PROCESS BOOK

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Interaction Studio I
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Project Description

Responsive Web Design for Peer Economy

Responsive Web Design:

To reduce development efforts and optimize the user experience across multiple devices, designers create a single design that adapts to the user's device. This is known as responsive web design (RWD), where a single code base is adapted to display optimally on devices with varying physical sizes, resolution, and capabilities.

Peer Economy:

A peer economy (or sharing economy) is a decentralized business model whereby two individuals interact to buy or sell goods and services directly with each other, without intermediation by a third-party. In recent years this model has achieved a competitive advantage around the world and is growing rapidly. It has challenged the economic models of our societies and destabilized traditional businesses.

Research

Research with Stakeholders

Reading materials for this unit introduced the concept of a peer economy, citing TaskRabbit and the ways in which the platform has levered a rapidly scalable website to connect peers in the digital age. Other materials discussed responsive web design and optimizing site layouts for a variety of screen sizes. Additionally, this final final unit ties in elements from all previous units - perceptual affordances, complimentary color selection, font, weight, and indentation, as well as a delicate balance of the quantity of information displayed at a single time.

\\ Living at school, as an international student, presents financial challenges for most students, as furniture can't just be temporarily purchased."

– Xuejiao Liu

After speaking with our Professor, Skip, about his experiences building a mobile application for furniture movers, it was clear that there are copious issues with furnirture purchasing and delivery, particularly with coordinating between all three parties - the Buyer, Seller, and Mover.

Research

Scenario Brainstorming

To begin understanding how to provide value to this complex market, we considered a broad range of specific issues and solutions, knowing we would filter down to the most impactful few. This would later prove useful in creating personas for this peer economy.
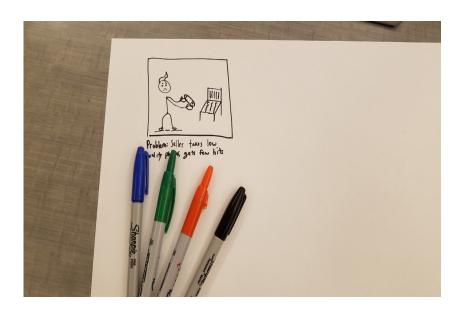
Dean **Xuejiao** **Cathy**

1. User needs to rent furniture for her 6 month stay in Pittsburgh. Doesn't want to spend a lot of money, and can't haul furniture by herself (no friends). Uses FurX to identify cheap furniture near by, as well as a paid volunteers to help move it from the seller's home to the User's home. All of this costs less than buying new furniture, setting it up, and takes less time.

2. User already has 90% of all the furniture they want, but needs a budget desk to match the layout. Uploads a picture of the room layout to the FurX "ID" (Interior Design) tool and receives custom tailored suggestions based on furniture price, color, and distance. The convenience of tailored design help helps save time for ambivalent or unsure users.

3. User wants to sell furniture to others via FurX, but the pictures they've taken are low quality and don't spark much interest among the community. With FurX's "IV" (Intelligent View), the user can compare their picture to a data set of thousands of other users' pictures of the same piece of furniture, with detailed insights on how to improve their snapshots. Helps sellers maximize earnings potential with the data-driven assistance.

4. User just moved into town and uses Craigslist to buy furniture from different vendors. User is frustrated that each vendor is at a different, doesn't want to spend a lot of time finding them. Uses FurX to aggregate all the furniture in one place via Volunteers, and picks up the furniture at the dedicated FurX location, or has it shipped straight to their home. Saves the user time, gas, and hassle.

5. Shelby is an incoming CMU international student. She found an apartment without furniture because it would be cheaper. She needs furniture to set up her new home, but she wants something more affordable than standard furniture prices.

Research

Scenario Brainstorming

6. Lei Li is an incoming freshman at CMU. He has already bought some furniture online, but he isn't satisfied with a desk after it is delivered. He doesn't want to resell it since he is kinda lazy. So he wants to use FurX to exchange desk with others. He labels the price of the desk he doesn't want and a description of his ideal desk, and starts looking for something else that has the similar value with the desk. He finds someone who has his ideal desk and also has a need for his desk. So they make a deal.

