



TigerThrift

Product Evaluation



Testing

Internal Testing

We used print statements at important steps as we were writing to internally test the input and output of functions, and identify errors, especially with database functions. We used try and except statements printed all exceptions to standard error, which allowed us to immediately identify errors.

To write database functions that executed SQL statements, we would first verify that the SQL statements were behaving as expected in the Heroku Postgres command line client. Then we would test the functions written on their own in a python session, before then integrating them into our main app.

We tested our application for the case when the database_url was improperly set, simulating a database connection error. We also tested our application when SendGrid was unavailable.

White-Box External Testing

Some boundary testing that we performed included trying to submit a form multiple times in a row by reloading a page. We also tested the outcome of trying to upload 5 photos (greater than the maximum 4) to an item upload or leaving inputs empty or really long (greater than maximum characters). These tests did not successfully submit a form, or were prevented, which is what we would like.

Other boundary testing included viewing app behavior when a user has no sold/purchased/selling/reserved items, when there are no results given a search or filter, and when a user doesn't provide a phone number. In all of these cases, a correct message confirming that there are no such items is displayed on the page to inform the user.

Black-Box External Testing

Some use-case testing that we performed included testing the process of deleting an item that had just been reserved, reserving an item after it had been deleted, completing a sale after the reservation had been canceled, and reserving an item that someone else reserves around the same time. All of these display the correct error messages and do not make mistaken changes to the database.

We path tested and enlisted our users to path test all possible routes and make sure it behaved as expected. We also encouraged some previous COS333 students to break things in the website. We also made similar attempts to make user-errors, submit uncompleted forms, use back arrows, place incorrect input into forms, visit



nonexistent item details pages, visit unauthorized pages, and attempt cross-site scripting attacks.

Known bugs:

- When a user uses a browser back arrow rather than the “go back” button to the “shop” page, we have the page reload to keep the items updated, however this means that the previous search isn’t saved.
Sometimes, our “go back” button will take a user back to the last visited page (as long as it’s an accessible one). However, if a “go back” button is pressed from one page to the last page, and then pressed again on that page, the second “go back” will not take a user back to the page they were on before that page in the past, instead it will take the user to the page which they were just on.
Ex: user goes page 1 → page 2 → page 3. Then on page 3 the user presses “go back,” the user will go back to page 2. Sometimes, the user then presses “go back” again, and it will take the user to page 3. Some work-arounds we have are to redirect to shop instead, such that shop → details → edit works backwards. However, myselling/active → details → edit does not work.
- We are also aware that though the user can use the ‘tab’ key to tab through the input boxes in the form on the ‘Sell’ page, the tabbing will not update the color of the input now being focused on (the form input box remains bright blue on the old text box that was clicked on, not the newly focused form input box). This is due to how we implemented this color change; the color changes based on the click on the input. Though we recognize that this is a bug, we decided that it would be best if we did not try to fix this and potentially cause more bugs.

Fragile Aspects of Our Product

Our product does not have apt input validation (for phone numbers) or moderation of posts in general. While we will continue monitoring the page to moderate and delete any posts that are not clothing, inappropriate, or offensive, we would have to directly delete people from the database. We do not have a quick ability to blacklist users.

Our product is sometimes slow under-stress, our app makes connections to the database often, which adds time. In addition, we have error handling in place for when many users are on our application at the same time. For example, when a user clicks reserve on an item (that they can still see) that has just been reserved by another user, they won’t be able to reserve it. Instead, they will get an error page showing that it has already been reserved. We recognize that this is a fragile aspect since the ability for a user to even see the item is inconvenient for that user.



If the processing tier is unable to connect to SendGrid to send emails, it will try again. If it cannot complete the email the second time, the user will not receive a confirmation email and the website will alert the user to contact us. We would then have to send a confirmation email randomly, or the user will have to get the information about their seller/buyer from their myselling/myreserved pages.

