

# Magic Mirror/Smart Store

## Team

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## Problem & Solution Overview

Fashion can affect morale, confidence, and esteem, and is a huge part of a person's identity and self-expression. Yet, people often feel confused and lost in the sea of possibilities; there are hundreds of brands, styles, and trends available in a wide range of prices. Because of this, many find the experience of shopping for clothes to be frustrating or demoralizing. Thus, we want to create a design that might improve fashion in the world of the single and ready to mingle people. Our solution is a new and improved retail experience. In particular, we wanted to design a clothing store that incorporates technology to assist people in making fashion choices. This technology includes a Smart Mirror, which allows users to view inventory in the store, pick outfits, and get feedback on their choices.

## Design Research Goals, Stakeholders, and Participants

Our goals center around giving our users an improved sense of confidence and uncovering what issues they faced when selecting outfits for dates. To deep-dive into participants thoughts and better empathize with users, we chose interviewing for our design research method. Interviewing allowed our research team to prepare a set of questions and structure our research to be tailored towards our design research goals. Furthermore, interviewing allowed for follow-up questions to help clarify concepts and understanding with users. After interviewing participants, we were able to specify design requirements which appeared as common themes throughout our interview research.

## Stakeholders

*Single and Ready to Mingle people:* The single and ready to mingle user wants to be fashion conscious to be ready for dates. However, they want to find an outfit that will make them feel confident while expressing their own style.

*Fashion insecure people, looking for feedback on their fashion:* Some of our users are people who have their own personal style but aren't very confident in their choices. These people want feedback on their styles and if it's accepted by the general population.

## **Design research participants**

We interviewed a total of five participants. We noted that across these interviews, a few interesting common traits popped up. The male participants that we interviewed mentioned that they do not particularly look for anything in the way their potential date would dress. They described something along the lines of "if they're dressing like themselves and look good, they could wear anything." However, our female participants did mention that they hoped for particular styles to be worn or avoided by a potential date. Female participants also expressed an interest in impressing their potential partner on a date through their fashion. Another common trait we noted was that when asked how confident participants were in their fashion styles when going on dates, all of the male participants answered in the range of "decent" to "pretty confident" while our female participants answered that they were not very confident. Across these interviews, it seemed that there were differences in responses based on gender.

Let us now take a closer look at our participants. Our first and second participants were "S" and "C", both male. S was born and raised in India and is in the US to attend UW as an undergrad while C is from Bothell, WA and currently is working in IT full-time. Despite the differences in their background, we found that both S and C had very similar answers to the interview questions. When asked what the most difficult part of getting ready for a date was, both answered that they worry about their hair and skin more than what they are going to wear, indicating that single young adult males are concerned with more than just fashion when it came to dating.

Our third participant, also male, is "J." J mentioned that he has a particular interest in shoes, but not in any other part of fashion. J had many answers that were similar to what our first and second participants said, but it was interesting to see his particular affinity for shoes, especially because it did not affect his answer in what he

hoped his potential date would dress like. He did not mention whether he would prefer for his date to wear certain kinds of shoes.

Our fourth and fifth participants are “A” and “V,” and they are both female. Very interesting differences occur here. Both A and V say that the most difficult part of getting dressed for dates is their lack of confidence- they said that they could wear an outfit they feel is cute, but would be worried that their date would not think the same way. They also gave a similar answer to what they would change about their fashion. They hoped to gain more confidence and wear more of what they prefer to wear without worrying about what other people think. Although both of them said they were very interested in fashion, they were both not very confident in their fashion choices in dating. This shows a gap between the perceived importance of good style, and the participants’ ability to embody such a style.

## Design Research Results & Themes

There were several design themes that emerged from our research. Perhaps most salient were the key differences in the ways that men and women in our target group approached dating and fashion. The themes that we explore will thus be divided into those that affected our female participants, those that affected our male participants, and the overarching themes that affected both groups. Many of the overarching themes were extracted from specific concerns that our participants expressed in specific situations they described relating to dating and fashion.

One problem that was consistent across our female participants was lack of confidence as a barrier to being able to freely express themselves in more daring ways. They felt that if they tried wearing styles that stood out more they would not be able to pull it off. Because of this fear, they did not attempt to try new fashions out at all. The issues of insecurity and self-consciousness came up as well as things that prevented them from branching out more in their personal styles. This also was a common theme in their dating lives; they were often self-conscious of the way they looked or dressed and often wanted to dress in a way that would impress their potential partners.