7. At the end of the semester, Rachel cleans her apt and finds that there are some furniture she doesn't need anymore but still in a good condition. She does not want to throw them, so she posts her furniture for free under "Trade" on FurX. "Trade" is a feature to help people exchange their free furniture. Then Rach finds something that she needs, so she contacts that person to see if he/she can exchange them with her.

8. Ty gets most of the furniture from a resident who previously lived in the house. But he still needs two chairs to match with his bar counter. So he posts his need on FurX. Several days later, he gets a message from a person who has two chairs that meet his needs, and he would like to offer a paid delivery service if Ty has no car. Since Ty just moved to this city and has no car at that moment, they conclude the transaction at this price.

9. Jenny needs new furniture for her new apartment at school. She just entered her junior year and does not have a lot of savings. She wants to purchase a set of couches from local homeowners but she doesn't know what's on the market. Jenny opens up FurX and searched for couches with specific color and texture. A week later, Jenny got her new set delivered to her, and she was able to enjoy her favorite TV shows.

10. Emily just purchased a desk and she needs to get a matching chair. She took a picture of her table and FurX automatically recorded the suggested texture, color and style of the table, and Emily clicks on the picture and asks for suggested chairs that are available on the market to go with her desk.

11. Jake wants to upgrade his room decorations and wants to see what other people have done for their homes. Jake browses through the featured decorations on the market, and found a house size that's really close to his. He really liked the decorations and decided to purchase similar decorations. Jake clicks on the link attached to each of the picture and buys the ones he likes

Research

In-class Exercises for Storyboarding

In class, we did some exercises to explore how the elements of storybards (Problem, Context, Solution, and Resolution) could better depict specific scenarios, and help us fine tune use cases for our websites. The process enabled teams to foresee challenges, as well as rapidly iterate through a number of potential use cases. Doing so helped us better understand the mindsets of our users: Buyers, Sellers, and Movers.
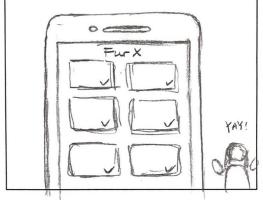
Research

Speed Dating

To better understand the real-world implications of the solutions we would later ideate, we "speed date" interviewed class-mates to find out the main issues that mattered to them. The insights were:

1. People prefer not having to go to the seller's house if some technological solution didn't require them to, both be cause of time-saving and privacy reasons.
2. Many times, high quality products don't sell because sellers aren't experienced product photographers, which hurts the success rate of posts, irrespective of product quality. A way to more accurately take pictures could be hepful to sellers.
3. Having a way for buyers to get a sense for how a piece of furniture looks in the intended final location *without* first buying it, trying it out, and only then finding out if it works or not, would be helpful in encouraging purchases and limi-ting buyer's remorse.

Ideation
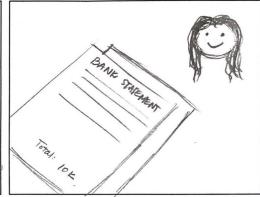
Storyboards

Barbara is moving away to a new city and she needs to get rid of all of her furniture at her current home. However, Barbara is not willing to sell them through garage sales, since all of her furniture is very high quality and relatively new.
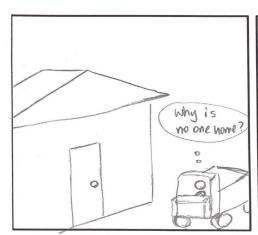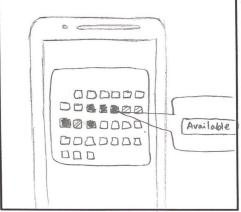
Barbara sets up a new seller's account on FurX by entering her name and couple of security questions. She puts all of the furniture she wants to sell into the luxury section. After automatic qualification checks, Barbara's furniture was posted on FurX.
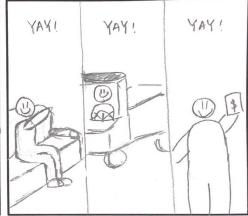
Barbara was able to sell all of the furniture at a price she's happy about. She was very happy about the experience she had using FurX. She decides that she will use FurX in her future furniture purchases and sales.

