# Patch: Lo-Fi Testing

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## Value Proposition

Shop smarter, style sustainably.

## Mission Statement

Patch aims to help consumers move away from Fast Fashion and impulsive purchasing. By making sustainable shopping attainable, fun, and instinctive, it helps users build a habit of thinking deeper about their purchases. Patch provides consistent nudges and facilitates social connections around these efforts.

## Problem/Solution Overview

Sustainable fashion involves producing clothes in environmentally and socio-economically responsible manners. Many shoppers don't take into consideration these factors while shopping for clothes, and our goal is to help them better balance the channel factors of purchasing fast fashion and reducing friction around making sustainable choices. In this way, consumers rely on "cheap, disposable clothing, made discriminately… without consideration for environmental and labor conditions (Vox)" to follow trends. Our solution, Patch, is a browser extension that offers convenient sustainable alternatives and causes users to rethink their purchases that will motivate people to make fashion choices that factor in the effect of their actions on the environment. Your Patch is ultimately dependent on you, fostering a sense of responsibility between you and the clothes you wear.

**SKETCHES**

**Overview**

Keeping our value proposition and mission statement in mind, we have brainstormed several different designs as possible ways of implementing our idea.

**Concept Sketches (15–25)**



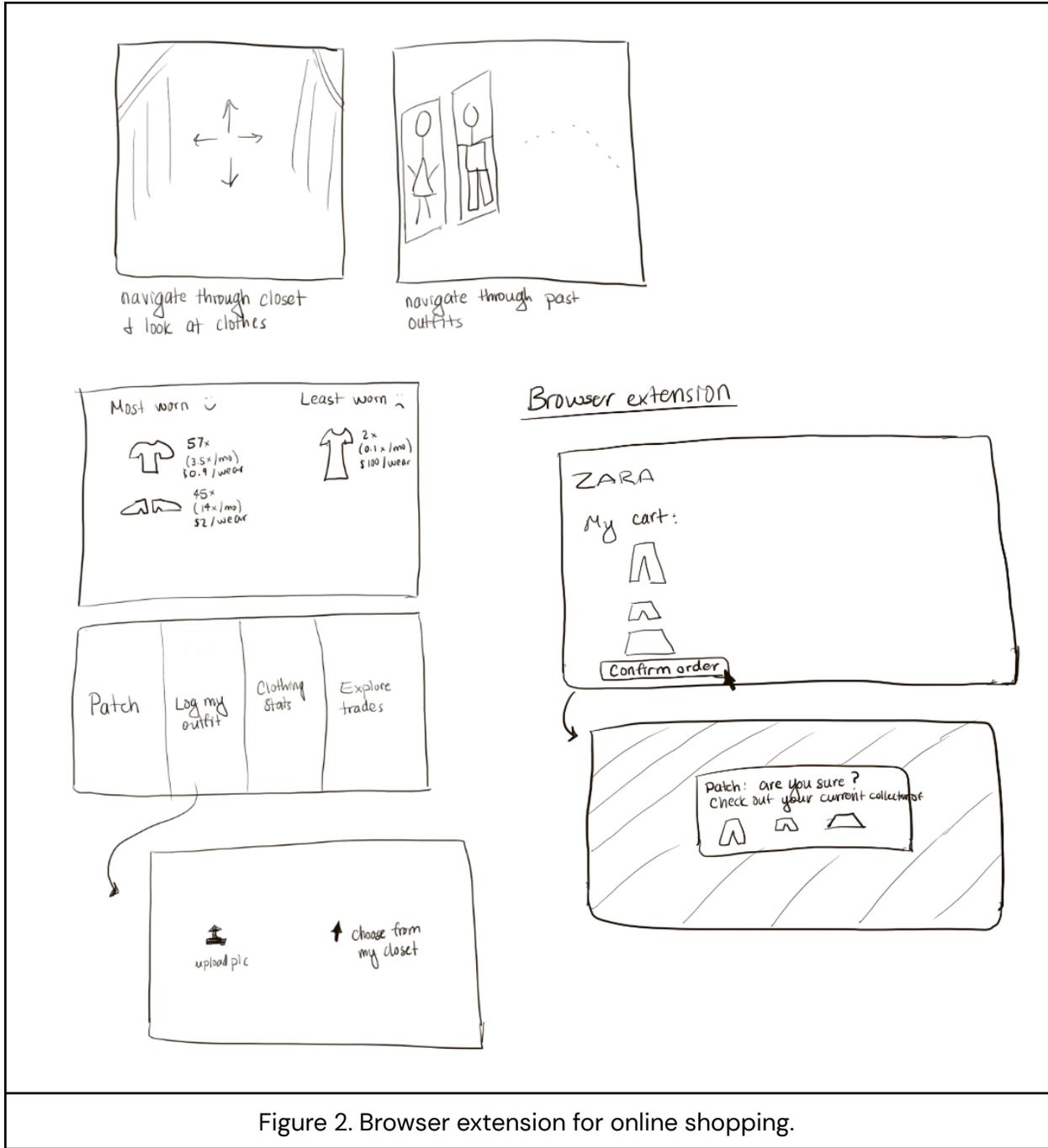Figure 1. Smart home device for washing clothes sustainably.
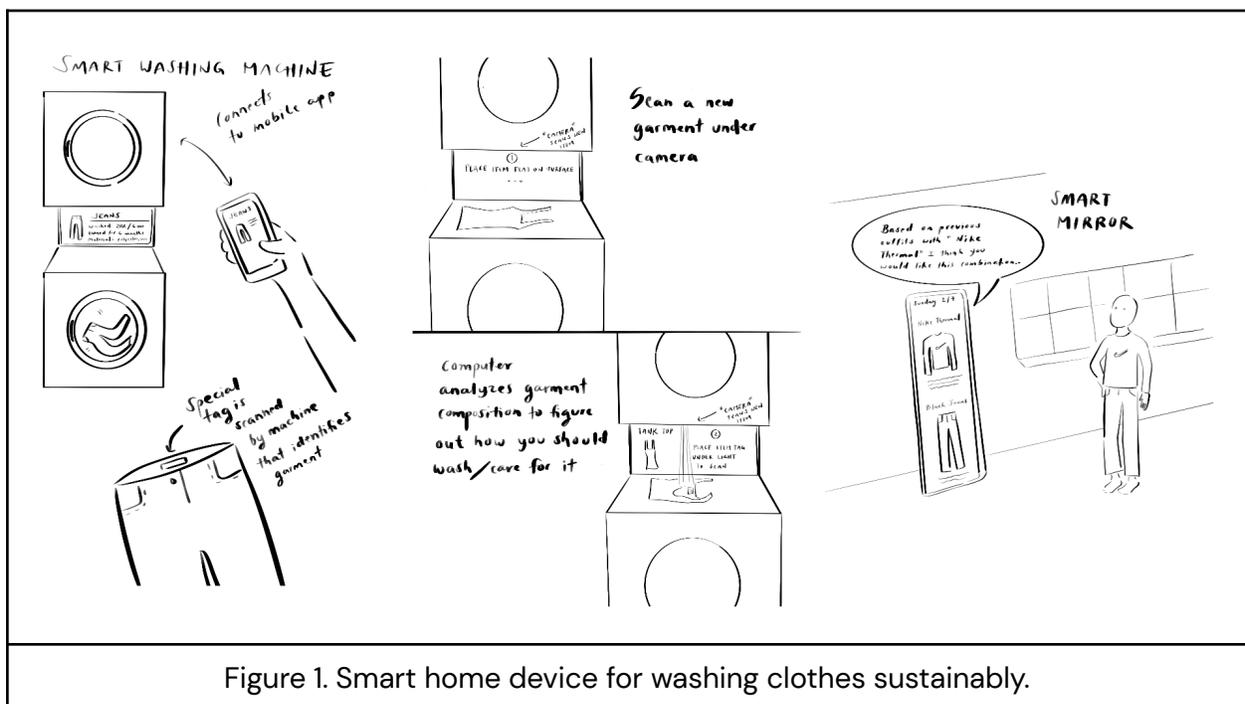
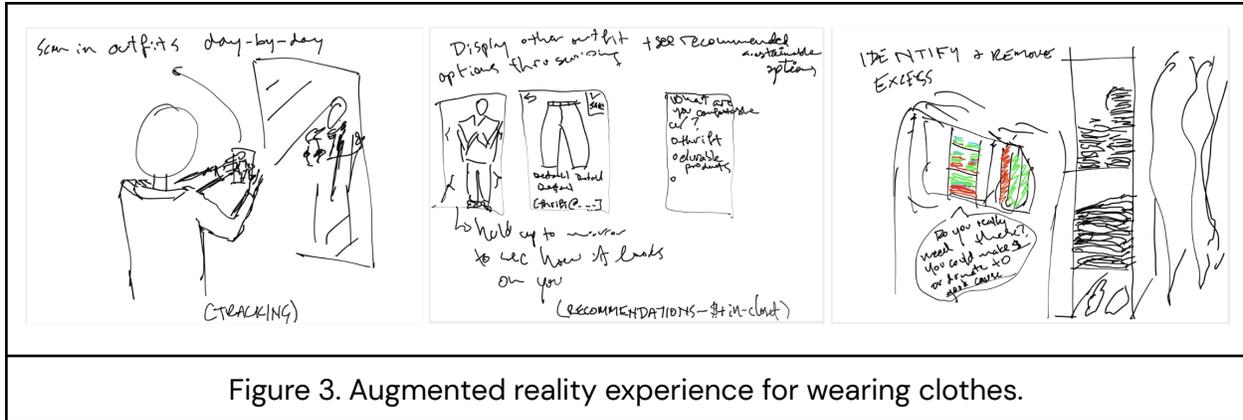Figure 2. Browser extension for online shopping.

