislike about this tool?

Is there anything that could make this tool better?

Are you interested in using this tool, or something like it, currently?

Why or why not?

4b. Exercise: Searching for a Clothing Item

Is there a type of clothing item that you are currently looking for, or would be interested in purchasing if you had available money?
Is this an item you've had trouble finding one that fits in the past?

If you don't mind sharing your screen, I'd love to take a couple of minutes to have you actually search for this item.

Where would you start looking for this?

What would you do next?

How did you decide this item might fit (physically) you?

Was there anything about this process that you found especially frustrating?
Why?

5. Wrap-Up

Before we wrap up today, are there any other thoughts or feelings you have about shopping for or managing clothes that you would like to share?

Are there any other thoughts you have about your strategies or struggle with finding clothes that fit?

That is all I have for today. Thank you again for the time and insight you've shared with me today! You were extremely helpful.

If we have any follow-up questions in the future, would it be okay if we reach out again via email? After we finish our interviews and analysis, we may have a follow-up survey to get more detail about prioritizations of some of the requirement sand features we heard during the sessions.

Do you have any questions for me?

Thank you again!

[STOP RECORDING]
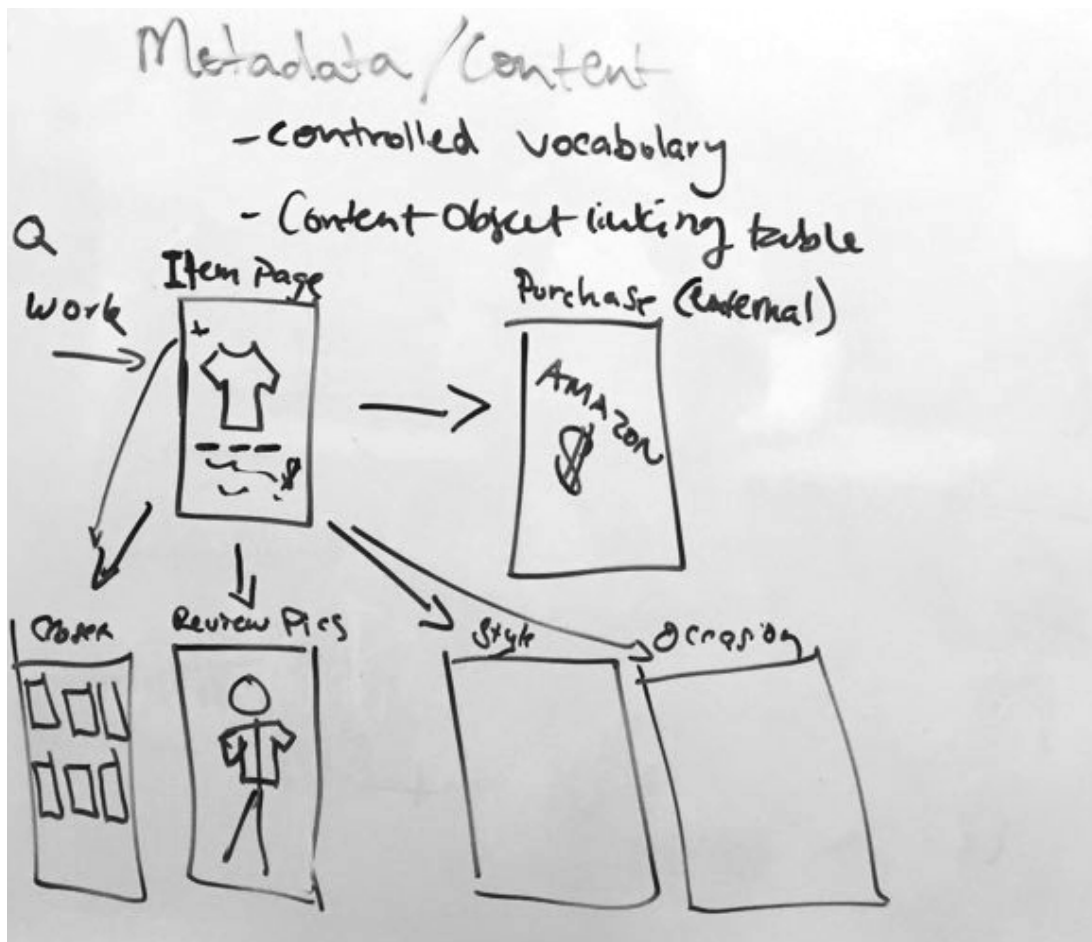
Appendix G: Sketches from Team Brainstorming Session