Ideation

Storyboards
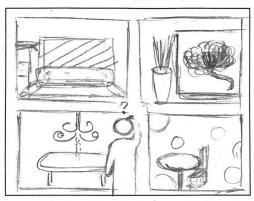
Nathan has a personal truck; he needs to deliver a piece of furniture from a seller to a homeowner. He needs to know what the time period is that he can come by. He remembers that last time he tried to make a furniture delivery, there was no one at home the first time he tried.
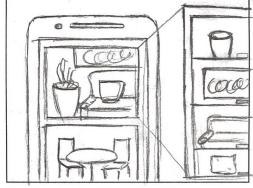
Nathan pulls up FurX on his phone and checks the overlapped availability of the seller and the buyer and sees that he also has time during one of the time periods they both selected.

Nathan contacts both the seller and the buyer for the time he is going to come. On the day of delivery, everyone is ready, and the delivery only took an hour and half in total. All parties are happy about the convenience the app provides.

Ideation
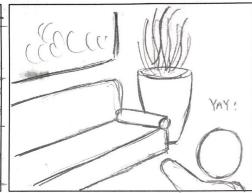
Storyboards

Jake wants to upgrade his room decorations and wants to see what other people have done for their homes.

Jake browses through the featured decorations on FurX, and found a house size that's really close to his. He really liked the decorations and decided to purchase similar decorations. Jake clicks on the link attached to each of the picture and buys the ones he likes.
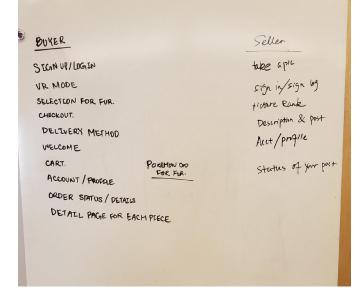
The furniture Jake selected is delivered to him within a week, since the sources are all located within couple of miles of Jake's house. Jake is very happy with the end result, and decides to use FurX for other furniture purchases.

Ideation

User Personas

Buyers

For the buyers, the biggest struggle when they purchase a piece of furniture is that they are not sure whether it would look good in their homes before-hand. Often, people have to return the furniture to the seller because the aesthetic of the furniture does not fit the rest of the room. It is hard for the buyers to imagine how the piece would fit into the room without some sort of visual aid. Therefore, we came up with the solution to solve this problem by adopting an Augment Reality mode, similar to IKEA's mobile application, on our mobile site, and a 360 degree view for both mobile and web platform.

Sellers

The seller's main problem lies in taking and choosing the best pictures for a post. We came up with a system where we use advanced image recognition technology to find similar posts of the same furniture online, ranking each post based on photo quality, and then rating the seller's own photos. The feature, Optipic, would detect whether the picture is angled at the right degree, if it is too blurry, and if the overall quality is likely to sell the piece of furniture. The seller can also choose to include a 360 degree view for each piece of furniture. By including a 360-degree view for the furniture, the seller can increase the chance of selling, since the buyers can see a more detailed view of the item, instead of traditional two dimensional views.

Ideation

User Personas

Movers

On the delivery side, the biggest concern during furniture exchange is reaching concensus between all parties for delivery time. As Skip explained, furniture delivery drivers are paid per delivery, not by the hour, so if a buyer or seller isn't home when the driver arrives, time and money are wasted. Proper delivery requires a lot planning ahead of the actual delivery, which requires a conversation between the buyer, the seller, and the driver. Ideally, the driver would only need to make one trip to pick up the furniture from the seller and deliver the furniture to the buyer. This only happens if all parties agree on the same schedule, and stick to it. After brainstorming, we came up with the idea of syncing the three different users' availabilities on one calendar. The system would automatically pick times that work for all three parties, as well as notifying everyone as to the location of the furniture during every step of the transac-
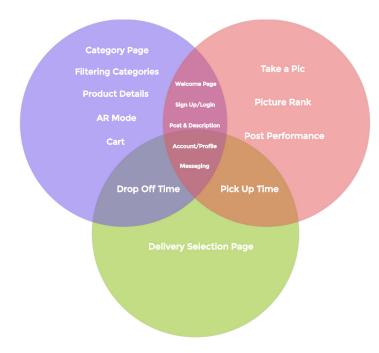
Conclusion