Figure 3. Augmented reality experience for wearing clothes.
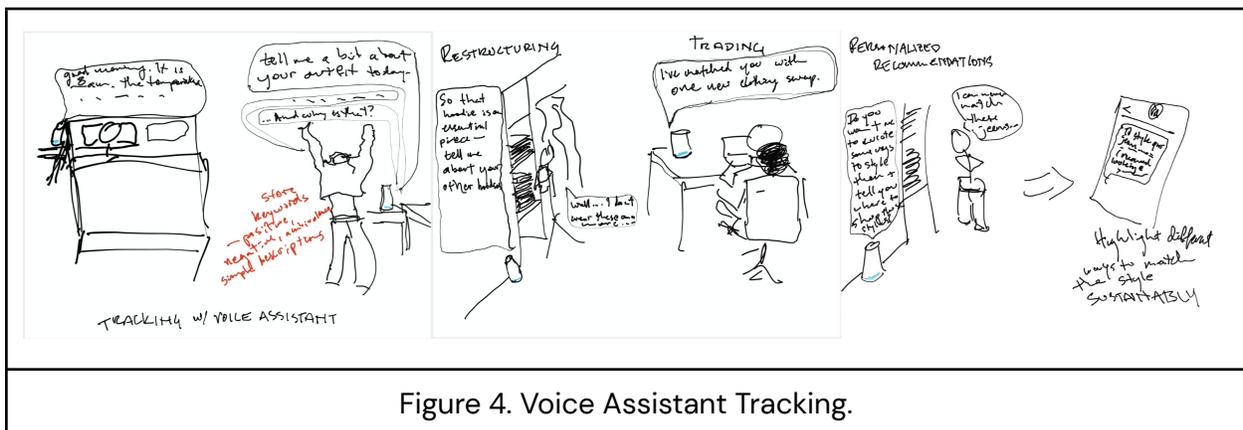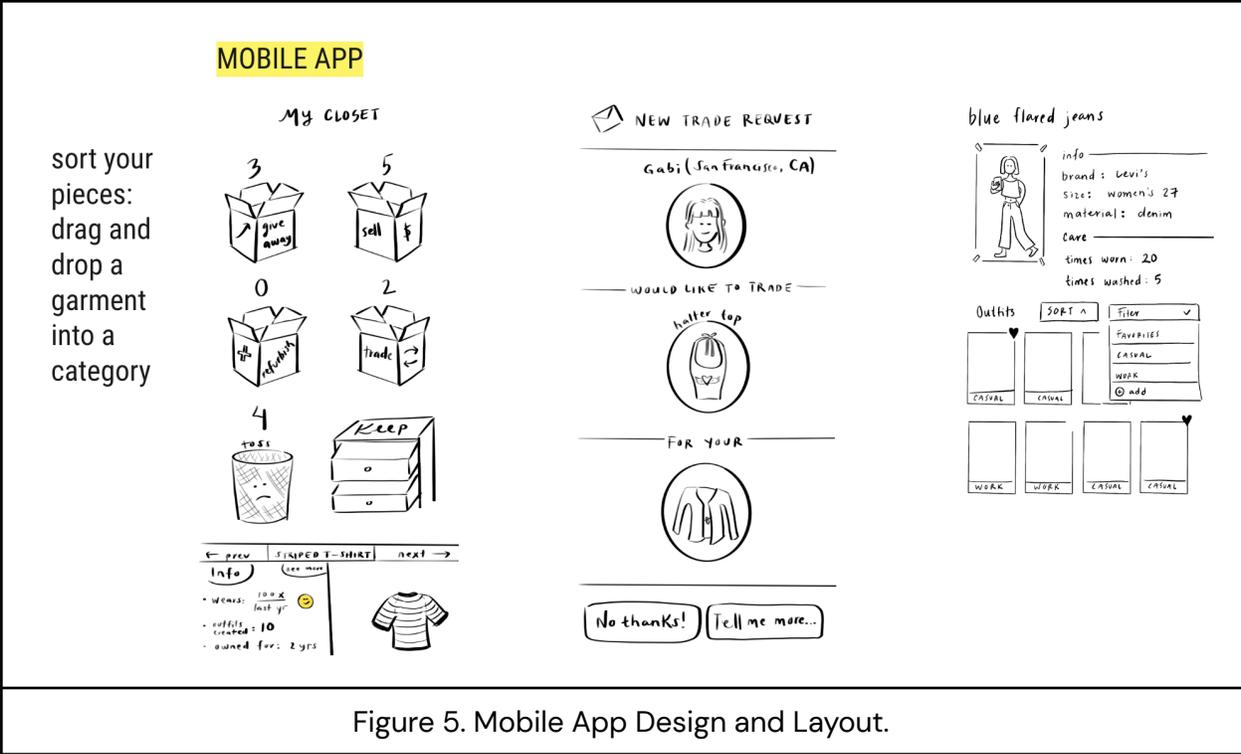