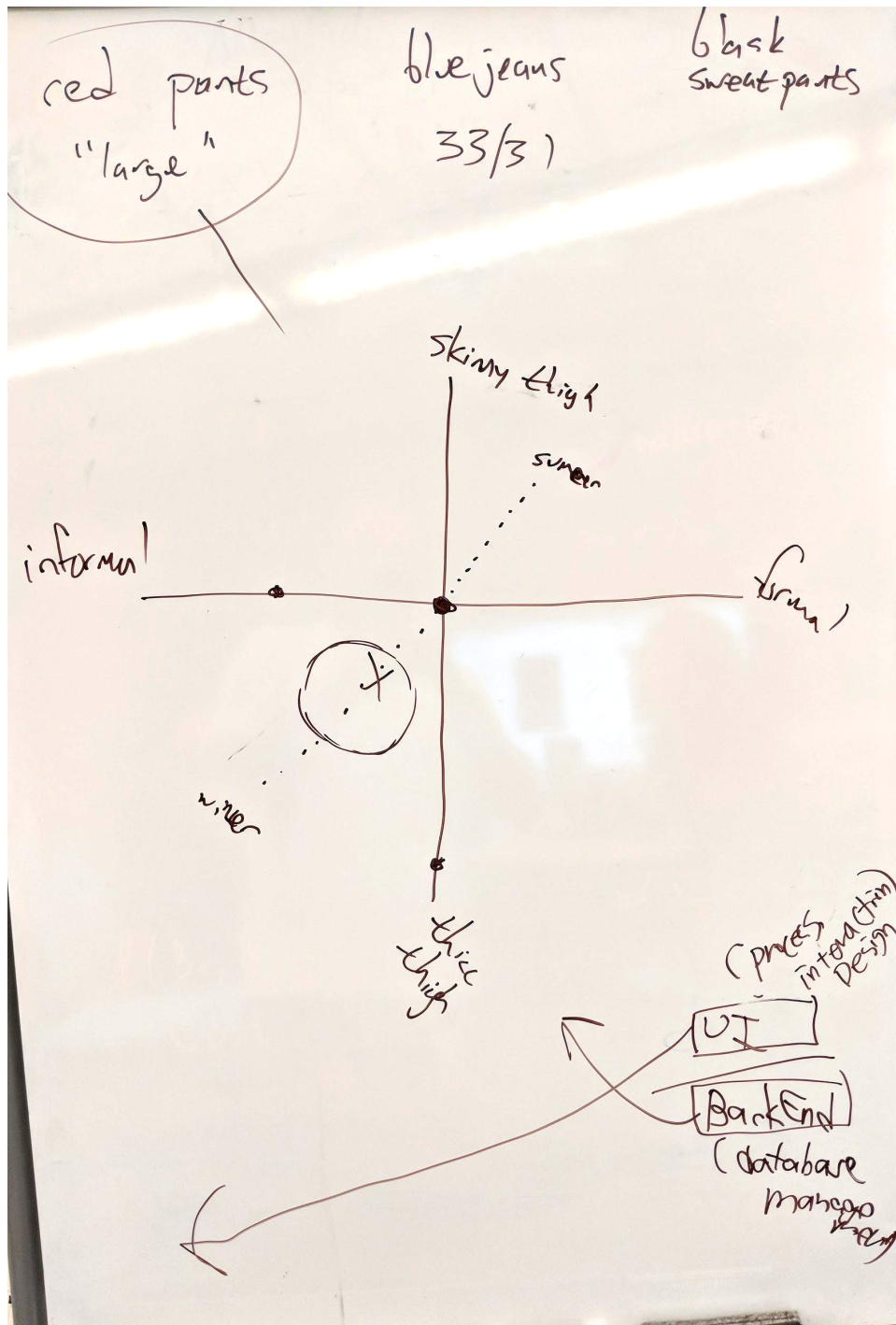
Figure G.1: Early Iteration of the Content Model

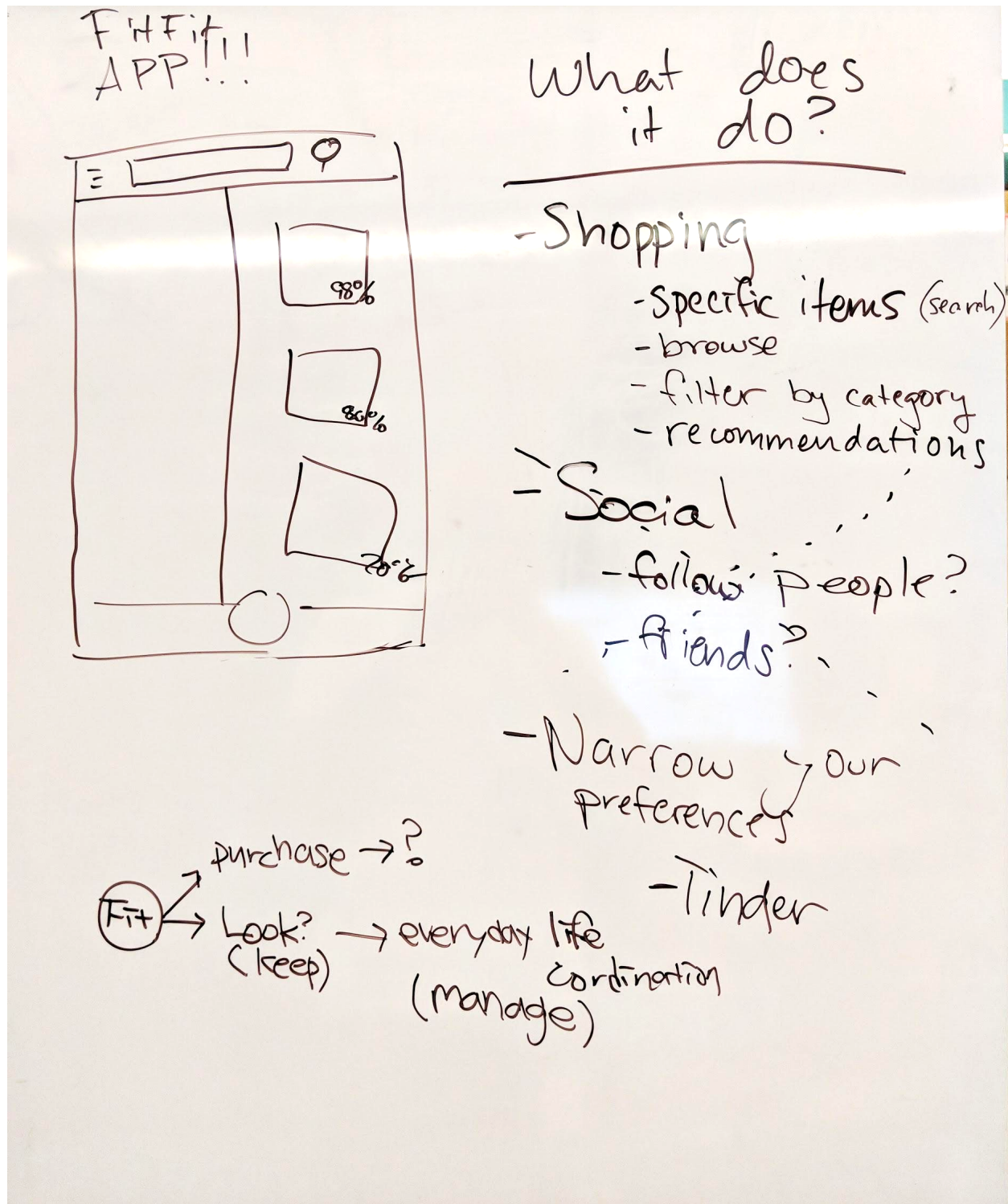*Figure G.2: Graphic Representation of Backend Database Model*