When we try to take into account all three parties presented in a peer economy furniture exchange, we need to consider exactly how the flow of the site for all users will function, to help the platform move most smoothly and efficiently. In addition, we need to differentiate the layout and the features included on mobile and web enough to adapt to different displays, but simultaneously keep consistency to provide the users with the same perceptual affordances across all platforms. The screens need to be logical, concise, visually appealing, and most importantly, functional.

Ideation

Screen Maps

We started by mapping out all possible screens for this responsive site. While all screens would not be proto-typed, it was important to consider every possible part of the site, even if it wouldn't be visually mocked-up.

- Buyer
- Seller
- Mover

Category Page

Filtering Categories

Product Details

AR Mode

Cart

Welcome Page

Sign Up/Login

Post & Description

Account/Profile

Messaging

Take a Pic

Picture Rank

Post Performance

Drop Off Time

Pick Up Time

Delivery Selection Page
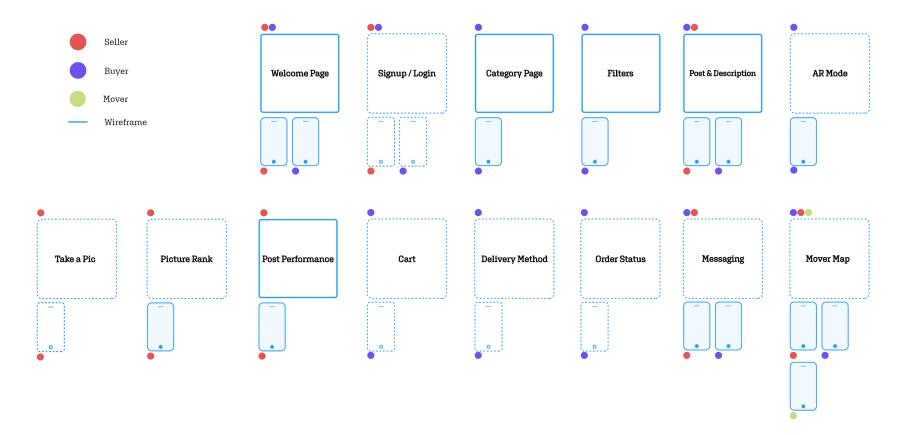
We divided up the functionalities of the app into three overlapping groups according to the needs of the users and stakeholders. Since multiple pages would be shared by multiple users at the same time, we designed the screens accordingly.

Ideation

Screen Maps

The following screen map indicates the specific pages, out of all possible screens, we chose to mock-up and prototype throughout the iteration process. These are the same screens that the final Adobe XD demo employs.

Seller

Buyer

Mover

Wireframe

Welcome Page

Signup / Login

Category Page

Filters

Post & Description

AR Mode

Take a Pic

Picture Rank

Post Performance

Cart

Delivery Method

Order Status

Messaging

Mover Map

Iteration

Wireframe - Mobile - Buyer

After we decided the features, we started with wireframes for both mobile and web. For the buyer, our initial wireframes included the browsing page, product detail page, and AR mode. After a critique on the wireframe, we iterated the features and added one more chat page.

Product details page

Chat

Browsing page

AR mode

AR mode

Iteration
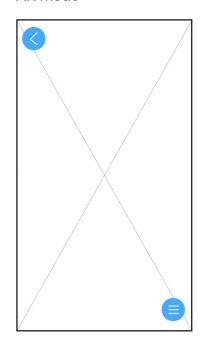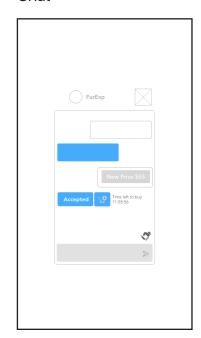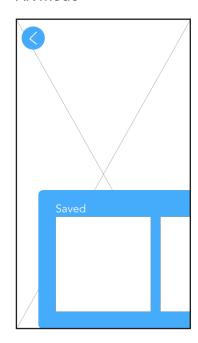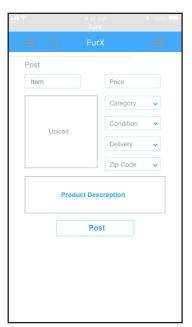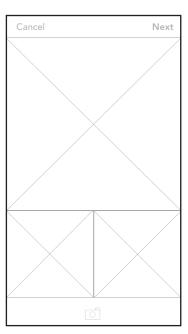
Wireframe - Mobile - Seller