Our male participants had a much lower connection between fashion and self-confidence when it came to dating. They also cared less about the way a potential date dressed. However, they also showed interest in researching fashion. They did this through shopping with girls, getting advice from friends, and from consuming certain media. This suggests that members of this group, as part of their style-building, also augment their style with outside influence through this sort of research. One interesting

find from our research with male participants was that they showed more of a concern for their physical characteristics than for the way that they dressed. For example, several of them indicated that they were often more concerned about their hair and skin when going out with someone rather than the outfit they were wearing. This indicates that these elements of their physical appearance has more of a direct link to their sense of self-confidence than fashion.

Several high-level themes emerged from both groups as well. The issue of self-confidence and worrying about impressing others was consistent across most of the participants. A general interest and moderate understanding of fashion, augmented by online and peer research was also common among the participants. Trying out different outfits and spending a longer time getting ready was a consistent practice for members of our target group when they prepared for dates. There was also a general interest in improving personal style among the participants. From this, several key desires emerged from our participants: the desire to be validated by others in fashion choices, receive feedback, and gain more self-confidence. Each of these desires link back to each other through the notion that fashion is really about self-expression and identity, and thus people want to be validated in the way that they choose to dress and they want to improve their fashion based on the feedback of others.

## Answers to Task Analysis Questions

### 1. *Who is going to use the design?*

Our design is targeting the user group of single and ready to mingle young adults.

### 2. *What tasks do they now perform?*

There are two realms in which our users are performing tasks; dating, and fashion. For dating, there are several tasks they participate in, including using online dating apps like Tinder and Bumble, meeting people, and planning dates. In the fashion realm, this target group is performing tasks such as going shopping, researching fashion (through YouTube videos for example), getting feedback on their outfits from friends, and getting inspiration from sites like Instagram. The intersection of the realms of dating and fashion also has tasks for this group as well, including planning outfits for dates, and getting ready for dates.

### 3. *What tasks are desired?*

People in this group desires several tasks, again in the realms of dating and fashion. In dating, they want to get a partner, and plan more successful dates. In fashion, they want to be able to create a versatile and stylish wardrobe, and have confidence in the way they dress. In the intersection of the two realms, they want to dress appropriately for dates in a way that makes them feel confident.

**4. *How are the tasks learned?***

The tasks are learned through experience and online research. People learn how to dress better by being surrounded with others and viewing their fashion choices on a daily basis.

**5. *Where are the tasks performed?***

All the tasks are performed in different locations. Going on the dates would be in a bar, restaurant or other similar location. Meeting people often occurs online, at workplaces, or at school. Shopping could either be done at stores or online. Choosing outfits and getting ready for going out usually happens at places of residence.

**6. *What is the relationship between the person and the data?***

Data will be personalized based on the individual single and ready to mingle user. The personalization will vary between gender, style preferences, setting, and dating preference.

**7. *What other tools does the person have?***

One of the biggest tools other people have is socialization. People can get a lot of feedback from their friends on outfits and also get inspiration for new ones. There are also other ways, such as the Amazon Echo Look which is a camera that takes a picture of you and rates your outfit and fashion choices. There are also a lot of other ways to get inspiration such as social media platforms like Instagram and Pinterest as well as magazines such as GQ.

**8. *How do people communicate with each other?***

Most of the time people will communicate with each other online through dating apps, or through texting. When they plan dates or go out, they communicate with each other in person.

**9. *How often are the tasks performed?***

It really depends on each case. For example, consider a student who shares a daily class with his crush. Pressured to only show his good side, he may pay much attention to his fashion choices on the daily. However, on the other hand, consider a full-time employee who goes on the occasional dates every few months. On that case, for him, it would be less likely to be a routine.