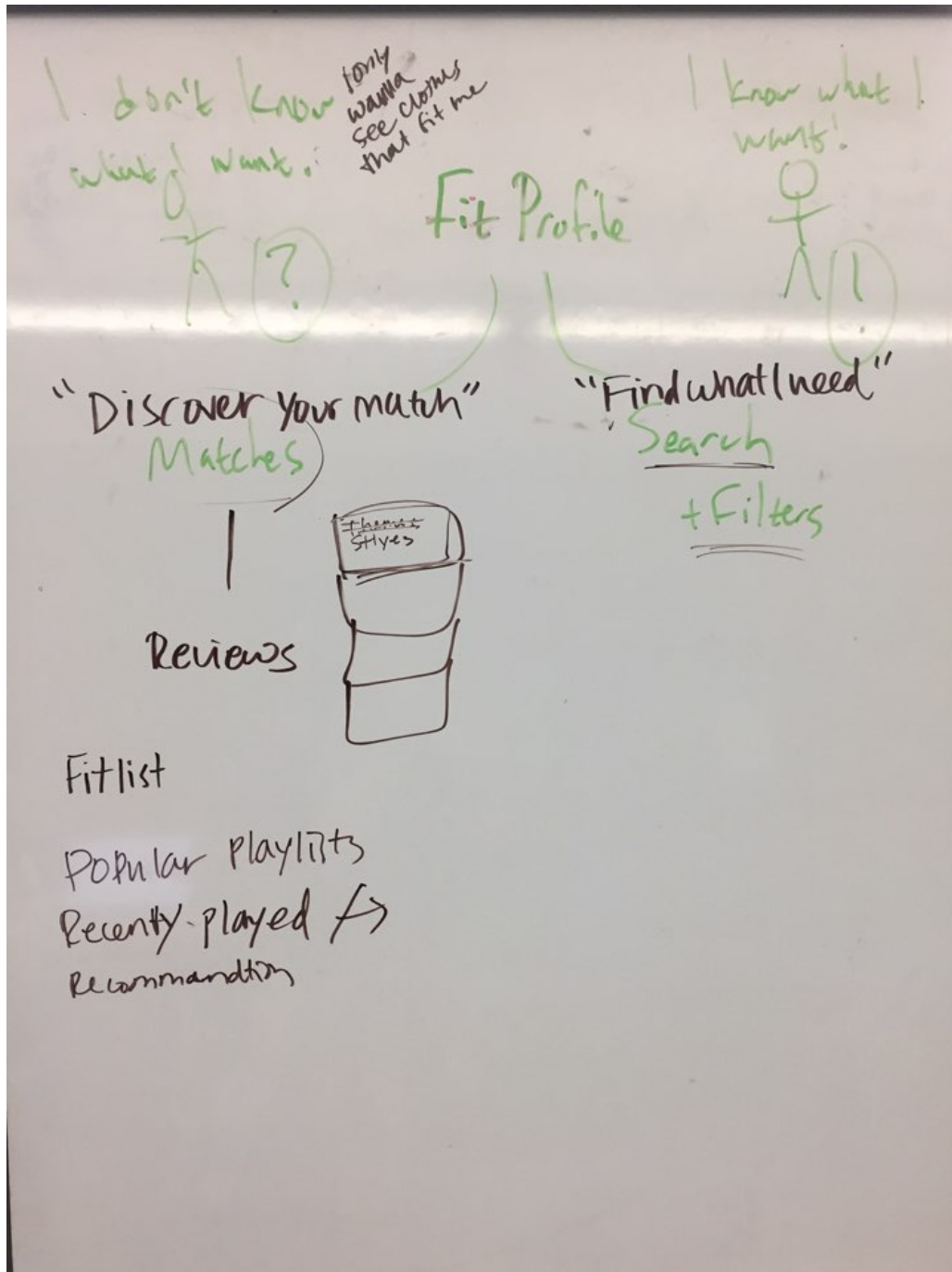*Figure G.3: Sketch describing potential feature sets*