Figure 4. Voice Assistant Tracking.

Figure 5. Mobile App Design and Layout.

## Top 2 Designs with Further Storyboarding

We decided to move forward with our web app and mobile app idea for Patch.
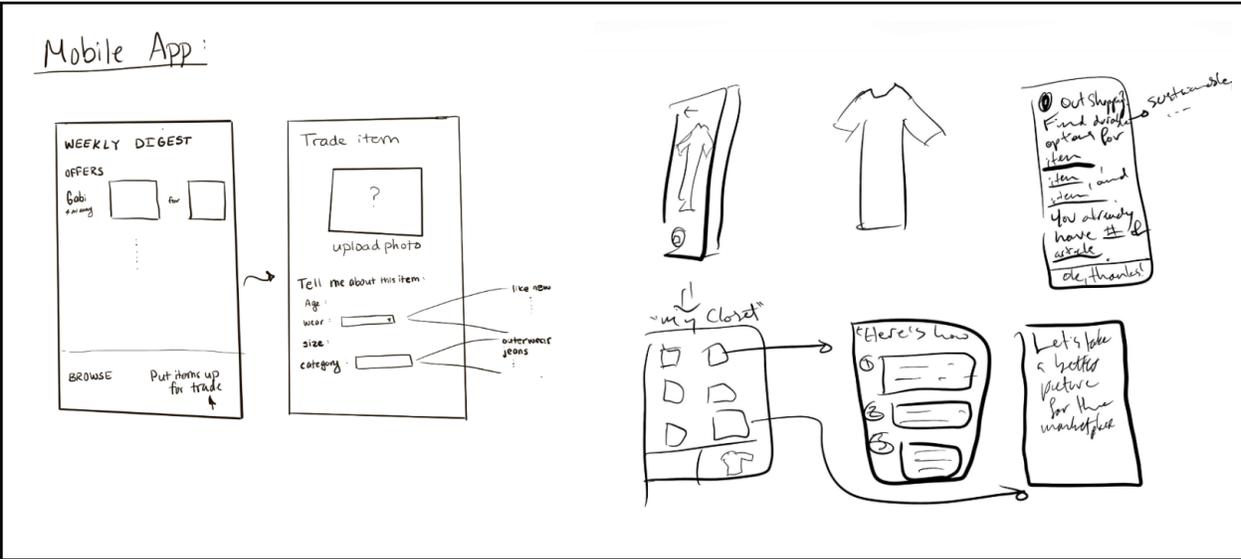
## Design 1:

| Figure 6. Mobile app to sort and arrange wardrobe. |
|---|

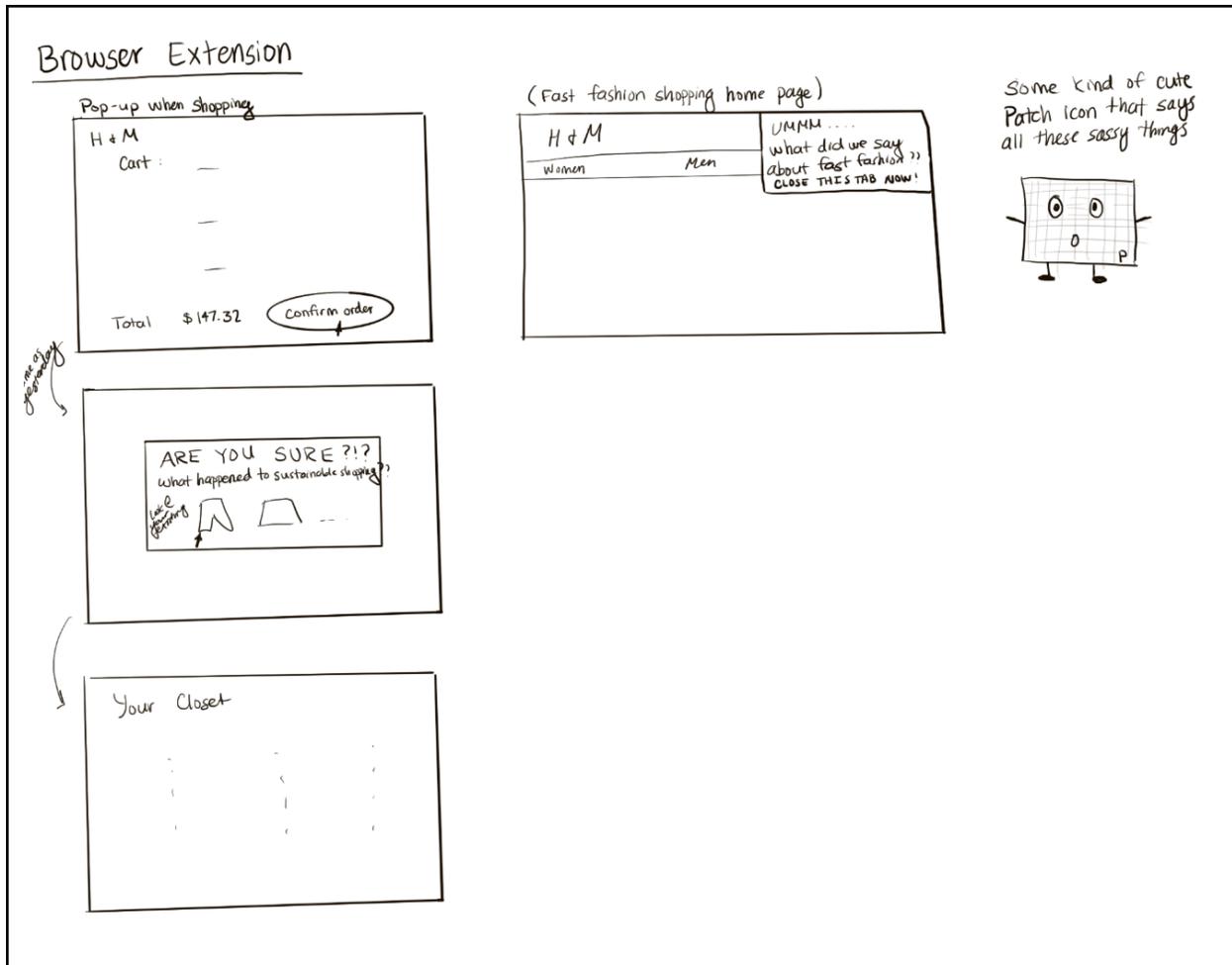| Pros | Cons |
|---|---|
| ● Can be applied to in–person shopping<br>● Good for taking photos of clothes (tracking and trading<br>● Allows for more gamification<br>● Uses more advanced technology – AI to analyze photos<br>● Notifications are possible at anytime | ● Trading clothes can be a tedious and difficult process<br>● No access to other apps<br>● Up to user to take initiative<br>● App covers more features in general – more things to build |

**Design 2:**

Figure 7. Browser Extension to block certain sites or content to promote sustainable shopping.

| Pros | Cons |
|---|---|
| ● Way of giving shoppier a healthier perspective on the clothes they are buying<br>● Easy to link to another website<br>● Factors in variables such as durability, manufacturing practices, and fabric composition<br>● Targets sustainability at the source at time of purchase<br>● Can be unobtrusive – reminding but not pushing | ● Harder to provide guidance on closet<br>● Not with you during in-person shopping – only able to use online<br>● Privacy concerns around users' shopping habits and storing data<br>● No real tracking |

## Selected Interface Design

Ultimately, we were extremely excited by the idea of implementing a web application. We realized that while the concept of the mobile application was unique and contained more applications due to its relevance to both in-person and online shopping, we opted for a product that would elicit almost no work from the user's side, and still serve as an instrument for sustainable change in fashion. We also thought it would be less intrusive for the user in comparison to the mobile app, which requires the user to constantly be engaged with it.
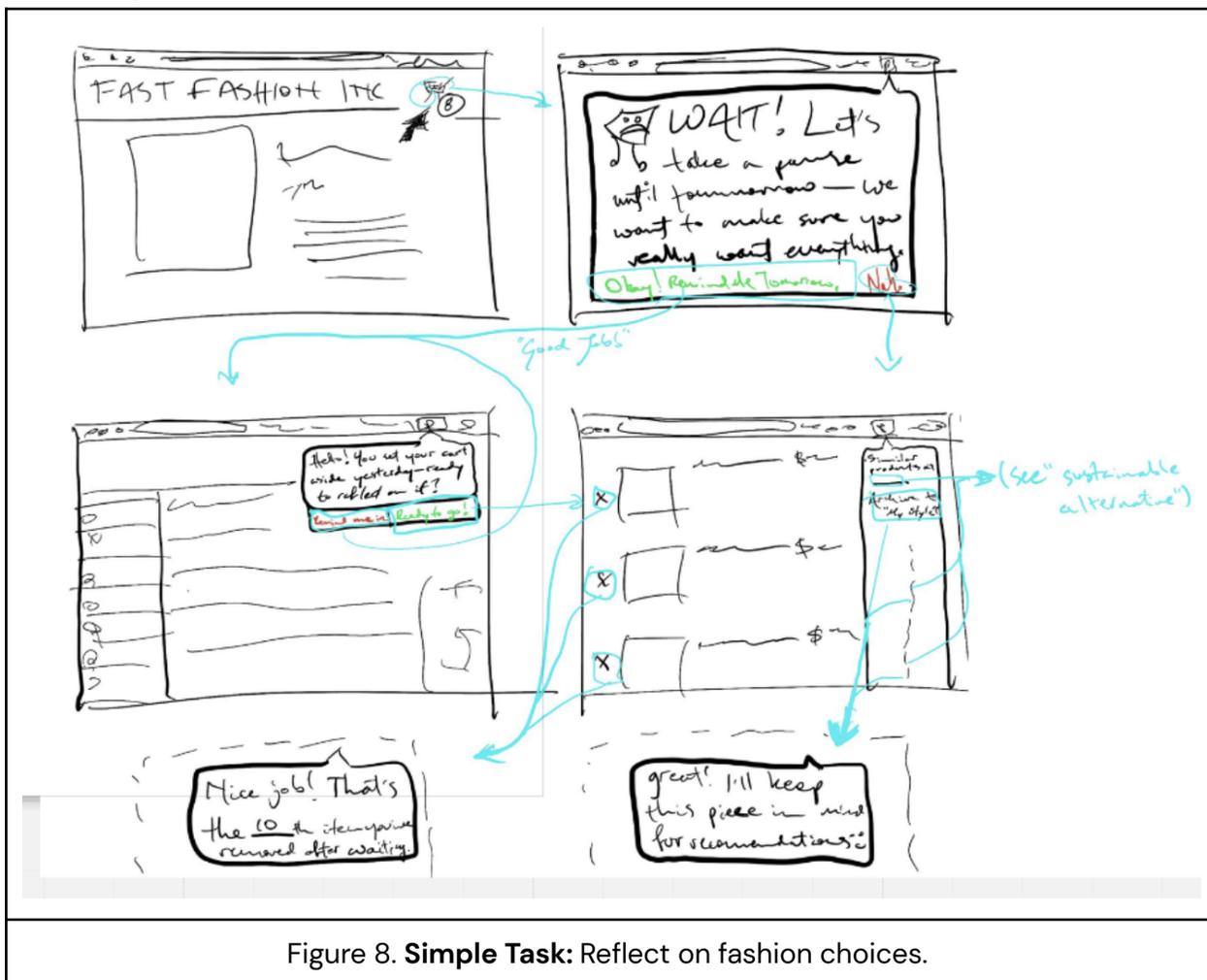
## Task Storyboards



Figure 8. **Simple Task:** Reflect on fashion choices.