**10. *What are the time constraints on the tasks?***

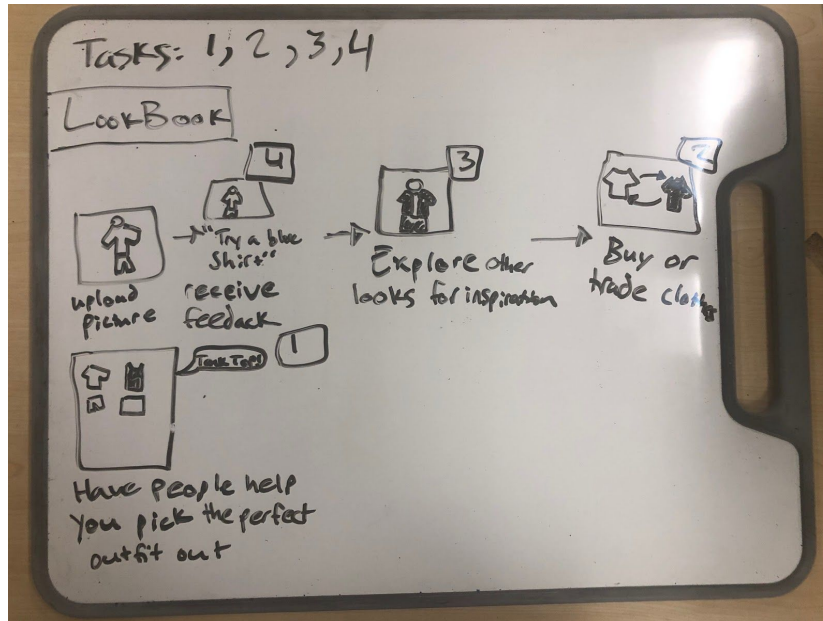
If the individual is getting dressed in the morning, he or she likely has only a few minutes to an hour or so. However, if it is for a date in the evening, he or she may have hours at his or her leisure. However, in general, the process of getting dressed should not take longer than necessary. When it comes to shopping for clothes, there is a time constraint of an hour to a few hours, after which many people no longer want to continue with their purchases.

**11. *What happens when things go wrong?***

The best case scenario seems to be that it causes a bit of awkwardness but doesn't do much damage other than that. However, for example, if one wears a leather jacket while on a date with a known vegan, there may be offence taken.

## Proposed Design Sketches

### **Design 1 - Lookbook**

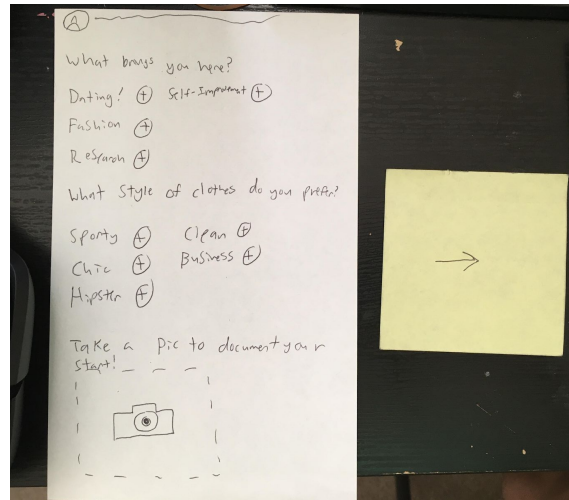


[Figure 1 - Lookbook]

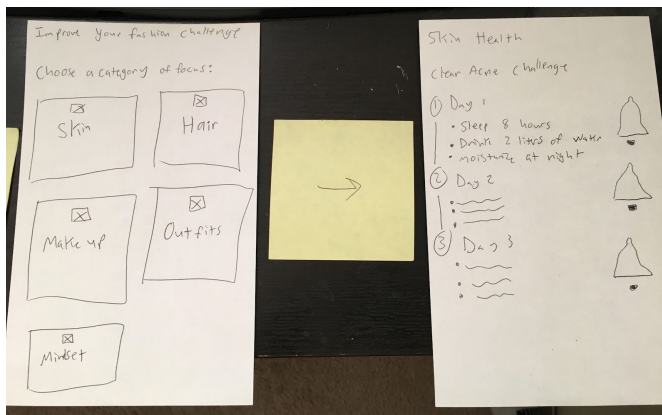
The high-level idea of this design (See Figure 1) is that users will be able to create a lookbook of photos of the outfits that they create for various occasions throughout their life. They can connect to other users and gain inspiration from other people's outfits as well. A comment feature allows users to give and receive feedback on their style. In photos, users can link the stores from which they bought the pieces that they are wearing so other users can purchase items that they find stylish to them. The four tasks that we are going to be able to complete are:

1. *Finding the perfect outfit for a date.* This is done by looking through your own lookbook at outfits you have, as well as outfits put together for others, for ideas for what to wear on a date.
2. *Buying clothes.* Users will link each item that they post in the pictures they upload to their lookbook. Other users who like certain pieces can easily go to the store that sells them from the LookBook site and purchase them.
3. *Getting fashion inspiration.* Users can connect to other users who they find inspirational in terms of fashion and follow lookbooks that they create to get inspiration for their own personal style and outfit choices.
4. *Using feedback to inform future fashion choices.* Users can leave comments on pictures that other users upload to their lookbooks, allowing them to give feedback on their fashion. Users can use the comments they receive to inform their future fashion choices.