Figure G.4: Sketch describing different potential use cases
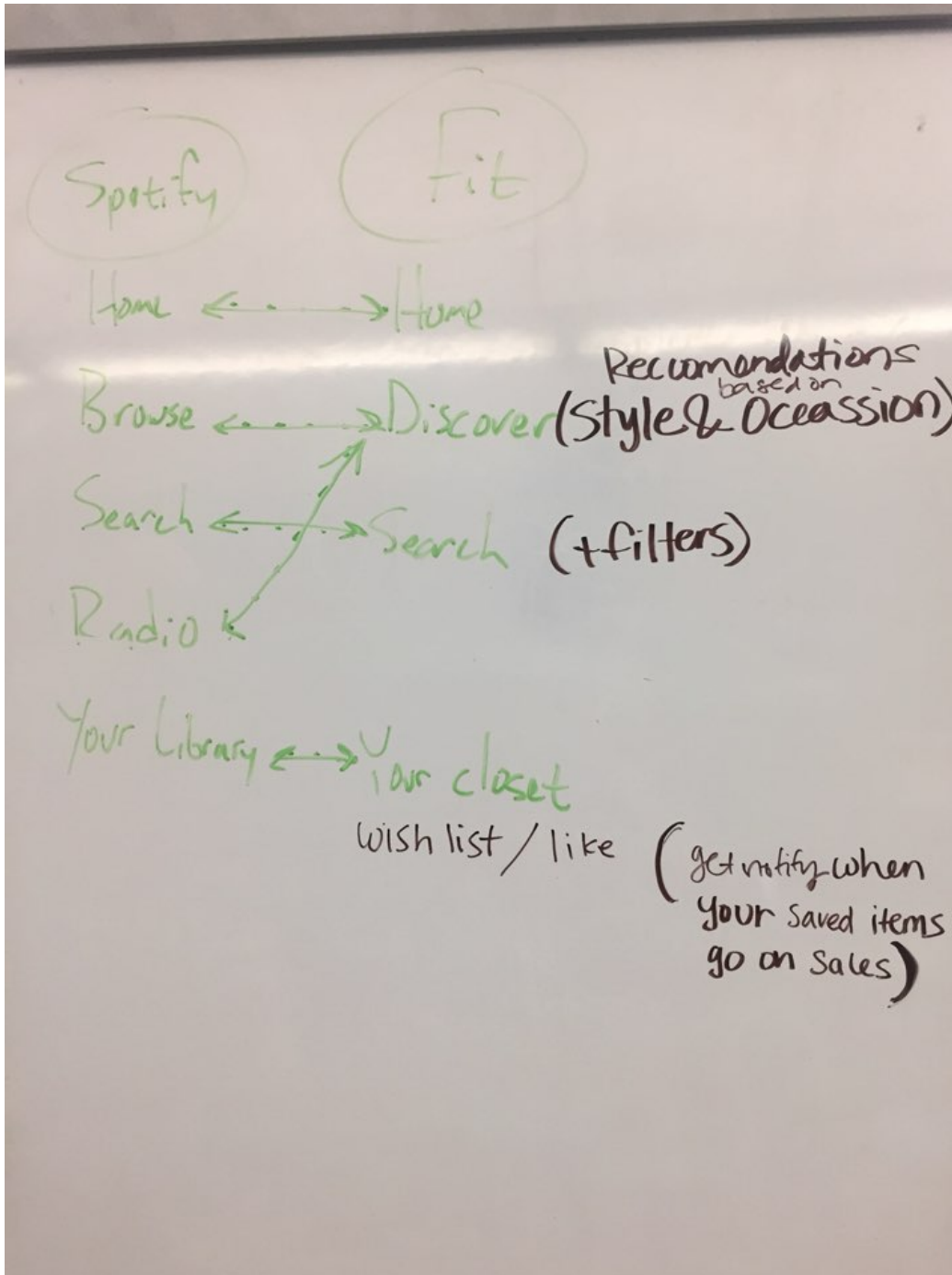
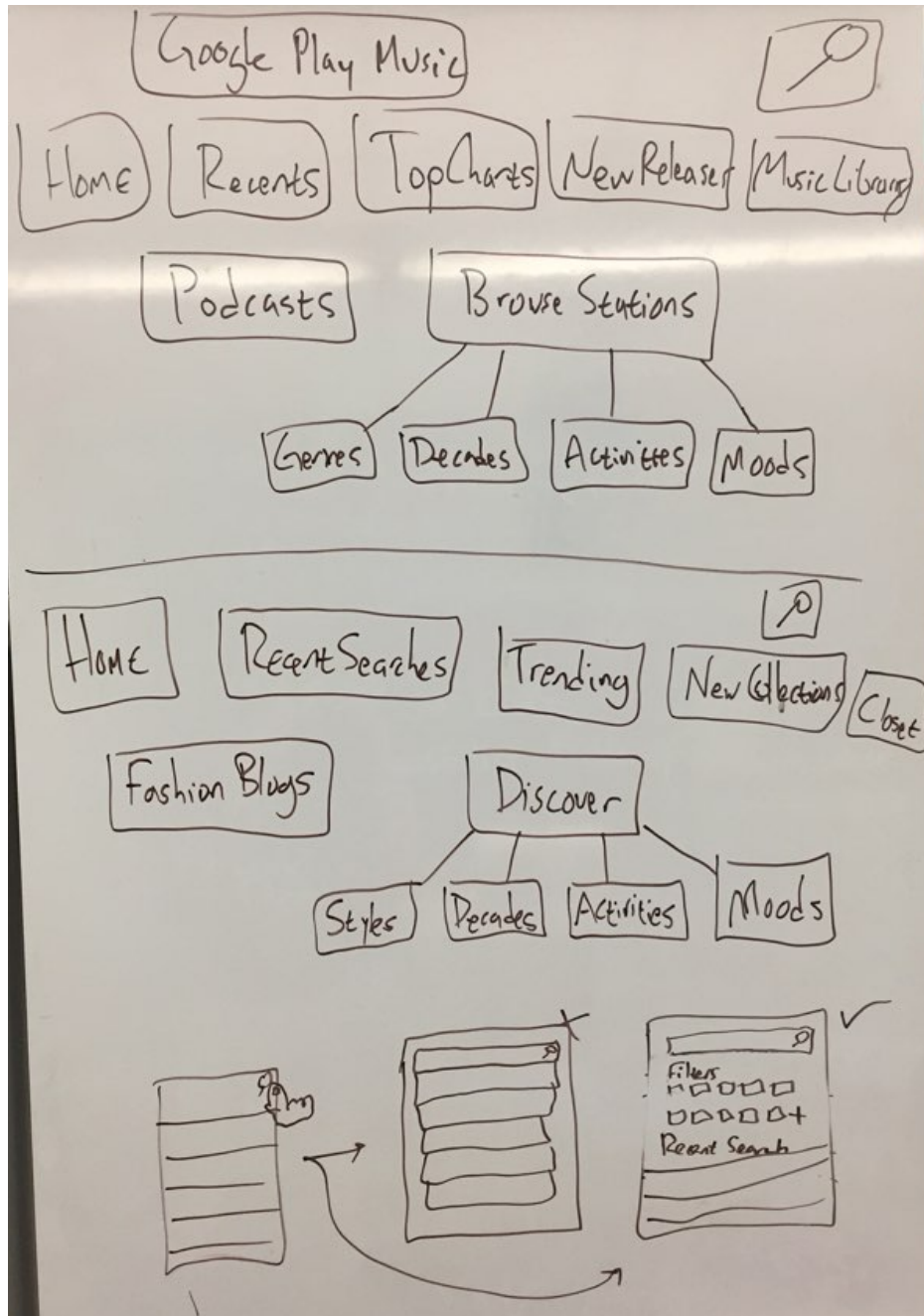*Figure G.5: Sketch connecting fit features with Spotify features*