Figure 9. **Moderate Task:** Work with friends to shop more sustainably.



Figure 10. **Complex Task:** Find a sustainable alternative to a fast fashion item.

**Low Fidelity Prototype**

We created wireframe mockups of our web app prototype. We designed screen wireframes with the backdrop being a fast fashion website, and displayed how Patch would presumably operate in that context.

Figure 11. **General View of Wireframes of Web App Prototype.**



Figure 11.5. **Extrapolation from Task Flows to Wireframes**

**Images**



Figure 12. **Simple Task:** Reflect on fashion choices.
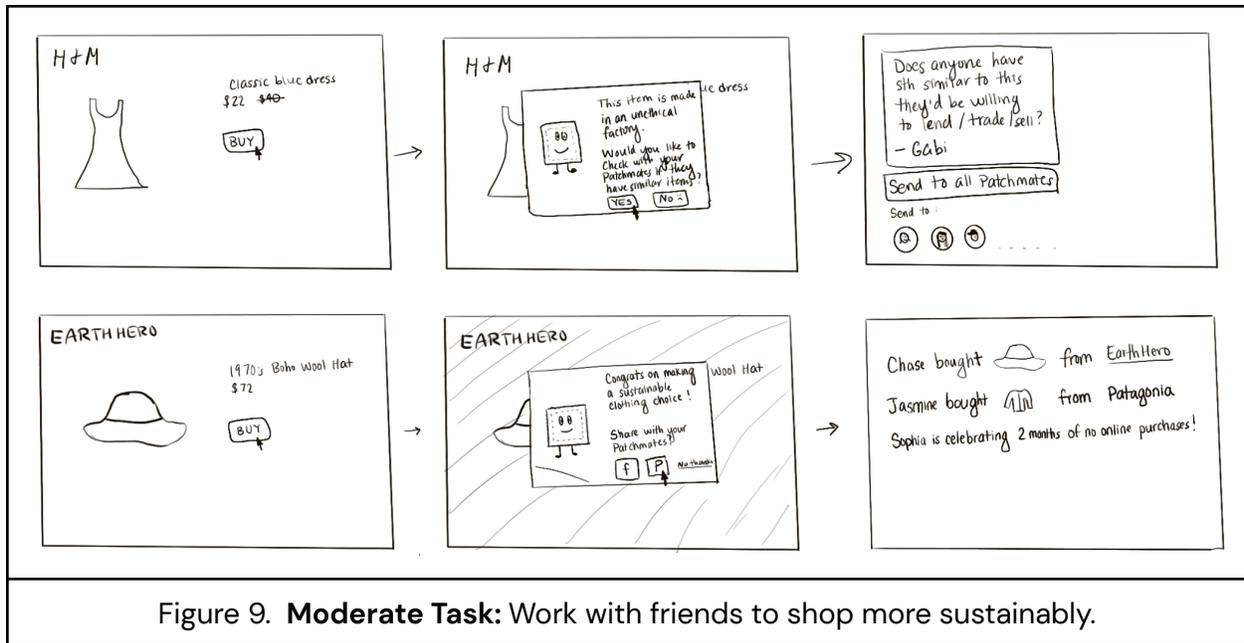


Figure 13. **Moderate Task:** Work with friends to shop sustainably.

