

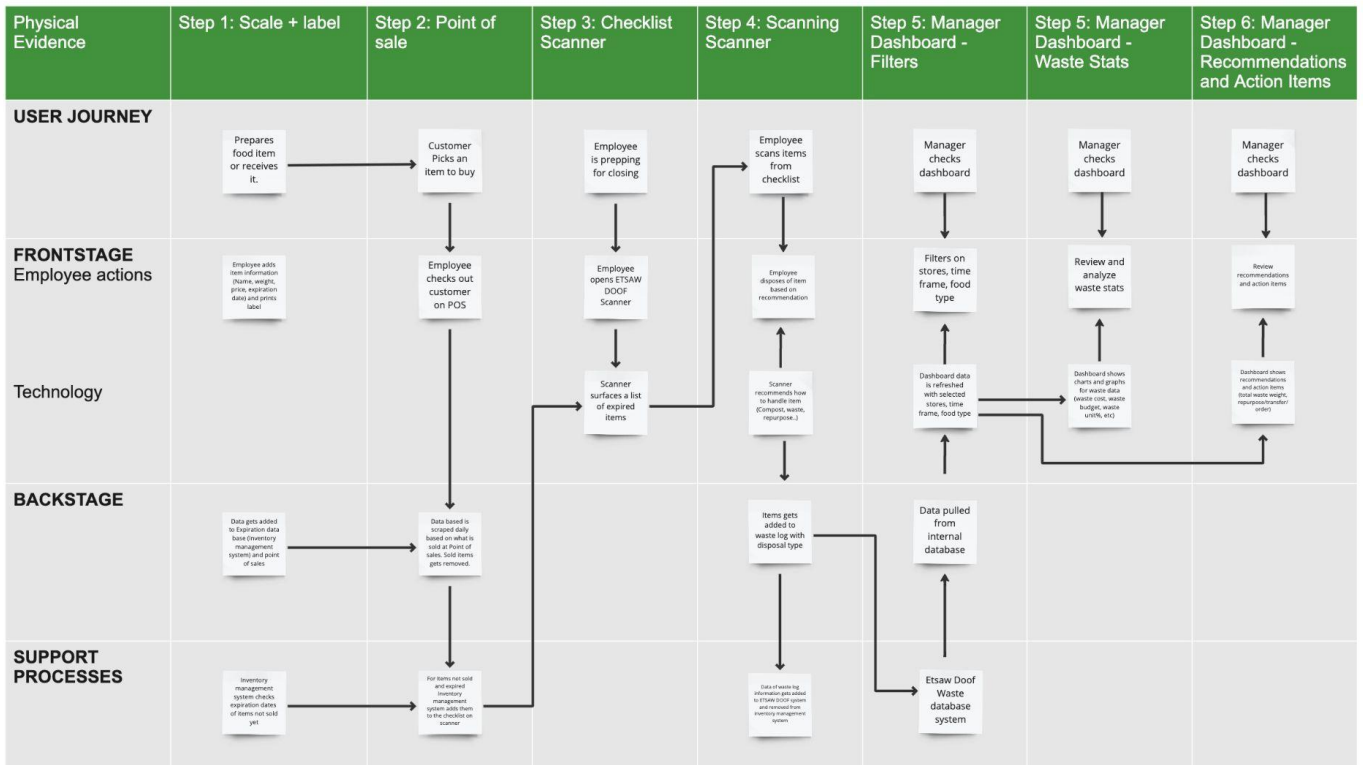
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Service Blueprint

Service blueprints visualizes organizational processes in order to optimize how a business delivers a user experience. Full resolution can be accessed [here](#).

- There are 2 user persons who are not necessarily the users choosing the system or adopting it:
 - The manager: monitors ETSAW DOOF! Dashboard and analyzes data to make informed decisions for next orders
 - Staff employee: Opens and closes the store and uses the ETSAW DOOF! Scanner to record items on the waste log.
- There's also the ETSAW DOOF! backend system that queries & pushes data from & to the scanner and to the manager's dashboard.
- The ETSAW DOOF! System integrates with both the point of sales and the inventory management systems.



Evaluation: Scanner

Brief - Scanner

- The scanner will be used by the employee at UW district markets and cafes.
- The employee uses the scanner to scan items that are expired in the store.