Figure G.6: Sketch exploring features of other music apps

Appendix H: Wireframe Brainstorming Sketches

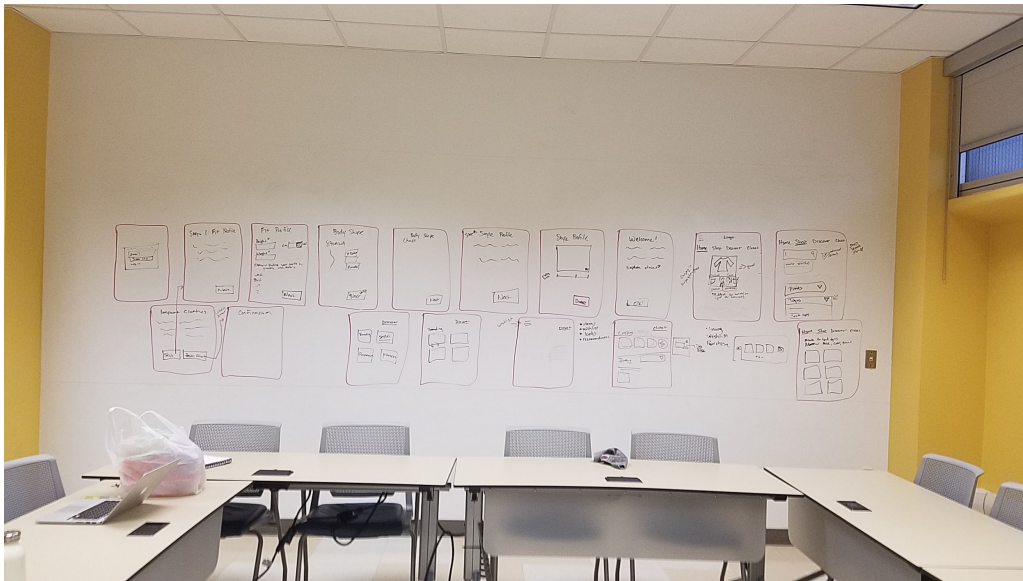*Figure H.1: Wide Shot of Wireframe Sketches*
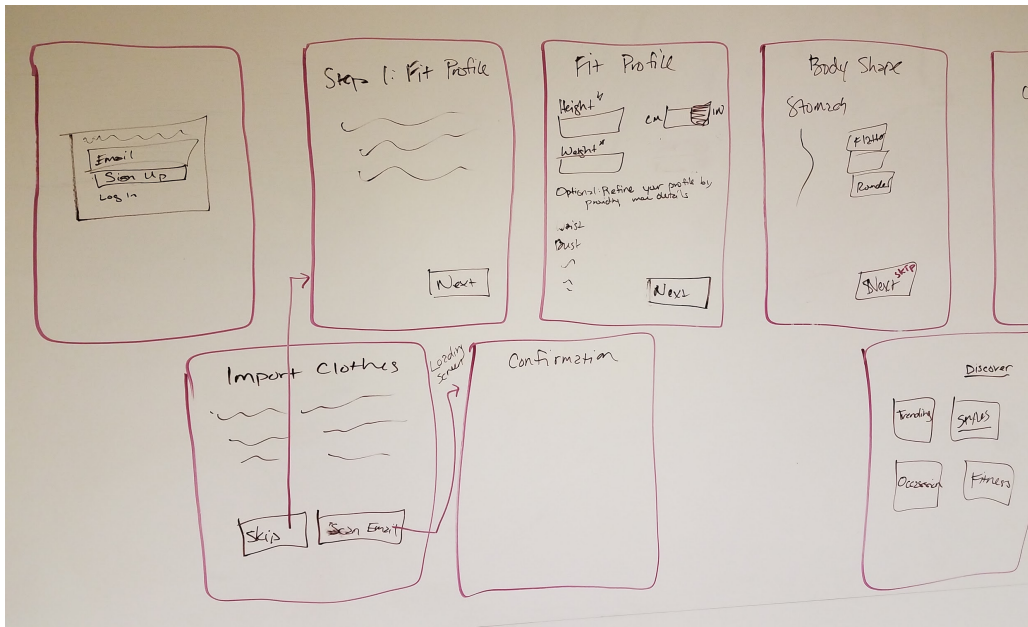
Figure H.2: Close-up of Onboarding Process, including Import and Fit Profile
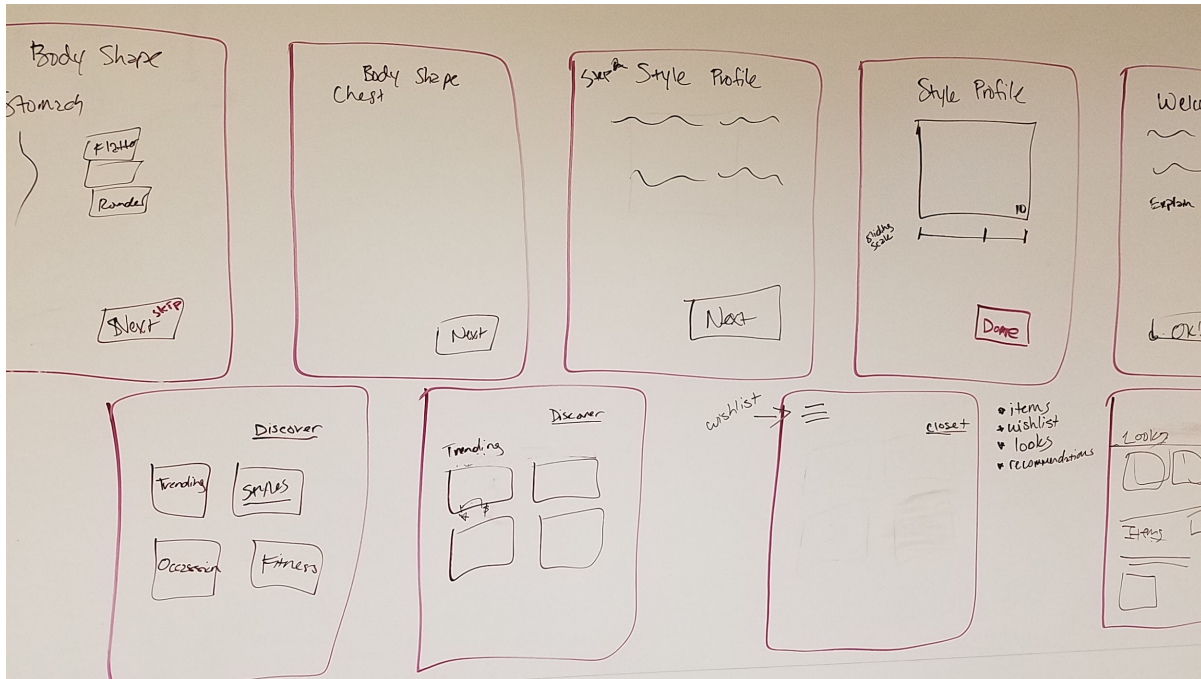
Figure H.3: Close-up of Onboarding Process, including Style Profile; Discover Feature
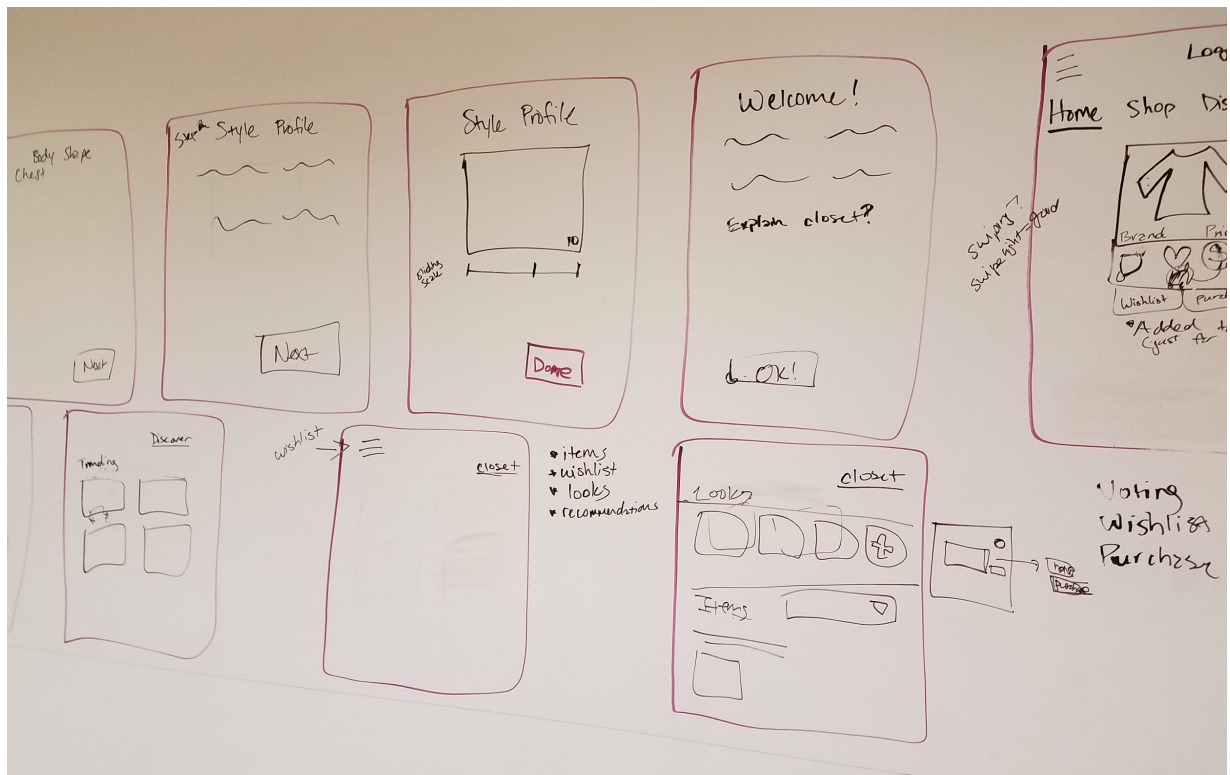