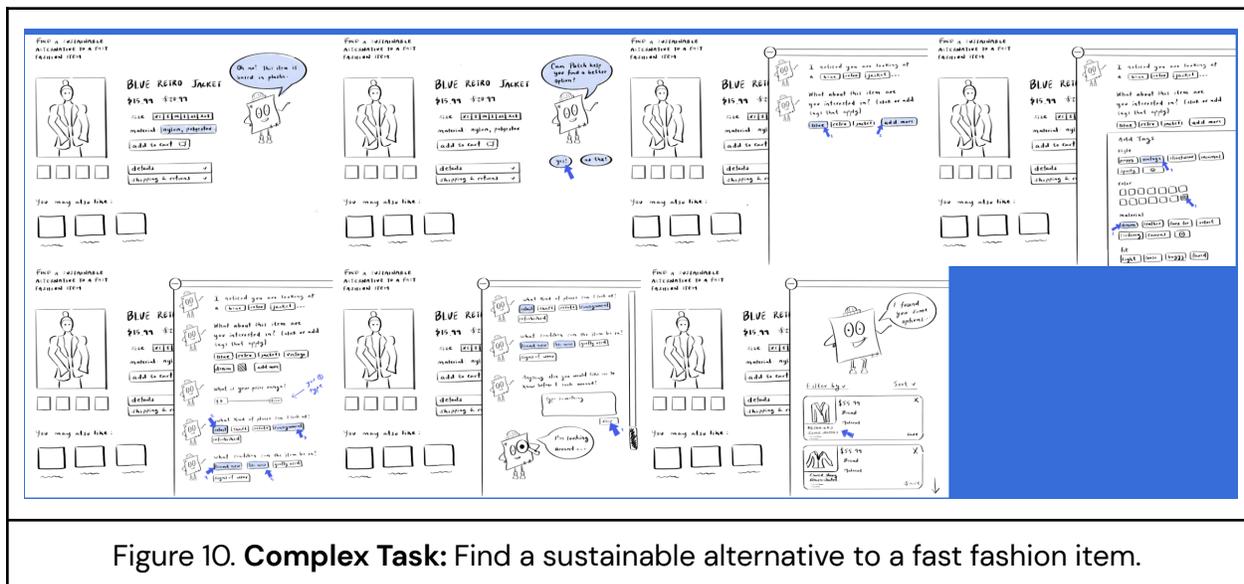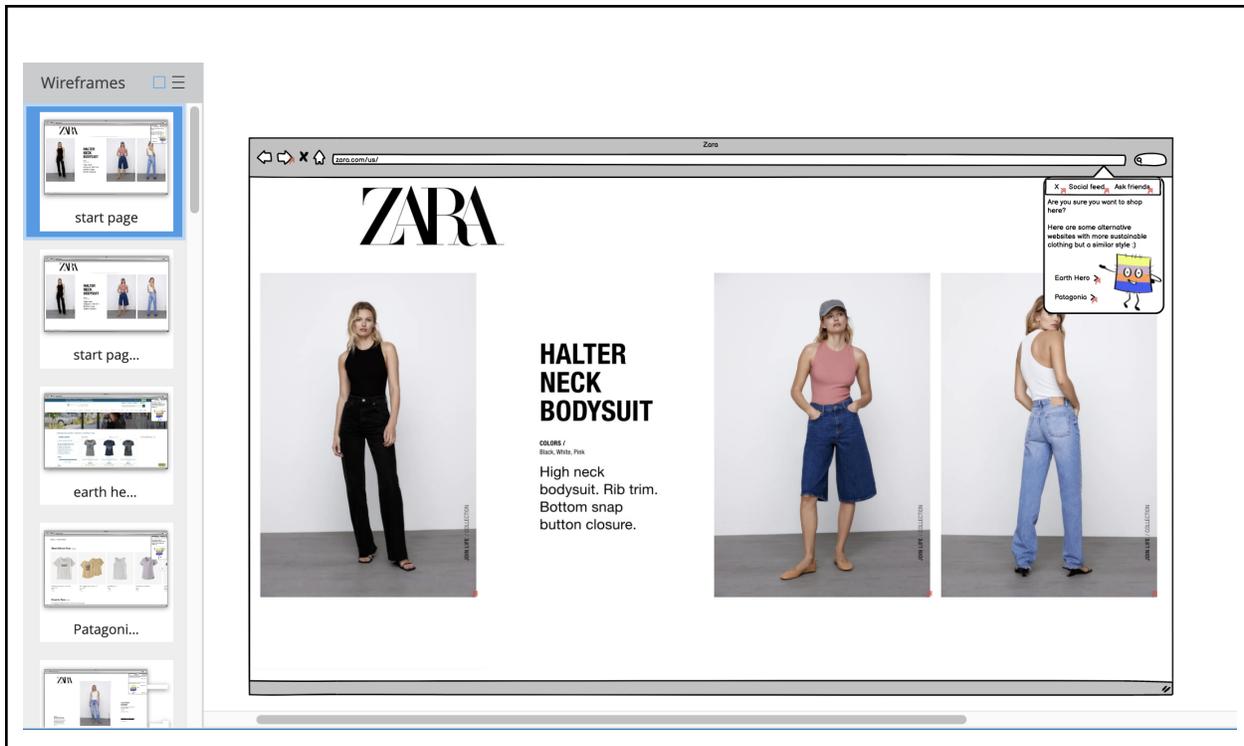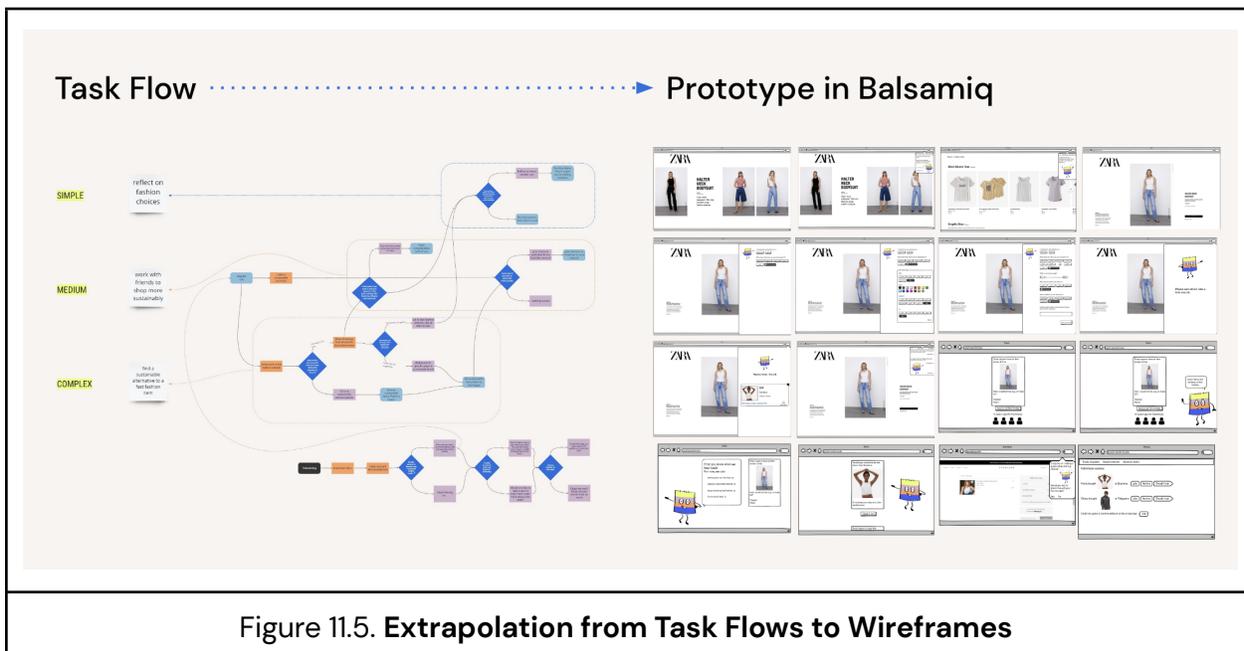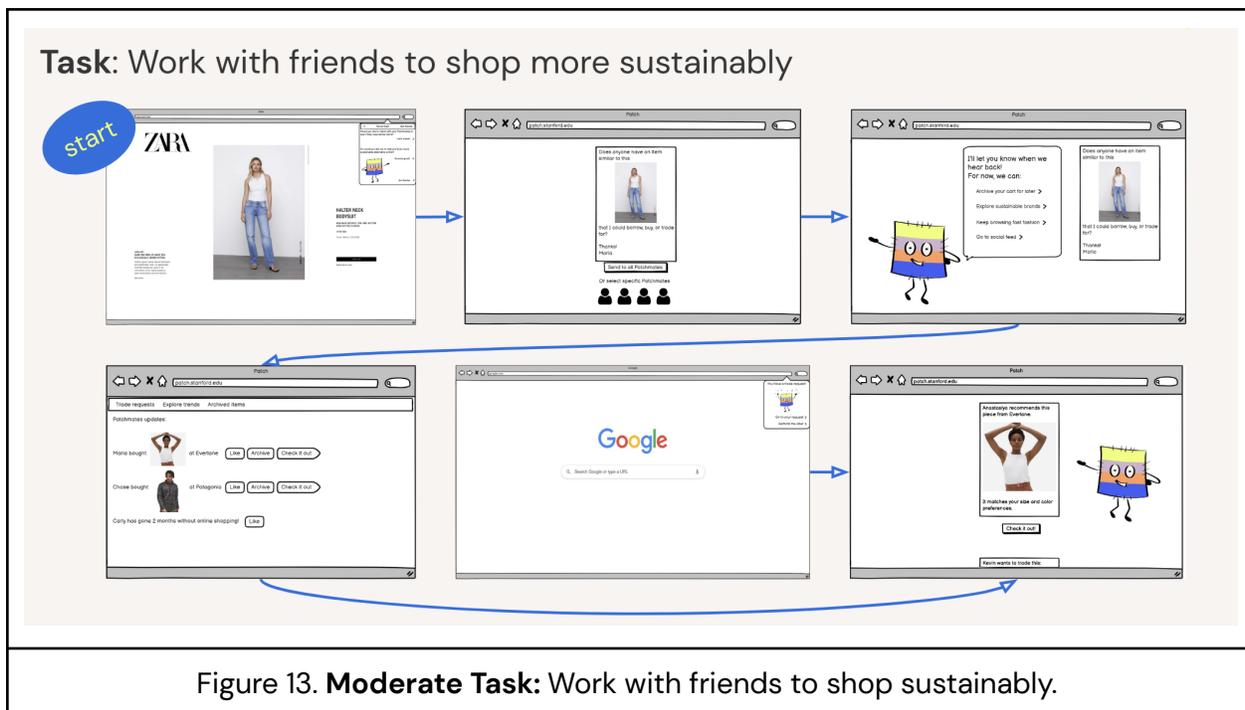Figure 14. **Complex