Robust Aspects of Our Product

Our database functions have strong error handling, and database error handling is robust; error pages will be displayed and have descriptive error descriptions. When the database functions are not behaving properly, or there is an issue trying to connect, the app will not break.

Our app is secure: post requests prevent anyone from directly editing, reserving, selling, canceling, or deleting with a url get request. Users must be authenticated to access main parts of the app, and users cannot view other users' information other than netid. Our app is secure against SQL injection attacks because of prepared statements, and it is not to our knowledge vulnerable to CSRF or XSS attacks.

Evaluation by Users

We conducted user interviews on the beta version of our application with more than 10 people. Through these interviews, we received a lot of feedback.

Our task list as well as our notes from the user testing sessions are appended at the end of this document as Appendix A and Appendix B

(We have listed the user testing participants as person A, B, C, etc. for their privacy.)

Some positive feedback and observations that we noticed during user testing were:

- People were very pleased with our simple, minimalistic design.
- When logging onto our application, our users were quickly able to figure out the actions related to each of our pages, and did not have any trouble navigating through the website. We were happy to see this since the goal of our simple header names were to make the navigation process easier for the user.
- Users appreciated the motivation and concept behind our application. This was very happy to hear because we wanted to create an application that students would find to be helpful and that there would actually be demand for.
- Having the different pages under the 'My Account' tabs is nice because it helps make the process of keeping track of your listings and reservations easier.

Some suggestions that we received about our application were:

- Emails should be more detailed so that they convince users to take action



- We took this suggestion into account and made our emails more detailed!
- Add confirmations to actions, such as the confirmation message to ask if you want to reserve
 - We took this suggestion into account and added confirmation messages not only for reservations, but for other actions such as deleting an item
- Should consider adding “My” to the tabs under ‘My Account’ in order to emphasize that these tabs under this larger ‘My Account’ are all items related to the user.
 - We had originally started off with having ‘My’ on all of the pages under ‘My Account’, but had removed it since we had felt that it could potentially be a bit repetitive. However, after receiving this feedback from users, we decided to put the ‘My’ back again, making the purpose of these tabs clearer to the user.
- The seller should be the only person who see the ‘complete sale’ button because they are the ones who are selling the item
 - We took this suggestion into account and removed this button for buyers.
- The search bar is a bit hidden and easy to miss the first time a user opens the website
 - We took this into consideration and re-designed the search bar so that there was a magnifying glass to signal that it is a search bar, in addition to changing the text to be blue and adding autofocus on it (which makes the text bar flash, suggesting to the user that they should type in the search bar).

We would like to add that we believe that our user testing does not end here; as more users use our application, we are sure that we will receive more feedback as to what works and what does not, as well as how we can improve. Therefore, we created an anonymous Google form specifically for user feedback (listed on our ‘About’ page), and we hope that we can continue to make improvements on our application.



Evaluation by Experts

We evaluated our application using the 10 heuristic evaluations from Jakob Nielsen discussed in lecture:

1. Visibility of system status

Our application has various messages and visuals that tell the user about the status that our application is in, keeping them informed within reasonable time. Some of the main examples of these messages are shown in the table below.

| | |
|---|---|
| Loading status on the 'shop' page The "Loading..." helps inform the user that the website is working, and that the delay in the item search results not showing up is just due to the time it takes to connect to the database and display the search results. | <div><p>Browse Items</p><p>search by item name here</p><p>Loading...</p></div> |
| Messages if nothing is found We have messages throughout our website that tell the user if there were no items found with the filters you selected or based on the category of the tab. The message varies depending on where this message is shown since each message is specified to explain in context of the situation, but a screenshot of a message on the Browse Items page is shown to the right. | <div><p>Browse Items</p><p>search by item name here</p><p>Filters ▾ Sort By: Newest to Oldest ▾</p><p>No items found with the filters you selected.</p></div> |
| Gives error messages We have error messages that describe if a user has encountered an error with the application. The screenshot to the right shows the error message shown if a user tries to reserve an item that has already been reserved (only possible if the user refreshes the reserving confirmed page after they reserved the item). | <div><p>Oh no! An error occurred.</p><p>Item has already been reserved.</p><p>browse items</p></div> |



Gives success messages

In addition to the error message, we also have a success message that informs the user that their action has been successfully taken. This is important so that the user is not confused about whether their action was successfully completed or not. The screenshot to the right shows a success message shown after successfully reserving an item.