Figure H.4: Close-up of Onboarding Process, including Style Profile; Closet Feature
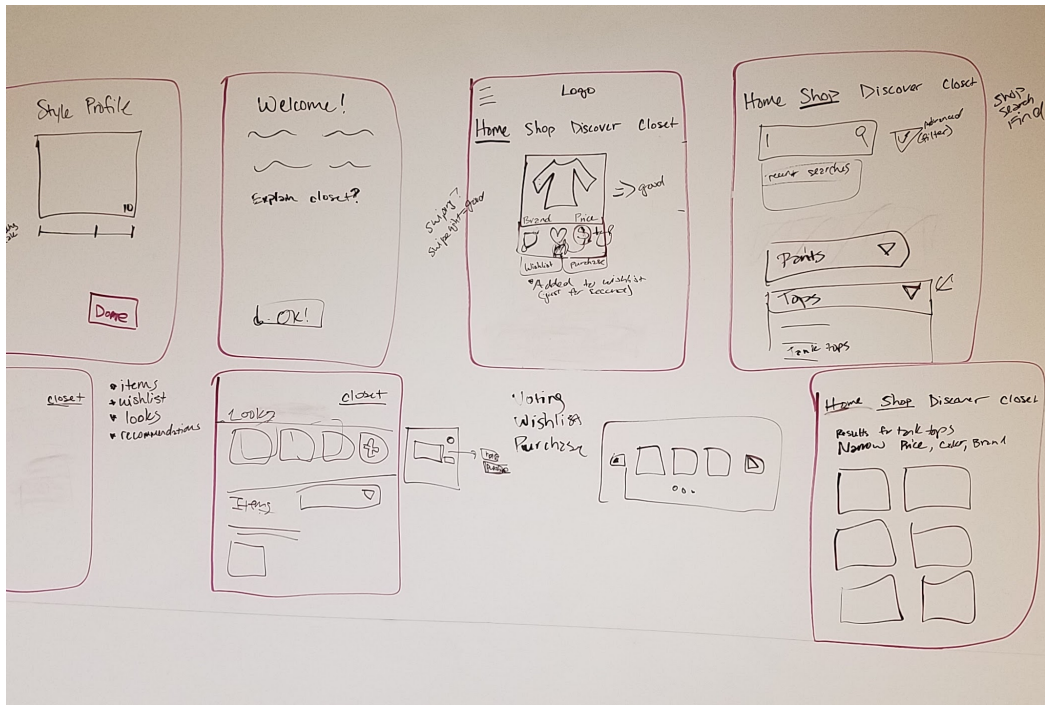
Figure H.5: Close-up of Home Page, Shopping Pages

Figure H.6: Close-up of Welcome, Closet, Homepage

Figure H.7: Sketch of Item Tile
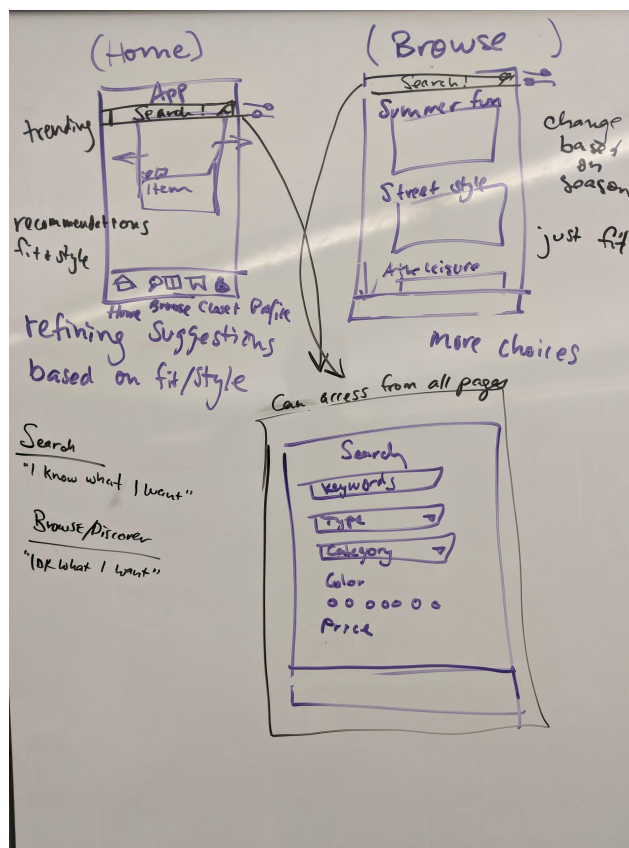
Figure H.8: Sketch of Search Option (on both Home and Browse)