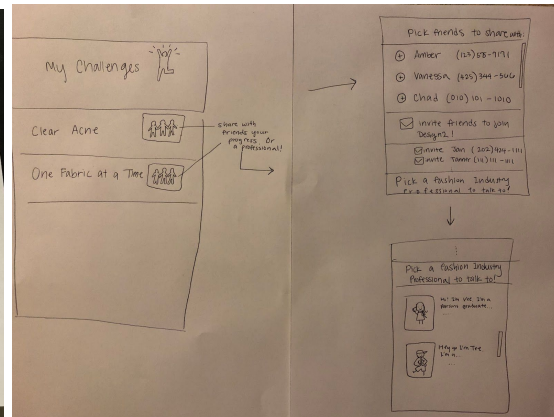
## Design 2 - Lifestyle Makeover App



[Figure 2 - Lifestyle Makeover App, Screen 1]



[Figure 2.1 - Lifestyle Makeover App, Screen 2]



[Figure 2.2 - Lifestyle Makeover App, Screen 3]

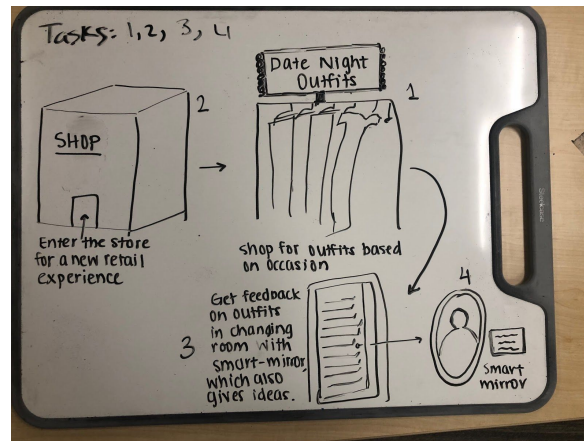
The high-level idea of this design (See Figures 2-2.2) is an app that prioritizes self-growth and goal-making as a way to help people improve their fashion and increase their self-confidence in a long-term way. Improving areas such as skin, hair, mindset are a gradual process that takes dedication and time in order to see results. Users can choose which areas they want to improve: fashion, makeup, skin, hair, and mindset.

The tasks of this app user flow are:

1. **Onboarding.** Users will answer questions to inform categories and content based on their answers.
2. **Selecting a category.** Users can choose between different categories for improvement. We could also see what ways they want to improve inside each category. Inside categories, users can find challenges and tips and create reminders to keep up with their improvement progress.
3. **Information and reminders.** Tips and steps to improve are periodically given to users throughout weekly updates, in the form of notifications.



## Design 3 - Smart Store



[Figure 3 - Smart Store]

The high level design of this (See Figure 3) is an improved in person shopping experience through smart appliances- something you can consider a “smart store.” This experience will be stress-free, easier, and help the customer broaden their fashion. Users can browse the store by occasion and select clothes. While trying them on, they can choose to go in front of a smart mirror which will give them suggestions based on what they’re wearing and can also be used for inspiration by looking at outfits from models and other customers.

1. *Finding the perfect outfit for a date.* Some sections of the store will have the clothes sorted by occasion. First the customer can look at clothes for dates in general, then a subsection based on the place they are going on the date.
2. *Buying clothes.* Once the customer has picked out the clothes they can purchase them just like any other store or use the smart mirror to checkout and just walk out with the clothes.
3. *Getting fashion inspiration.* The smart mirror can show outfits from models and other customers similar to what the customer is wearing or outfits that are worn to similar occasions.
4. *Using feedback to inform future fashion choices.* The smart mirror can help suggest certain things to the customer. Whether it’s the color of their shoes or that a different jacket might suit them better, it will help them pick out clothes that suit them the best.