You successfully reserved Red Flowery Top

An email notification was sent to you and the seller.

[view reservations](#)

[cancel reservation ✖](#)

2. Match between system and the real world

Our application matches the user's language, as we call the tabs using short, simple words such as 'Shop', 'Sell', 'About', and 'Tutorial'. We decided on these terms about looking at other popular online clothing websites, both thrifting sites and not, and thinking through what was most easily interpretable for a first time user. We also took this into account when doing our user testing, we made sure to ask for feedback about the tab names and whether there were any tab names that were confusing for the user.

In addition, the preset options for item categories such as "Type" of clothing and "Subtype" of clothing match the real world categories of clothing, tested by our users. This way, a user uploading an item is not confused by the categories used to describe their item on our application.

We also reflected the real world by not restricting certain types of clothing by Gender. Instead, we added Clothing Gender (3 categories: women's wear, men's wear, and unisex) as a separate field, and placed no restrictions on the types of clothing that could be selected with any gender.

The ability for a user to select a price flexibility option also matches the real-world negotiability of prices, as this allows the seller and buyer to negotiate with each other, and it ensures that the seller is realistic about the pricing.

As an example of a match between the system and the real world given a technical feature, the filters are select elements connected to JavaScript, but we coined these as 'Filters' on our 'Shop' page, which is what is called in the real world. Some other examples include using the term "Create Item" instead of using the more technical term of adding to the items table in the database, and using the terms 'Complete Sale' to discuss the action of changing the value in the action column of an item to 0 in the database.



3. User control and freedom

We ensure that the user is able to leave states that they do not want to be in by having various undo buttons for their actions. These actions are clear to the user, as we make buttons specific for these actions, and we place these actions on the item cards themselves and on the item details page for the specific item. We do this to ensure that users can:

- Cancel reservations if they accidentally made a reservation
- Edit an item if they would like to make a change in the item details
- Delete an item if they no longer want to sell an item

Users are also able to easily move between pages if they accidentally go to the wrong page, as the navigation bar is always at the top.

4. Consistency and standards

We made sure to use the same phrases and terms throughout the website to make sure that the user does not become confused about what we are talking about. For example, we made sure that we used the term 'item' for any piece of clothing that is listed on the website, and we always refer to the different pages on the website by the header names that we created for each page. We also ensure that these naming conventions are used throughout the error messages, confirmations, and email notifications that we send out.

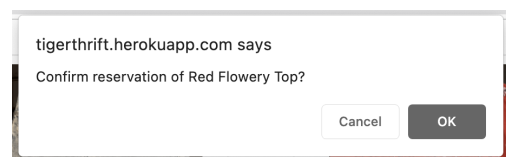
We also made sure to follow online shopping platform conventions, including but not limited to having a search bar, filtering and 'sort by' features, having a 'more details' page with additional information about an item, and having an about page.

In terms of the design, we made sure that the various elements maintained similar design throughout the website. For example, the item cards are colored and formatting in the same way across the different pages (the inside content included on the card changes based on the context of the page), and the dropdowns ('Filters' on the shop page and 'My Account' in header) also used the same design.