Research Questions - Scanner:

- How does the employee want to manage the list of items that are expired?
- What is the most important information to surface when scanning an item?
- How does the employee manage multiple items that need to be scanned?
- What information is useful to surface when all the items have been scanned?
- Is the prototype easy to use and navigate?
- What was most confusing in the prototypes?
- How would the employee use the app? Through a personal phone or through a store device?

Tasks - Scanner:

Below is a list of tasks that we designed the scanner around:

- Sign in on ETSAW DOOF! scanner
- Access the checklist of expired items by type
- Scan an item and check the suggested recommendations
- Complete scanning items by type within the checklist
- Complete the checklist and send to manager

Methods - Scanner:

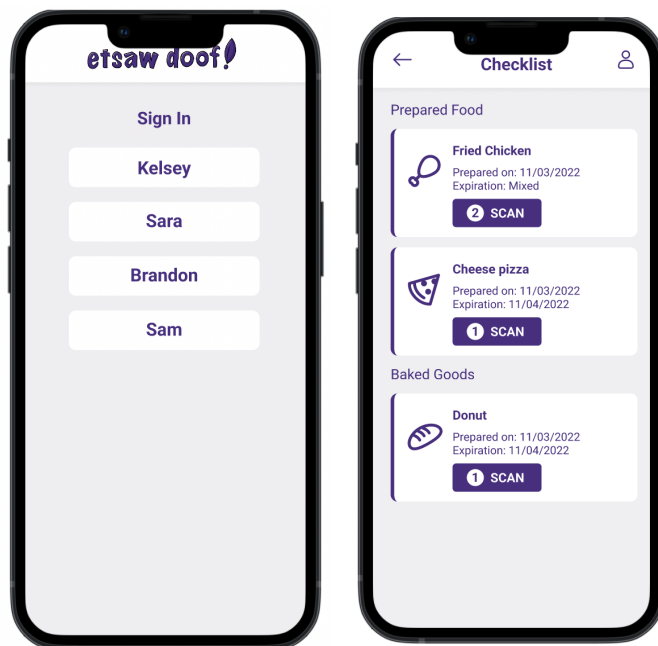
- We conducted three 30 minutes in depth interviews with the below users:
 - **Louis**, In store manager at ETC cafe, responsible for analyzing waste log and ordering items. Opens stores and trains staff
 - **Ha**, Staff member at ETC cafe and student at UW. Responsible for opening the store and occasionally logs items in waste log
 - **Lyna**, Barista at UW cafe and student at UW. Responsible for stocking items, logging items in waste log.
- We prototyped an interactive mobile app for the scanner and mirrored it on our phone.
- We made sure the prototype is interactive and the user is able to perform the listed tasks using the prototype.
- We asked the employee to speak out loud as they are using the scanner.

- We mostly listened and observed them using the scanner and asked them questions throughout their experience.

First Iterations - Scanner

Full prototype can be accessed [here](#). We recommend opening the prototype using your phone.