For sellers, our initial wireframes included a new post page, a photos and ranking page, and a status page. After a critique, we iterated the existing features and also added two more pages - a chat page and a delivery status page.

Chat

FurExp

New Price $55

Accept | Decline

Time left to buy
11:58:56

Mover

Call Mover | Reschedule

New post

9:41 AM | 100%
FurX

Post

Item | Price

Category

Condition

Upload

Delivery

Zip Code

Product Descreption

Post

Add photos

Cancel | Next

Ranking

9:41 AM | 100%
FurX

Optipic Rank: 7.5/10

Upload

Average Score is 7/10

To Improve:
· XXXXXXXXXX
· XXXXXXXXXX
· XXXXXXXXXX

Update

Skip

Status

9:41 AM | 100%
FurX

Status of your post

Posted | Sold | Delivered

Post Overview

Women's Long Sleeve Pocket T-Shirt Dress

Games

Price: $ 20
Good Condition
Size: L

Zip Code: 15217, deliverey availabe

Description:

Iteration

Wireframe - Web - Buyer

For the buyer, we created a browsing page and a product details page, based on the screen map. After speaking with our professor, we chose to limit the browsing grid to no more than 3 columns and 2 rows at one time, to prevent from overloading buyers with information.

Browsing page

Buyers can control filters on the left and see the latest posts at the top.

Product details page

Buyers can get more information on products, such as different photos, size or dimensions, zip code, and delivery service options.

Iteration

Wireframe - Web - Seller
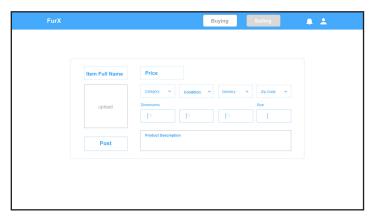
For the seller, we wireframed a photo ranking page, a new post page, and a status page based.

New post page

When the seller posts a new item, they can upload photos and fill the information of the item in a pop window by clicking the "seller" button at the top navigation bar.

Ranking page
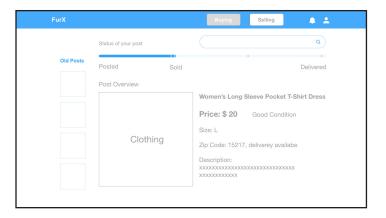
After the item is posted, sellers can see a score to judge the photo quality of the post. The ranking system will give some recommendations on how to improve the photo quality, which is helpful for sellers to increase their chances of selling the furniture.

Status page
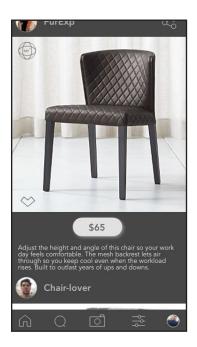
The seller can check the status of the post after an item is posted. Our initial design included three states - Posted, Sold, and Delivered. Based on user tests and critiques on this page, we changed the status to four states - Posted, Sold, In Transit, and Delivered - which can be seen in our initial design.

Iteration
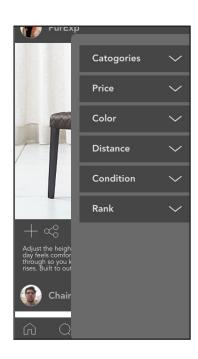
Initial Design - Mobile - Buyer

Before we created the initial design, we ranked the importance of all the screens. We thought that the Category page was important since it included the delivery feature, as well as serving as the main page for all buyers. Thus, we iterated the original screen map, deleted the product details page and added a filtering and delivery status page.