5. Error prevention

Confirmation statements

We have confirmation statements to confirm the action of the user for actions that will send emails to the other person involved in the transaction (buyer / seller). This is in case the user





| | |
|--|--|
| accidentally clicks on a button to perform certain actions, such as the 'reserve' button in the 'Shop' page (shown to the right). | |
| Required inputs on 'Sell' page <hr/> We made all inputs (except the phone number and the 3 additional images) to be required inputs on the 'Sell' page, as we did not want the user to submit the form without all of the item details required. This is important for our end as well, as this ensures that our database is not filled with incomplete items. | |
| Type is specified in certain inputs <hr/> For the 'Price' and 'Phone Number' fields, we decided to specify the input type to be digits. Therefore, if a user tries to type | |

6. Recognition rather than recall

Our application minimizes the need for the user to recall any previous actions that they have made on our application. Under the 'My Accounts' tab in the header, the user has access to all of the different actions possible with a certain item on our application, allowing the user to sort through the actions that they have taken on the items. This helps avoid the users from having to keep track of all of the transactions that they are (and did) taking part in.

We also save the phone number that the user has most recently inputted so that they do not have to re-input the phone number every time they sell a new item; we did this for the phone number only because the phone number would be an input on the field that most likely would not change across different items that they sell.

Our application also saves the buyer and seller of each item, and provides this information to the buyer/seller of the item, so that the buyer/seller does not have to keep track of this.

Finally, our application also has a tutorial page so that the user can get some guidance on how to use our application in the case that they are confused, and in the last case, they can contact us through the email listed in the about page.



7. Flexibility and efficiency of use

Our application has various features that allow first time users to flexibly and efficiently use our platform. First off, logging on to our application is quick and only through CAS; therefore, the user does not need to do extra steps, such as creating an account, in order to get started. In addition, the searching, filtering, and sorting functions allows for users to quickly identify a desired item if they have a specific desired item in mind. If the user would rather browse casually without using such features, they also have the ability to just scroll through all of the items, adding flexibility to their actions.

Predetermined options for categories like type, subtype, and size allow for easy selection of information about an item, making selling an item quick and easy. If there is more detailed information that a seller would like to include, the text area input for “description” allows for a user to add additional information to their desired depth. The existing categories are tested by our users, and we have the ability to add an additional options category later if we find one that describes items that couldn’t be described using existing options.

Pre-set input of the phone number for selling an item allows the user to not have to repeatedly input the same information. In addition, the edit button on an item that a user is selling also allows the user to update items without having to delete and re-input information in order to re-sell an item that they may have accidentally deleted, providing efficiency to the user.

In terms of the website layout, the quick tabs to shop, sell, and my account pages in the header allow the users to quickly access desired information with a click. In addition, the success pages provide buttons that suggest next pages that the user can visit, allowing the user to navigate through the website without having to find the next steps themselves.

In addition, the email notifications and reminders that we send out encourage sales to be quickly completed, and links in the email templates allow for quick access to important website pages, and email seller/buyers easily.

We provide a ‘tutorial’ page in case the first time user has no idea where to start; this page lays out the basic steps required for the user to know about in order to use our platform.

8. Aesthetic and minimalist design

Our application makes sure to not overload the user with too much information; we present only necessary information to the user for each page.



For the header, we decide on one word terms (except the tabs under ‘My Account’) for each of the tabs to a different page. This was to not only make the header simple and minimalistic, but also to make the main action of each page to be very clear. The reasoning as to why we added ‘My’ to the tabs under ‘My Account’ was because we received feedback during user testing in regards to the tabs being a bit confusing without the ‘My’. We believe that adding ‘My’ still maintains the simplicity of the headers, while adding more value to the naming of the tabs to ensure that users are not confused.

We also created a page for each of the actions that can be taken on our application so that we could reduce the confusion that could arise from a crowded page. By focusing on one action (for example, selling an item on our ‘Sell’ page), we are able to reduce the amount of content contained in a certain page, helping prevent over flooding of information to a user.

The error and confirmation messages that are shown to the user also follow this design of being minimalist. This is important so that the user sees the most relevant information and that other less-important information does not take away the presence of the error/confirmation message that we want the user to focus on.