Entry screen + Checklist

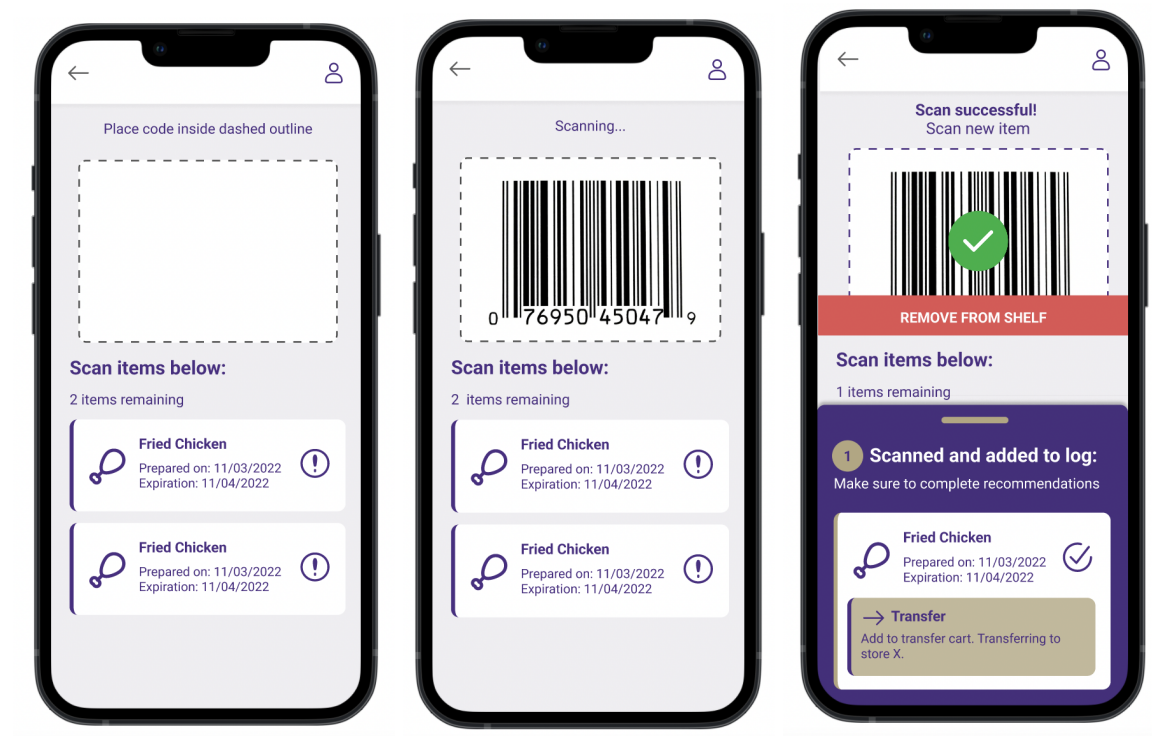


Observations & Key Findings	Notes from usability testing	Recommendations, Fixes
<p>1. All users were able to sign in and understand the checklist, however after scanning all items under one particular food type they didn't know how to navigate back to the original checklist. There was a user flow issue between scanner and checklist.</p>	<p>Louis understood that this is an itemized waste log list. He is hoping it captures both price & weight. He was very confused about the checklist and going back and forth between the individual scans and the main checklist screen, would have preferred to have it all on the scan screen.</p> <p>Ha understood that this is a checklist of items that need to be added to the waste log. She thought the categories</p>	<p>1. Instead of thinking of the scanner and checklist as two separate screens, they could be displayed on the same interface, allowing for a better user flow. As items are scanned, the prototype can indicate that with a check mark and move the scanned item to the bottom of the list.</p>

	<p>were helpful but also said it might be a long list in the scenario that there are more items to dispose of.</p> <p>Ha said that her next steps would be to click on the scan button</p> <p>Ha was not clear what the number next to scan is, when we asked her what she thought it was she said that the number of items she needs to scan.</p> <p>Lyna also likes the categories in this section because it informs her of what items she needs to dispose of and where they are.</p> <p>Lyna thought the text, “0 items remaining” on the itemized scan section below was very confusing - “Nothing seems to be scanned, there is conflicting information on this screen.” She also thought the screen that said “All Items done” was confusing. She’s confused about where she needs to go from there since the navigation back and forth to the initial checklist is not clear and she can’t remember what/if other items are on the checklist.</p> <p>Lyna thinks that when something is good to donate it should be checked (Checkmark). “Maybe you could have an open circle and then when you scan/pull from the shelf the check mark can be filled in?”</p>	
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	Lyna thinks that on the individual items screen it is unclear what to do next so there should be a button or something saying “do you want to go back”, she should be directed to the next steps.	
2. Users liked the information inside the food card but were confused on what “Mixed” meant.	Lyna mentioned that she likes the information provided on these cards, “prepared on” and “expired” however she didn’t understand what “Mixed” meant.	2. Instead of showing the exact expiration date and having to deal with multiple dates, we could display: Expired, Expiring tomorrow, Expiring soon.