## Selected Design - Lookbook & Smart Store

Our selected design is a “smart store.” Our users currently have stores, of course- and smart technology such as Echo Look, which scans your outfit and rates it. However, we do not currently have a combined technology where you can not only get

inspiration and feedback but also be able to try on those clothes and buy them right then and there. Since our users expressed frustration in choosing the right clothes to buy and losing confidence in whether their clothes look good on them, we wanted to create a design that would support these tasks the most. Our design cuts into the thinking process time by a significant amount. Instead of doing hefty online research at home, getting an idea of what may look good, then going to the store to either treasure hunt for a specific item or hope to run into a similar item, we have our users interact with our technology to get access to an individually tailored online database where they can easily access the clothes they see and want. We decided on the idea of smart store over our other ideas because it proactively combines all our initial ideas. First, by taking a picture of the current outfit of the user and their style preferences, the smart store will help generate a specialized outfit for the individual user. Second, the idea of feedback is seen from scanning your current outfit and providing subtle tips to improve the outfit. This feedback is instantaneous and takes from the previous idea of uploading an outfit image and getting critique online. Having the entire process of understanding user style preferences, providing feedback, and generating an outfit will make a seamless experience that combines all of our tasks and ideas into our smart store solution.

## Written Scenarios & Storyboards

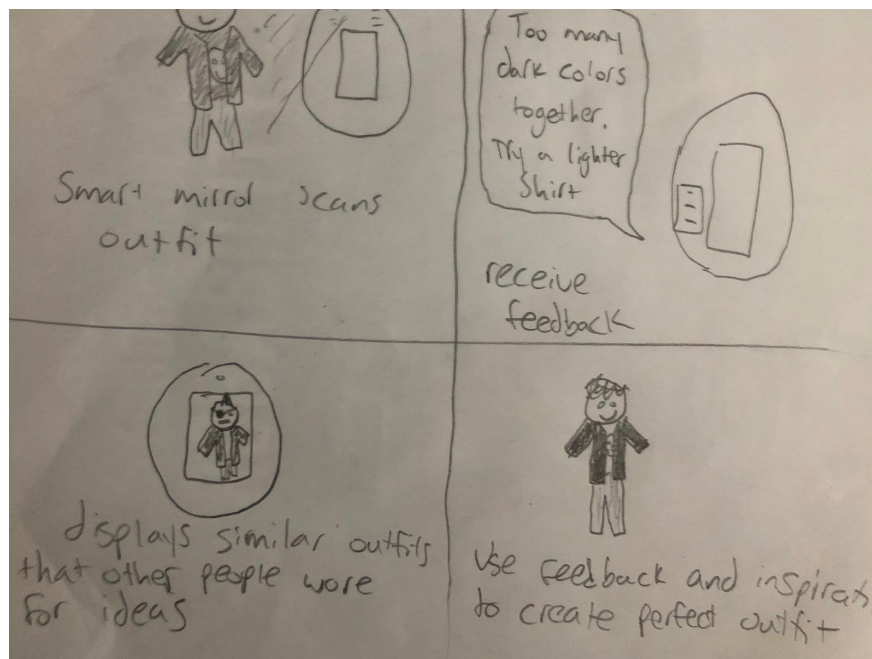
### Scenario 1 - Buying clothes



[Figure 4 - Janet buying clothes]

Janet is a woman who recently had a big weight loss (Figure 4). Nothing she owns really fits her right anymore, and she's not the kind of woman willing to wear hand-me-downs. She's also not the type to really like shopping because she finds it takes too long to find styles she is interested in. She ends up seeing an advertisement for a store that recently installed Magic Mirror, a technology that is supposed to help you buy clothes at stores that are certain styles more easily. She heads to the store, the smart mirror recommends her an outfit based on her current one and she pays within the smart mirror user interface.

## Scenario 2 - Using feedback to inform future fashion choices



[Figure 5 - Tony getting feedback]

Tony develops his style based on advice from others (Figure 5). He used to wear low baggy jeans because they were comfortable, but then he was told that skinny jeans could be just as comfortable and showed much better style. He heard from his friends about a smart store that gives individualized feedback and decides to give it a try. After taking a picture with the smart store scanner, he receives better feedback to try skinny jeans for a better fit. The smart mirror gives him further tips on ways to improve his outfit and he even sees pictures from people with similar outfits. After selecting a couple clothing outfits recommended to him, the smart store automatically brings the clothes for him to try on. Happy with his new clothes, he eventually buys them to wear for later and shares the outfit to friends directly from the user interface. The smart store feedback

improved his confidence in the way he looks because he knows that the smart store feedback has approved what he is wearing and he feels that it fits in with his own style as well. Overall, he feels like he has improved the way he dresses without sacrificing any of the things that he originally wanted from his wardrobe. He has also saved a lot of time using the smart mirror in the store instead of planning what to look at while at home.

**Contributions:**

Angela: Created storyboard and contributed to writing

Drew: Created storyboard, sketches, and contributed to writing

Garrett: wrote much of the scenarios and drew up a sketch.

Falak: wrote problem and solution as well as design research goals and other sections