In terms of the colors scheme, we only use a few colors; we use black and blue text on top of the white background. This allows confusion caused by the use of different colors, and the simple use of colors also allows the important information on a page to be clear to the user. The use of simple colors was on purpose, as we hoped that this would give our site a clean look, and be easy to use for many people. In addition, this simple look is a minimalistic design that has been very popular these days – we hope that design will attract more users to our application.

9. Help users recognize, diagnose, and recover from errors

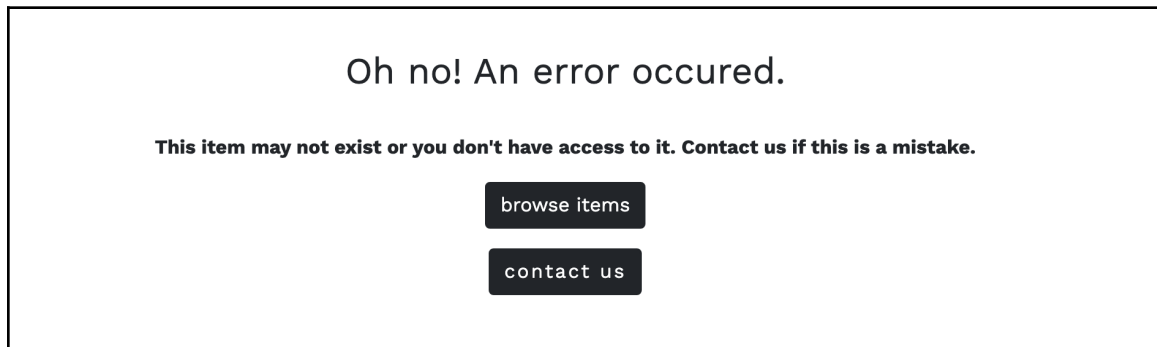
Our application also helps and supports users to recognize, diagnose, and recover from any errors that they may encounter.

We have error pages that include a descriptive error message; the error messages describe the error in detail (to the extent that the user should know about) and encourage the user to try the action again, if it is an action that can/should be repeated. We also encourage the user to contact TigerThrift if the error persists, so that they know that they can reach out to us if something is not working.

An example of such an error message is shown below. This is the error message when the user tries to access the details of an item that doesn’t exist



by changing the itemid in the url. In this case we changed the url to end with “/itemdetails?itemid=955” – which does not exist at the moment that this documentation is being submitted (Dec. 14, 2021).



10. Help and documentation

Though we hope that the user does not need any help or documentation in order to use our application, we do provide the ‘Tutorial’ page (which can be accessed from our top navigation bar) that they can look through to learn the main components of our application. In addition, if they do have additional questions, they can reach out to us through the email address on our about page. In addition, as discussed previously, our error messages encourage the user to contact us if there is a mistake / a problem that they are encountering so that they can receive help as soon as possible.

Appendix

Appendix A: Tasks Assigned during User Testing

Task 1 (Logging in):

Login to TigerThrift (<https://tigerthrift.herokuapp.com>).

Task 2 (Browse and Reserve an Item):

Explore and click around the ‘Shop’ page. Browse through the items found, and feel free to click on any of the buttons.

[After observing them explore the page, continue on.]

Find an item you like and reserve it.

- Did you receive an email that confirms your reservation?
- Does the email make sense? Would you want more or less information in the email?
- Was the process of reserving an item straightforward?
- Tell me about any unexpected features, if any, on this ‘Shop’ page.



Task 3 (Sell an Item):

Go to the 'Sell' page and upload an item of clothing.

[After observing them upload an item, ask the below questions.]

- Was uploading an item straight-forward?
- Did the drop-down options sufficiently describe the item?
- Did your upload succeed?
- Was the process of uploading an item smooth, and did it work as expected?

Task 4 (About/Tutorial):

Explore the about / tutorial page.

- Did you stay logged in as expected?

Log out of your account, and then log back in.

- Was the behavior as you expected? Did it properly log you in?

Task 5 ('My Account' tab):

Click through the different tabs available in the 'My Account' header.