Scanning Experience

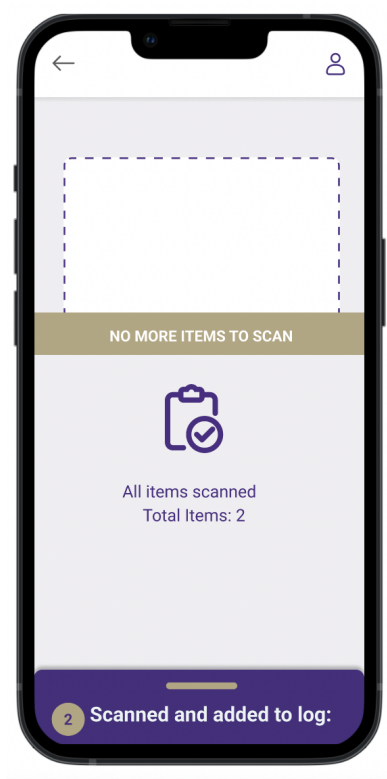


Observations & Key Findings	Notes from usability testing	Recommendations, Fixes
1. Users were confused by the amount of information	Ha Thinks that the scanned screen has too much going	1. Provide directions on what to do next and focus only on

<p>on this page especially after the scanned card pops from the bottom of the screen. Users didn't know what to do next after this screen and we had to direct all three of them.</p>	<p>on, there is too much info up front. It could be more simple so it is clear what she needs to do next.</p> <p>Louis thinks recommendations on this screen also aren't immediately clear.</p> <p>Lyna thinks the text "make sure to complete recommendations" is confusing.</p>	<p>the most important information to surface for the "Recommendations". Simplify the design of the recommendation card and offer clear next steps after scanning and displaying next steps.</p>
<p>2. The users got confused by designs on the screen and weren't sure what was a button that they could action vs. an information box. This was particularly relevant for the gold disposal recommendation button.</p>	<p>Louis kept trying to click into the compost/transfer/donate button, didn't realize this wasn't a button.</p> <p>Louis thought he was done after scanning just one fried chicken and seemed to want to add the number of fried chickens he needed to dispose of.</p> <p>Ha tried clicking on the transfer card not realizing it wasn't a button</p> <p>Lyna understood the compost instructions but tried to click into the compost button, thinking it was a CTA.</p> <p>Lyna tried tapping on the fried chicken card in the scan screen.</p>	<p>2. Redesign the "scan" cards differently than the other buttons so they are not mistaken as buttons. Get rid of the gold recommendation box so that users did not confuse it for a button.</p>
<p>3. Transferred foods are not added to the waste log and</p>	<p>Louis noted that the transfer option is not relevant</p>	<p>3. Remove "transfer" as an option on the scanner prototype.</p>

<p>are not a relevant part of the process for the UW food services staff.</p>	<p>because transferred foods don't go into the waste log, this process is also not super common (we probably don't need to include this in the prototype). He loves the compost and waste button because a lot of the foods the students aren't sure what to do with them and it can change a lot depending on where the food is from He also needs to be able to set up disposal preferences by individual items. Some have compostable packaging, some don't and he would want to be able to differentiate those</p>	
<p>4. Users were not convinced that scanning barcodes was the best way to scan the expiration date information.</p>	<p>Louis: Thinks we should use a QR code for scanning instead of a barcode scanner</p> <p>Lyna mentioned that it is hard to scan barcodes on salads. If she can't scan she will take the scan of another salad.</p> <p>Lyna also associates scanning barcodes with price/POS not with expiration date so this process isn't entirely clear here.</p>	<p>4. For the prototype we changed the barcodes to QR codes, though this may change again for the final prototype to simplify the process even more.</p>
<p>5. The person icon is not immediately clear to users.</p>	<p>Lyna asked what is the person icon?</p>	<p>5. Added a name below the person icon to remind users that they are signed into their account (and that information is being documented under their name).</p>