Task:** Find a sustainable alternative to a fast fashion item.
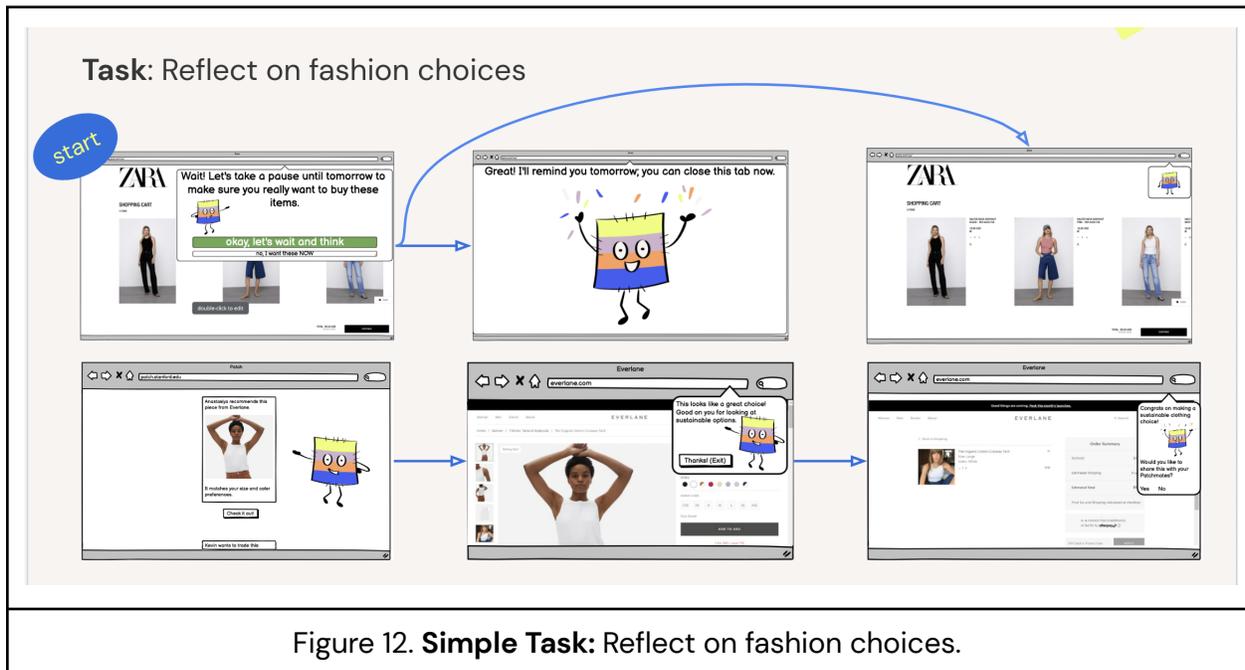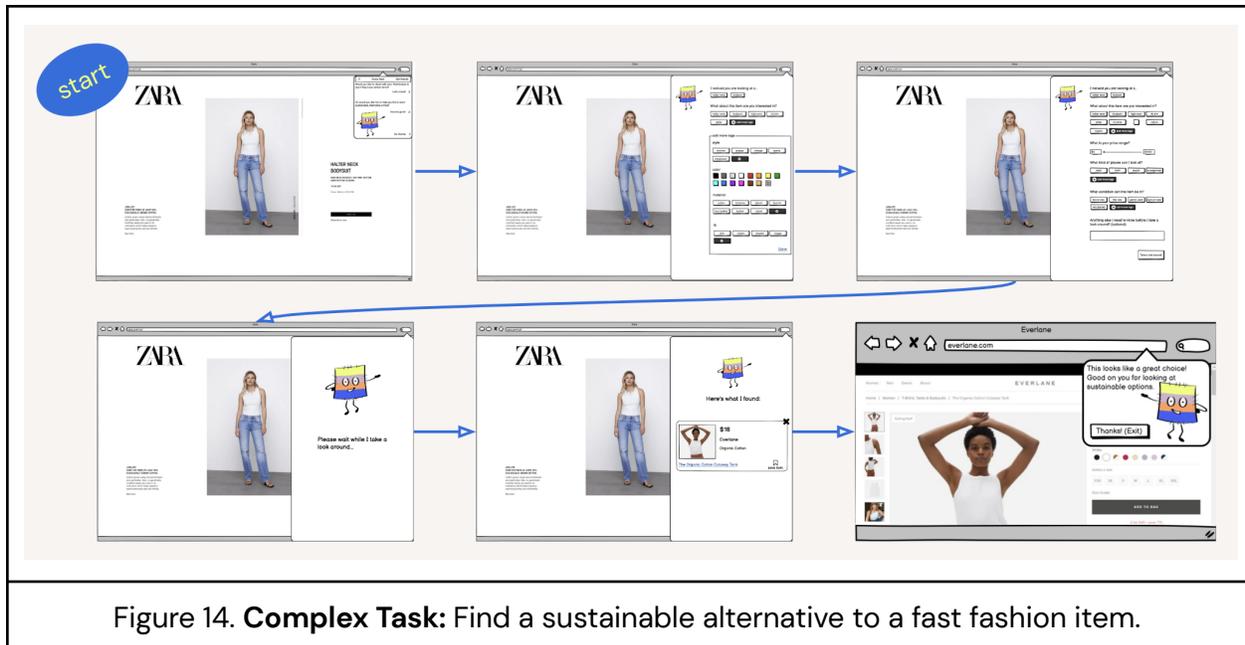
## Participants + Environments