[After observing how they navigate, ask the below questions.]

- Do the naming conventions make sense?
- Are there any tabs that are confusing?
- What are your thoughts on the tabs being separated into the status of the item (reserved, active, etc.)?

Task 6 (edit an item):

Try editing the details of the item that you just listed.

[Observe how they navigate the page, and then ask the below question.]

- Was it easy to figure out how to edit your item?

Task 7 (delete an item):

Now try deleting the item that you just listed.

[Observe how they navigate the page, and then ask the below question.]

- Was it easy to figure out how to delete your item?

Questions to ask about Feedback on Experience:

- What did you like about the experience of shopping / selling items on TigerThrift?
- Were there any wording / buttons / pages on our website that was confusing?
- What paths were unexpected? What paths were confusing?
- Any features you wish were included in the website?



Appendix B: Notes from the User Testing Sessions

Person A

Notes:

- Liked the clear “bare” UI, easy to navigate and simple operations
- Liked profile organization, thought it was easy to keep track of listings and reservations, self-explanatory
- Error occurred when trying to edit an item (this was fixed later on)
- Likes reservation system and not having to make a monetary commitment before seeing the item

Feedback:

- Brought up potential struggle to moderate/force action on a buyer or seller who goes MIA during a reservation period or how to prevent the potential for a listing to sit on reserved status indefinitely unless fund withholding is involved
- Might be good to incorporate payment into app in future iterations

Key Takeaways:

- Good UI/ front end design
- Fix and handle errors, even ones that could stem from database connectivity issues
- Hope that emails will provide enough of a nudge for users to take desirable actions (in terms of completing their reservations in time). Once we launch, determine if we are seeing handfulls of reservations sitting idle past the three day time frame and then determine how to moderate, and if incorporating payment would be the best way.

Person B

Notes:

- On the shop page, indicate if an item is one that you’re selling
- Preserve newlines in details
- Error occurred when trying to reserve item
- Fix links in email

Feedback:

- Looks nice
- Edit emails a bit
- Make clearer when an item is sold by you

Key Takeaways:

- Add extra buttons on shop page for items sold by you
- Fix email links

Person C and Person D

Notes:

- ON reserve, make “are you sure you want to reserve?” popup



- Click on picture to see a bigger picture or a quickview (quickview should
- Click picture on the details page for bigger version, carousel
- Default phone number is None (make xxx-xxx-xxx)
- Input validation for phone number-- is it a valid phone number
- Make description on details a box
- Phone number input field in edit should save
- Phone number displays as none on profile
- In the email link the item to its details page
- Change the filters to grab from the other filters
- Not saved as users
- Trash bin on edit page
- Details takes you back to browse
- Ability to show four photos,
- Upload thing should grey out
- Wrap description
- Cancel reservation accidentally routes to complete reservation
- Put a dollar sign before the price on the price (bootstrap thing)
- Price negotiable capitalized
- Filtering not working, its a case issue in Type, Condition, gender, color, only brand works
- Make case insensitive search
- When you dont search
- Click details, goes back to last search if you searched something with text
- Subtype or size make required
- Sorting high to low not working
- Make clear load whole page
- Leave title not titlecase, but titlecase brand
- Put all information on details page

Feedback:

- Very nice design, few bugs
- Just the seller should have the ability to take an item down

Key Takeaways:

- Bugs to fix
- Think about who can do what action
- Design nice

Person E

Notes:

- Browsed through shop page, clicked more details
- pointed out that sizing should be on main card before clicking on details (important part of previewing)
- Sold an item



- Wanted option to see all 4 pictures displayed on shop page before clicking more details.
- Completed sale
- Helped test synchronous actions such as deleting a reserved item and reserving a deleted item. Application crashed so that exposed an area of testing and error handling

Feedback overall:

- Great concept, nice layout, expects will be popular.
- How will you stop people from selling silly things on here, how will you moderate?