Appendix I: Controlled Vocabulary and Metadata Development

Table I.1: Metadata - Item Categories

Level 1 Category	Level 2 Category	Level 3 Category
Tops & Tees	Blouse Collared shirt T-Shirt Sweater Sweatshirts & Hoodies	Button-Down Shirts Polos Long-Sleeve Tees Short-Sleeve Tees Sleeveless Tees Crew Neck Sweaters V-Neck Sweaters Boatneck Sweaters Turtlenecks Sweaters Cardigans
Dresses & Skirts	Casual Formal Work Jumpsuits & Rompers	Night Out Cocktail Prom & Homecoming Wedding Party Mini Knee Length Long
Suits & Blazers	Classic Long & Lean Double Breasted	Wedding Party Prom & Homecoming
Pants & Jeans	Casual Pants Dress Pants	High-Rise Legging Fit Sculpted Skinny Fit Slim-Straight Fit Straight Fit Trouser Fit Skinny Jeans Slim Jeans Straight Jeans Girlfriend Jeans
Shorts	Shorts Mid Long	Denim Shorts

Outerwear	Jackets Coats	Leather Trenches Down & Parkas
Activewear	Jackets Pants Shorts Skirts Sports Bras Tank Tops Tops	
Swimwear	Trunks Bikinis One Piece Cover-Ups	
Underwear	Sleepwear Briefs Bras Panties & Thongs	
Shoes	Athletic Boots Clogs Flats Loafers Oxfords Pumps (Heels) Sandals Sneakers	

Style Categories

- Street style
- Celebrity
- Work Wear
- Casual
- Formal
- Vacation
- School
- Edgy
- Preppy
- Boho / Bohemian
- Sporty
- Maternity
- Athletic
- Weekend Casual
- Summer Fun
- Spring Romance
- Classic
- Cool
- Sporty
- Comfortable

Figure I.1: Controlled Vocabulary for Style Categories

Appendix J: Screenshots of Usability Test Results

User Name	This is an app intended to help people find clothes that fit them. Please keep in mind that we are not testing you, we are testing this app. There are no right or wrong answers. From now on, you will try to complete a few tasks on the app. ** Researchers should note participants' mistakes or frustrations.	1. First, create an account and add some of your clothes. Do you want to add from your email, or add clothes manually? Is there another way you'd prefer to add clothes?	2. Add information about your fit, and indicate how you feel about the items featured to help us create your style profile.	3. Next, take a look at the home page. When you see the main page, what do you think you should be able to do on the app? What do you think you should be able to do here? Can you guess which icons mean which actions on the main page? How would you "like" an item?	4. Next, let's try adding an item to your wishlist. Once you've added the item, how would you navigate to your wishlist? (Don't actually do it - just identify how you'd get there) What do you think the wishlist section is for?	5. Next, let's test the browse feature. Which icon do you think leads to browse? What do you think this section is for?	6. Now please try s
Thomas		Manually - I like to customize things, for example when i use Apple music, there's an option where you can choose import the whole library or import manually,I always choose manaul beacuse i want to make sure i specifically choose something. So if my email is cluttered, i don't wnat to import everything because you then have to clean it out everything inside the app, so i would just upload the clothes manually so i can pick and choose what i want. To add clothes, I can take a picture.	Fit information page is pretty simple and straightforward Maybe adding a shirt size would help (e.g. what shirt or pants size do you regularly buy?) Like the body and shoulder shape information	Go to my account? I think this app would make an outfit for me. I can go through myclothes pictures, probably show me different things I can buy, offers, differnet outfits that i can purchase from different websites. Oh maybe you can purchase it right away. Home -> home Clothes -> closet Ribbon -> favorites shopping cart -> outfits from different websites and compiled into this app. When you press shopping cart, it will show me the list of things on my cart and will re-direct me to their actual website, or maybe the app will give me an option to even just purchase it through the app.	Pressing this ribbon Go to your profile closet and find your updated your wishlist? I just said to go to your closet, but I cliced the ribbon. so I feel like I have to go to ribbon (we need to fix the text) I think wishlist is for other poeple to look at my account people and see the things that i wish i can have - maybe they can buy for me for Christmas or birthday. Other websites like Amazon, people can see the wishlist and buy things that you want.	The search bar (error 1) Oh maybe the shirts? Maybe it's for browing my shirts.. or categories of other products? like shirts, dress pants, shorts, hats, shoes..etc (After seeing the screen) Oh, I was totally wrong! So it's like a section to see an idea, what I want to figure out what's trending. I would use it when I need a particular thing.	I think it's pretty ea But what if i want to or for someone else change the setting?
Sara		Manually - i'm hesitant to do anything through email Wait, how would you upload your clothes through email? (After figuring out about the email feature) she changed her mind using email Because i don't want to take pictures of all my clothes. And plus, email would make it easier to see my recent purchases	shw wants to put inseam length in the profile information. i'm kinda short, so when buying jeans i need to look at inseam length, not the height neccessarily Liked the body/shoulder shapes She couldn't see the like(heart) button. She double tapped instead.	I think the app is helping you to find clothes that are similar to the ones you own and that also fit you correctly. And that you can purchase the items too? She used the term 'book marking' home -> home clothes -> I don't know (view you bookmarked?) closet -> don't know what it is bookmark -> opportunity to see what your friends are looking at (something social)	I think 'wishlist' is pretty common name It's to save the things that you are not ready to put it in a cart, the things that you are interested in coming back to	The magnifying glass..? Wardrobe thing..? If you not searching for somehting specific, you would come here sounds like a pinterest	Filters: category an
		Chose to import clothes by email because highlighted	Liked that you can change fit profile metrics (maybe change lbs to kgs) Thinks chest/bust shouldn't be optional - maybe weight should be optional because people	Understood function of home page - recommended items of clothing. Icons (heart, bookmark, cart) mean you can like, or save for later, and cart is to add it to your cart		Correctly identified browse icon. This feature is for when you're looking for a type of	Correctly identified Unsure about categ style/occasion?) Might still be good t