We recruited a variety of participants, who we found through a variety of sources, including personal friends. We tested one user, a college student, who has a history of primarily shopping online at fast fashion stores, and is an occasional thrift shopper with a "loungewear" aesthetic. We also found another college student who engages in retail therapy, and is currently less mindful about sustainability now that she is using her own credit card. Lastly, our third user was a college student who does buy fast fashion but is still mindful of her choices.

## Tasks:

1. **Simple:** Reflect on fashion choices (2 paths). 1) Tell us about your Amazon Cart or 2) Tell us about times when you keep items in your cart.
2. **Moderate:** Work with friends to shop more sustainably (2 tasks). 1) Get your friends' advice on how to purchase item sustainably. 2) After buying a sustainable piece, post about it and check out what friends are up to.
3. **Difficult:** Find a sustainable alternative to a fast fashion item with Patch's help.

**Test Measures:**

We wanted to focus on measuring what is successful and what is confusing for our users, especially with understanding if the web extension first will help the user in shopping more sustainably. By measuring successes, we can identify which features of Patch are most helpful for our users. In terms of failures, we will know what parts of Patch will need to be revised and what changes are needed to create a more meaningful experience for our users.

**Procedures:**
For this scenario, imagine that your friend has downloaded the web application, Patch. You're trying to figure out how to do different things with this web app, and you're welcome to navigate throughout the app.

**Team Member Roles**
- Greeter/Facilitator: Kyle/Kevin/Anastasiya
- Computer: Participant
- Notetaker: Kyle/Kevin/Mariana

**Results**

Through our three users, we gained invaluable insight into how we should improve our browser extension.
- Hard for people to identify where to look on the page for some of the things we asked about
- Took some work to read/identify key features
- People looked around the rest of the page before looking at Patch
- User 1 confused about meaning of "consignment"
- User 2 confused about meaning of "archive"
- The persistence of interventions appealed to our users
- Users loved the "Wait" option
- Patch's reactions to user choices were popular
- User 3: "can seem like a lot to work through but simple to navigate"
- All 3 users liked the option to "archive" or save pieces of clothing
- Confused about social feed and be able to see what choices your friends have been making
- User 1: felt like it was the opposite of the annoying "do you want free stuff" pop-ups

**Discussion**

We discovered several issues with the design, but realized that users ultimately were able to understand how to navigate shopping with the web app, and its different functions with relative ease. Initially, it was difficult for users to understand how to navigate the wireframe, which we felt was more so a result of the difficulty in understanding how to use the wireframes rather than the web extension itself.

Some of the most significant areas of improvement to Patch would be to slightly alter Patch's design to be more streamlined and refined, such as getting rid of stitches that staunchly stick out. We are considering opting for a more serious character by changing Patch to someone else. Moreover, we want to make buttons more visible to users so they understand Patch's features, similar to how Netflix utilizes bright, contrasting colors for its buttons. The wording for buttons also requires change, due to its misleading and confusing nature, such as changing "archive" to "save." Also, for users who are exploring the browser extension for the first time, we want to give additional context, especially those who encounter the terms "consignment," "resale," and "refurbished" for the first time. User 3, in particular, noted that the social feed was also not particularly simple to understand, and could use some more guidance in how to navigate it.

We also received great feedback that the browser extension interface provided opportunities for more targeted and consistent nudges that are integrated into the act of shopping. These nudges were not overly overwhelming or targeted, but served their purpose in focusing on opportunities for real change in user shopping habits. The users we tested really enjoyed the overall functions of our product, as well as the graphic design of Patch, with its user-friendly, appealing appearance as a shopper accompaniment.

## Appendix

**Testing Script:**

Hello! Thanks so much for taking part in our study. We're students taking a human computer interaction course at Stanford, and are testing a web app named Patch as a means of promoting sustainable shopping. As you test our app, we'd like you to participate in the "talk aloud" process, where you mention out loud what you're thinking as you perform the various actions.

For this scenario, imagine that your friend has downloaded the web application, Patch. You're trying to figure out how to do different things with this web app, and you're welcome to navigate throughout the app.

To start off, your first task is:

1. **Simple:** Reflect on fashion choices.

Patch's goal is to help you rethink some of the choices you instinctively make while shopping.

2. **Moderate:** Work with friends to shop more sustainably.
3. **Difficult:** Find a sustainable alternative to a fast fashion item while checking out.

That's the end. Thanks for participating! As always, feel free to let us know if you have any questions or feedback.

**Critical Incidents Log:**

**Red text denotes errors (5 = usability catastrophe), green text denotes successes (0 = no problem)**

**User 1**

| Incident | Severity Rating |
|---|---|
| "Check with patchmates and other buttons should be colorful/easily noticeable" | 5 |

| "Tabs in general a bit too much at first" | 3 |
|---|---|
| Liked the extension's persistence in promoting better habits | 0 |

**User 2**

| Incident | Severity Rating |
|---|---|
| "Not sure what consignment is" | 4 |
| Confused about social feed, who it is – would be good to have something to make it clear, such as buttons to add friends through Facebook | 3 |
| "Loved the wait option" | 0 |
| Cute alternative to "do you want free stuff?" popup | 0 |
| "Likes the saver option" | 0 |