Chat - Negotiation

Delivery Status
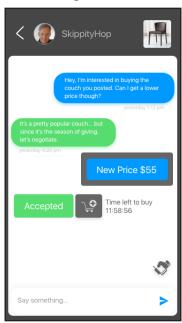
Browsing page

Filtering page

AR mode

AR mode

Iteration
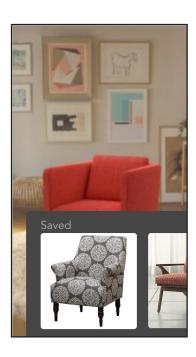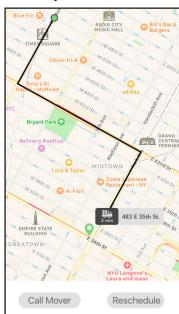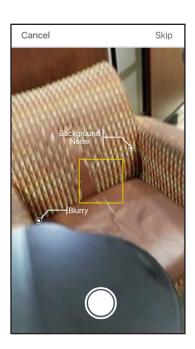
Initial Design - Mobile - Seller

After we presented to the class and discussed more, we realized that design of mobile screens for sellers didn't need to include a robust new post page and status page anymore, because we thought that a new "negotiation" feature and delivery service were more important.

New post - Add Photos	Ranking	Chat - Negotiation	Schedule Delivery
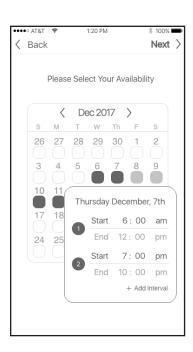
Iteration
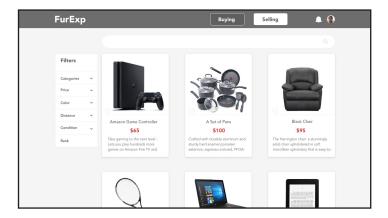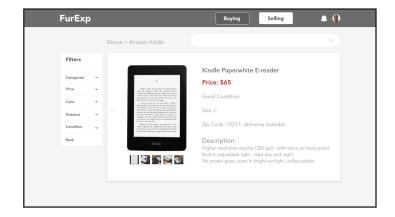
Initial Design - Web - Buyer

Finding little resistance to our web wireframe, we created a fairly similar low-fidelity initial design for our website

Browsing page
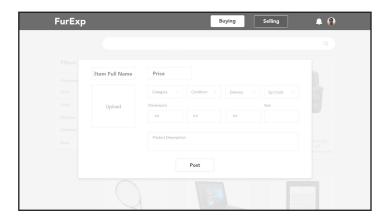
Product details page

Iteration
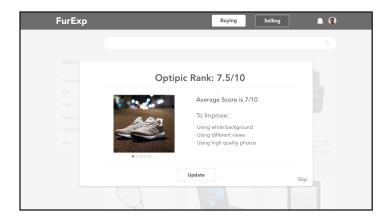
Initial Design - Web - Seller

Finding little resistance to our web wireframe, we created a fairly similar low-fidelity initial design for our website

New Post

Ranking

Status

Iteration
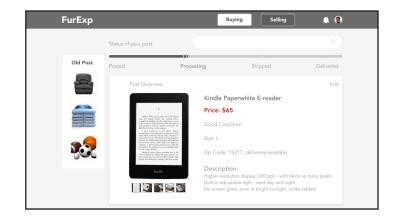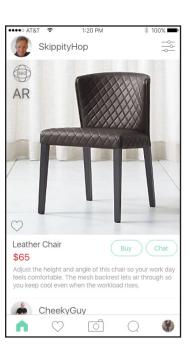
Final Design - Mobile - Buyer

After the initial design, we did more user tests. Based on their feedback, we made some changes for both interaction design and visual design
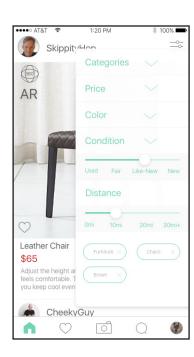
Interaction Feedback: The Buy and Chat button, and other icons need to be clear and obvious