Key Takeaways:

- Need to be on top of moderating. Especially items that are past reservation period
- Send out email reminders when reservation is near expiration or expired. Send out text messages too.

Person F

Notes:

- Iterated through main features of shopping, reserving, viewing reservations, selling an item, reviewing its status, completing a sale

Feedback overall:

- Website looks great. Very appealing to the eye. No uncovered errors
- Filters work and likes the reservation system.

Key Takeaways:

- Maybe consider having a cap on number of times a buyer can reserve an item just so they don't try to "cheat the system"
- Check all possible flows for any errors that might occur

Person G

Notes:

- Loved ease of navigating site and clean UI
- fast loading was a pro
- Liked email reminders. Thought it was realistic for her to email the seller if she had reserved an item
- Liked that she can upload more than 1 photo

Feedback overall:

- Sellers should put their venmos in the description box for convenience of buyer being able to pay them asap
- What happens if a buyer reserves an item and without page refresh the seller deletes it from their active items.
- Vice versa problem – handle the case where a seller deletes an item (and without refresh), a buyer reserves an item



- Handling race conditions?

Key Takeaways

- Add more of a social component
- Error handling especially for major item operations like buying, selling, deleting a listing, canceling reservation, and completing reservation if any of those two happen synchronously

Person H

Notes:

- Clicked through all main features of site

Feedback overall:

- Really likes the site overall, especially layout and design. All motivations flow really nicely
- Would like to see a confirm reservation popup after clicking reserve item just in case a user accidentally clicks it they won't get an email and have to cancel the reservation
- Pointed out a mistake in the tutorial steps for how to sell – looked like it was copy-pasted from how to buy an item
- For error handling: make sure to check that price is a number and not more than two decimal places to the right of the decimal point

Key Takeaways:

- Redo tutorial and make it more descriptive but concise. Be careful with terminology
- Error handling on price input field, make sure it is correct format
- Make sure the phone number is the correct format, integers only.

Person I

Notes:

- First browsed through items on the page
- Used various filters to see how they worked
- Didn't have a problem with figuring out what the tabs meant + where to click the card
- Wording of email template
 - Says "My Selling" but should just be 'Selling'

Feedback overall:

- Want to see the payment method on the card
- Find the phrasing of 'clothing gender' to be a little weird
 - Could potentially get rid of this category and just list the category under the product name on the more details page
 - Gender seems clear within size category already
- May be helpful to have the 'price negotiable' category on the cards on the browsing page, rather than just on the more details page



- Really like the website design! Very clean, simple, and easy to navigate!
- Romper category only for females
 - perhaps should make it men's as well (guys were wearing rompers at lawnparties)
- Took a second to figure out where the search bar is
- Could potentially be nice to search by size before choosing the type of clothing

Key Takeaways:

- Really liked the clean and simple design.
- Said that the website was easy to navigate.
- Should go back and double check all of the wording in the email templates + confirmation screens to make sure that all used the newest tab names!

Person J

Notes:

- Quickly figure out how to use website
- Simple design is nice
- Buttons are easy to figure out what they are doing / what the functions of them are

Feedback:

- Perhaps call the tab 'My shop' instead of 'Selling'
 - Selling makes it seem like it is other people's items
- Reserve?
 - Not quite clear as to what that means
- Like new?
 - Could potentially be a bit confusing
- Clicking on name takes you to main details
 - Very helpful
- Make the button so that it takes you to active tab rather than reserved tab within my selling when you make the new product
- Search bar is a bit hard to see at first glance

Key Takeaways:

- Easy to use, straightforward
- Could potentially consider different wording used on the tabs so that it is more clear to the user

Person K

Notes:

- Easy to use
- Clean minimalistic layout
- Liked reservations system

Feedback overall:



- Liked sending email feature, and confirmations
- Thought sorting and filtering made the experience a lot easier to navigate

Key Takeaways:

- Maybe add more sorting and filters – where search bar doesn't just query by item name