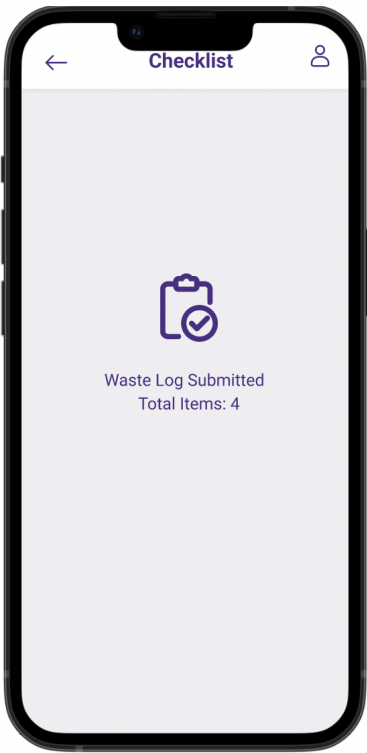
Checklist complete



Observations & Key Findings	Notes from usability testing	Recommendations, Fixes
1. After completing scanning items within one category users thought they were done with all items and their initial instinct would be to close the app.	<p>After scanning all the fried chicken, Louis thought he completed the checklist and said that he would close the app after seeing this screen. He thought that his work is done after this screen, we had to guide him to go back to the checklist</p> <p>Lyna didn't remember that she had more items to scan when she was done with the fried chicken but was curious about the back button and</p>	1. Show users their progress within the list and make it clear that they have more items to scan.

	then she clicked it to go back to the main list.	
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Summary



Observations & Key Findings	Notes from usability testing	Recommendations, Fixes
<p>1. Users would like to see a summary of the waste log and would like to send it after they view it.</p> <p>2.They also would like to have an edit amount option in case labels were damaged and couldn't be scanned.</p>	<p>Louis: He would like to be able to click “done” to submit a summary of the items. Needs this to be editable/add an item in case a student wants to add. He wants a summary at the end of the flow and needs information for managers grouped by type of food with days of the week to clearly point out weekly trends</p>	<p>1.Show a summary of items scanned and added to the waste log possibly grouped by method of disposition which might cater for users that wait till they are done scanning to arrange items by disposed location.</p> <p>2. Allow users to edit number of items</p> <p>3. Add a “Send to manager”</p>

	<p>Ha wants a summary at the end. She's not sure where all of the information went (feels like it just disappeared). Would also like a recommendation summary that she can use after scanning everything to remember where things go</p> <p>Lyna thinks the last page/screen should add info on total to donate vs transferred vs compost (recommendations for disposal).</p> <p>Lyna wants disposal recommendations at the end of the user flow.</p>	<p>button to allow users to review the waste log before sending it to the system/manager.</p>
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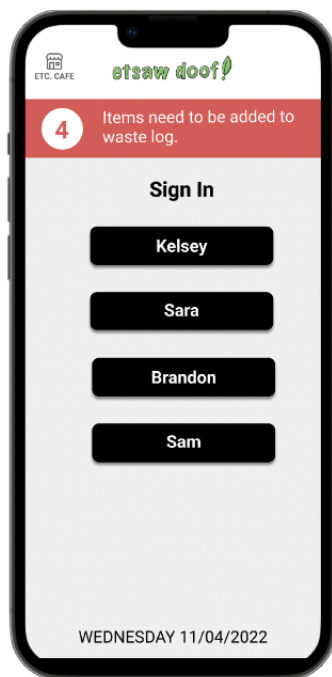
Other Additional Learnings

Observations & Key Findings	Notes from usability testing	Recommendations, Fixes
<p>1. Most users would prefer accessing the app through a device that is in the store and not through their personal phones</p>	<p>Louis mentioned that he already uses an iPad to manage the store.</p> <p>Ha would prefer a separate phone/device that is located at the store vs. using her personal device and downloading an app.</p> <p>Lyna prefers a phone that lives in the store vs. adding something on her own phone (Ex. what if her phone isn't charged?). She mentioned that this could also be an iPad</p>	<p>1. The app could be downloaded on a store's iPad or it could be a hand-held scanner that each store possesses.</p>

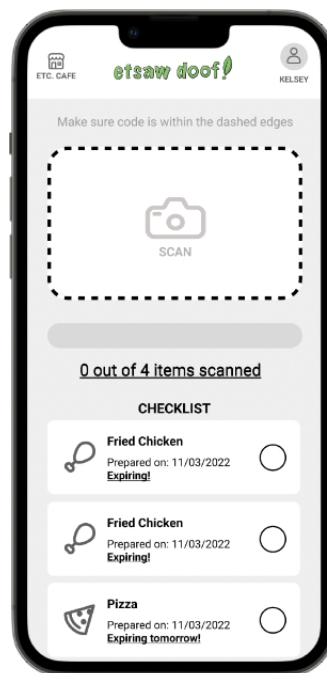
Second Iteration - Scanner

Full prototype can be accessed [here](#). We recommend opening the prototype using your phone. Click on image to view full PDF.