Visual Design Feedback: The color needs to be changed since the dark grey is too dark and boring

Chat

Delivery Status
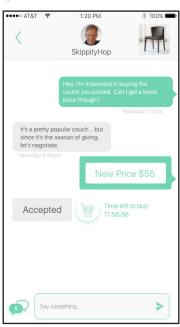
Browsing page

Category page

AR mode

AR mode

Iteration
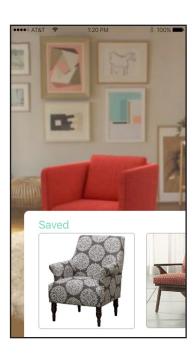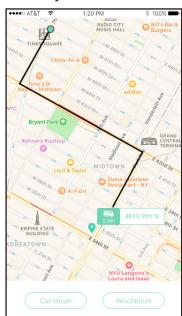
Final Design - Mobile - Seller

Changes for the seller screens:
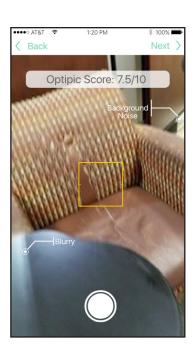
Interaction Feedback: Need to include "Back" and "Next" buttons to clarify flow in between screens. This proved to be dramatically more effective in flowing between different app functionalities

Visual Feedback: Standardize the shape of the buttons to allow for similar perceptual affordances across different parts of the app, and different viewing platforms
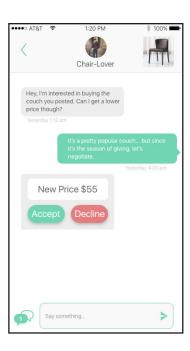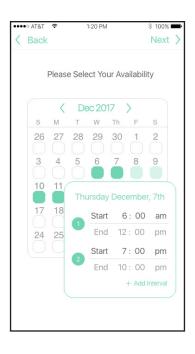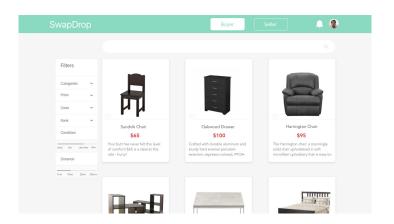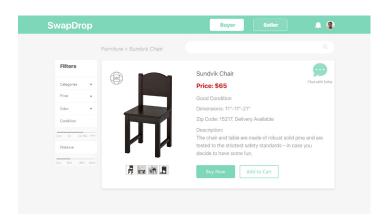
New post - add photos

Ranking

Chat

Schedule Delivery

Iteration

Final Design – Web – Buyer

Changes we made:

- Enhanced the details of the condition & distance filters, changed them to sliders and made them more visually appealing

- Added a more obvious chat button on the details page next to each product

- Added a 360 degree view as a popup, to see the product in better detail
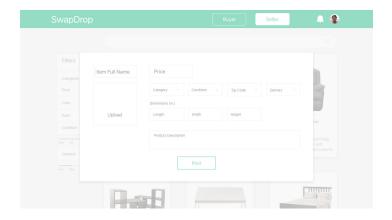
Browsing page
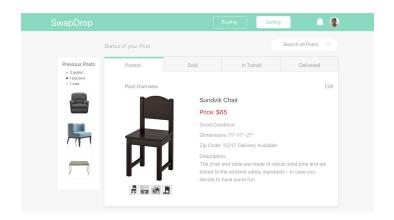

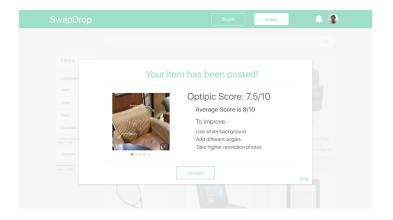Product details page

360 View

Iteration

Final Design - Web - Seller

Changes we made:

- Status bar: showed how the availability selection feature works. Sellers can put their specific availabilities on the calendar. The matched availabilities will show a darker green on the calendar. After this is submitted, we changed the next status state from "In Transit" to "Pending Approval" for the buyer's schedule

New Post

Ranking

Status - Posted

Status - Sold: Schedule