Figure J.1: Screenshot of Results from Low-Fidelity Prototype Testing

	Task	Starpening	Grace's Reviews	Shanaoliver	Insights	Howard
	Home	We're only supposed to show items that have a 75% chance of being a perfect fit (per Onboarding) - need to change % matches for items				
	Navigation	Inconsistent coloring scheme between screens				
	Import Wardrobe (from phone)	Do we want to push them to take a photo (black button) instead of choose from gallery (gray) - is this for consistency				
	Edit Uploads	We tell them to X the item by tapping the shoes, but that's because it's set up, theoretically is the interaction different b/w pencils & tapping item?				
	Fit Profile	Inseam with Hips? Chest/Bust with Shoulders? Shoulders would have it own measurement				
		Don't need both images on all screens				
	Levi's Item Page	Never put in # of reviews				
	Results for Blue Jacket	Arrow by casual jacket is misplaced (fixed)				
	Purchase Confirmation	Revise/Cancel order shouldn't be top option, and order of gray/black buttons is reversed				
red - potential issue to fix	Age	24	27	26		26
orange - something to note or that could be important	Gender	Female	Female	Female		Male
green - selected good comments	Income	$40k-$100k	$40k-$100k	<$40k		<$40k
purple - notes that i fixed something	Location	U.S.	Australia	Australia		United States
	First Impression	Seemed interested by premise				
*I tried to put my comments in parenthesis. I also switched b/w first & third person a lot.	Step 3 : Onboarding	She tried to swipe - don't think she realized tapping moved on. She wanted to go back to read but swiping moved her forward again. Didn't see back button - put note for second test that the whole screen may not show at once	Trying to swipe which doesn't work. (Doesn't stop at the Create Account page like she's supposed to and goes to Import)	(Think she's confused that create an account wasn't first thing after Sign Up button b/c she goes back to task list a couple of times to see if she's in the right place)		Proceeded withou through the inform
	Step 4	(What do you expect this app to do) - she's answering the question based on the interactions of onboarding (thought she'd be able to swipe), not high level of what she thinks the app will do.	Focused on getting the fit correctly - "only show clothes that have a 75% chance of fitting so that's really good".	(Correctly understands filtering through websites based on measurements so you don't have to guess sizing for each store) I actually really like it, it's quite similar to a few things out there. A little bit based on Thinkover (??) where you can save items that you want in order to notify when things on sale, or add to wishlist. I do really like the feature of it being based on your size. I'm assuming it'd get you to measure yourself accurately to begin with. Expect it to tell you how to measure yourself properly. Show you only things on certain websites or import things from affiliates that meet criteria. Doesn't expect there to be a style criteria, but maybe able to filter. Doesn't know about males, but for females sizing across stores varies greatly. Really good idea.	Users need to see the onboarding screen about fit in order to get the message.	He thinks it will in the clothes that w

Figure J.2: Screenshot of Results from High-Fidelity Prototype Testing Round 1

	Ladyhawke70x7	Traghuban	Vanessa	desaiki	axi6ne6us	awl315*	jeremyhofmann
Age	50	21	43	48	45	22	40
Gender	Female	Male	Female	Female	Male	Female	Male
Income	<$40k	<$40k	$40k-$100k	Income	<$40k	<$40k	<$40k
Location	US	US	US	US	US	US	US
Tasks					android		
Onboarding - Vocalize	Says "that would be nifty" about receiving outfit recs based on weather and events. Curious about how that would work. Doesn't really give any other feedback.		Likes what it will do	"That's great" about 70% fit. Wants to skip fit stuff but won't let her. Just read through rest of stuff, no feedback	Tries to swipe but doesn't work so goes back to home screen. Reads through tasks ahead of time. Finally figures out to click, skips through and doesn't read or give thoughts	Tried to swipe. Reads through without comments.	Tries to swipe - doesn't work. Only vocalizes Closet - get suggestions for coat in winter, swimsuits in summer.
Expectations?			Thinks it will be awesome. Has probably finding pants in particular. Likes you can favorite to see more like it and bookmark to get sale notifications.	Pull together clothes in closet and then if like it allow her to order it from the store that offers the clothes. (Goes back through onboarding to read screens). Thinks you can talk to other people and see if they like it too and events they wore it to.	Didn't answer - skipped this	Reminds her a lot of things she's used - she's used a few places where she can personalize, they don't pick out things that fit you, but you can organize your closet and like things. 70% isn't usually something she'd like - she'd like it higher. She thinks recommendations, like with weather, would be cool. Accurately predicts style and fit profile process.	NA - skips
Style/Fit Profile - Vocalize	Comments about not having cloth measuring tape. "that's interesting". "Sounds like they're doing what they can to fit you properly. Sounds kind of cool actually"		"This is going be interesting because I have varied styles." "I'm not a man"	Share feelings about outfit. Select sizes I typically wear for each. Expect the Brands to dropdown and can select from variety and select variety of sizes. Would be nice to know in the dropdown how big the waist size is etc., since size is a little abstract. Good to put in measurements to get more refined detail. Unsure of the slider screens - would be helpful to have measurements on there. Measurements would be better.	Just describing outfits and why he likes/dislikes outfits. Brand/Size for items - tries to do dropdown and doesn't work so tries to skip then hits next. Measurements - tries to put in metrics and doesn't work - just reads information. Sliders - not sure what this is supposed to mean or how to use it. "Is it supposed to be a guide in how clothes should fit depending on my size?".	Thinks the style profile is really cool. Doesn't like that its an outfit because likes a couple of things but not everything - wants to select individually. Likes Shirt/Brand screen, but doesn't know if brand means brand or type of item. Likes you can change metrics format. Likes that you can do measurements b/c size might not mean something will feet. Likes that it's optional. Likes the sliders. Sometimes they bother her b/c way she sees herself may not be reality. Once she realizes its separated by body part she really likes it - that's awesome, I wasn't expecting that, I think it's really cool. CLIP THIS.	Doesn't give feedback for style. No feedback on first screen of fit (shirts, brands, size). Tries to slide slider. Assumes it would change image. Thinks the slider image is a man based on the style feedback. But wonders why he wasn't asked male or female - strange.
			Assumes she'd see brand and then sizes she can put in				

Figure J.3 Screenshot of Results from High-Fidelity Prototype Testing Round 2

Appendix K: Backlog of Changes for Final Prototype

Figure K.1: Screenshot of backlog of changes for final prototype