ENTRY SCREEN

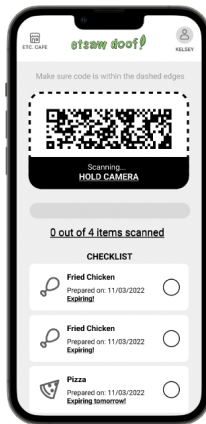


SCANNER + CHECKLIST

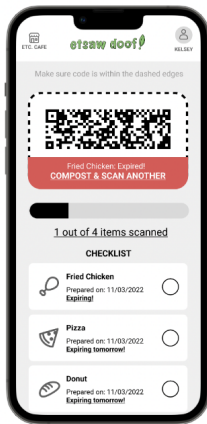


Scanning window and checklist are displayed on the same page. This way the user can see the items they need to scan.

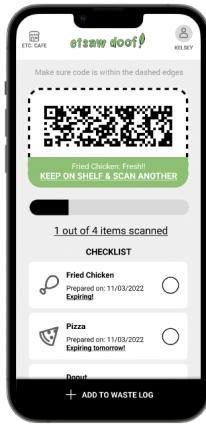
SCANNING EXPERIENCE



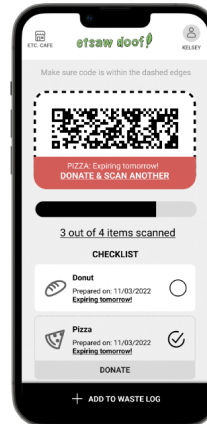
The scanner scans and checks items automatically as user scans new labels



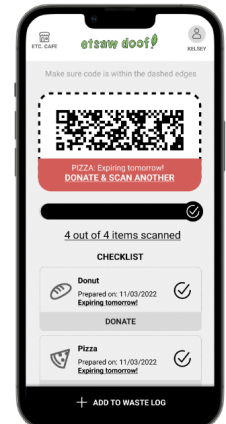
A colored background notification is displayed at the bottom of the label to tell user how to dispose and what to do next.



If user scans an item that is not expired yet, system will notify them as well. Add to log button appears when user scans one item.

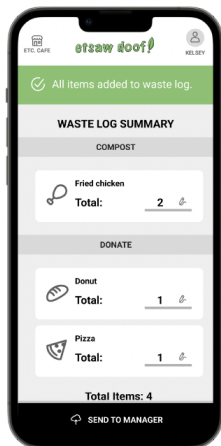


The progress bar offers a clear status on where the user is and how many items are left.

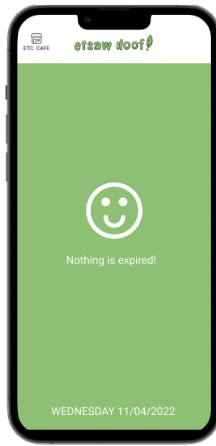


As the user scans items the check mark appears on the cards and the background color turns to grey and they are pushed to the bottom of the list.

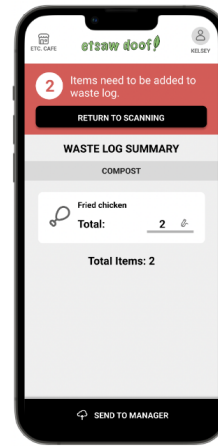
SUMMARY SCREEN



This is a complete log summary with all expired items being scanned. The user can edit numbers and send to manager when they are ready.



Once sent and there are no more items to add to waste log, a green screen will display if user access the scanner.



The user can still send the items if the list is not complete. we designed it that way to mitigate to their busy workflow. A lot of items the employees are interrupted mid way in the process of doing things by customers.

Evaluation: Manager Dashboard

Brief - Dashboard

For building and testing the usability of our manager dashboard, we began by asking two UW Market managers about the metrics that they cared about the most when it comes to food waste in their stores. From there, we built an initial prototype dashboard with basic data visualizations and metrics. Next, we tested the usability of this static first iteration with the manager of District Market via a Zoom call and took notes. We used the feedback to develop a second iteration.

Research Questions - Dashboard:

- What are the most important metrics to track?
- Of the important metrics, how should they be prioritized in the dashboard?
- What is the ideal way to create a to-do list for managers?
- What data visualization tools are most useful to managers?

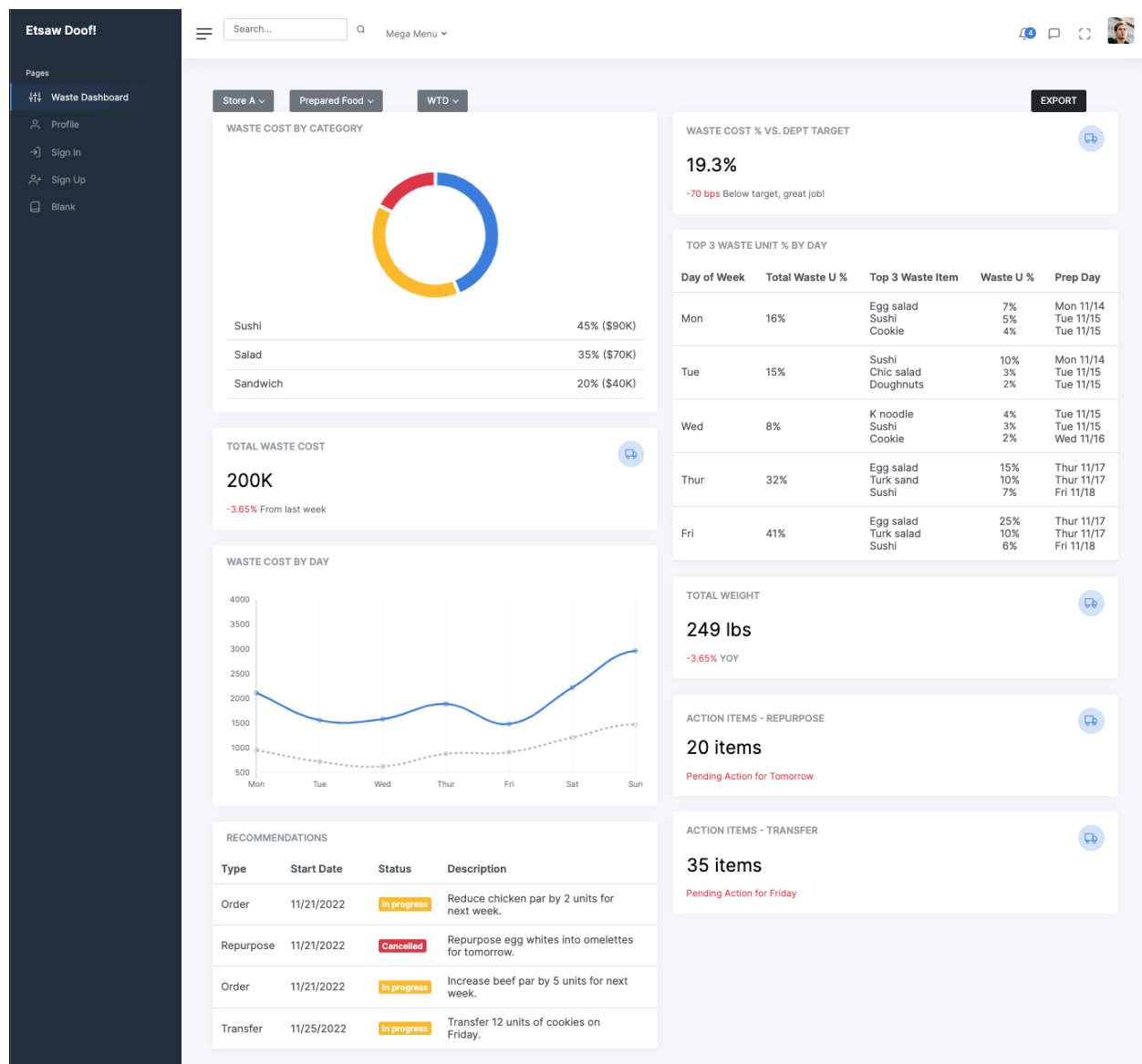
Tasks - Dashboard:

- Log in
- Analyze data and observe trends
- Prioritize and act on to-do list

Methods - Dashboard:

- 20-minute virtual usability study with the manager of District Market, Kiel Turner.
- We virtually shared the dashboard, and asked how he would use the data and evaluate how useful different data points were.
- We had him walk through what the ideal dashboard would look like and took those learnings to update our prototype.

First Iteration - Dashboard



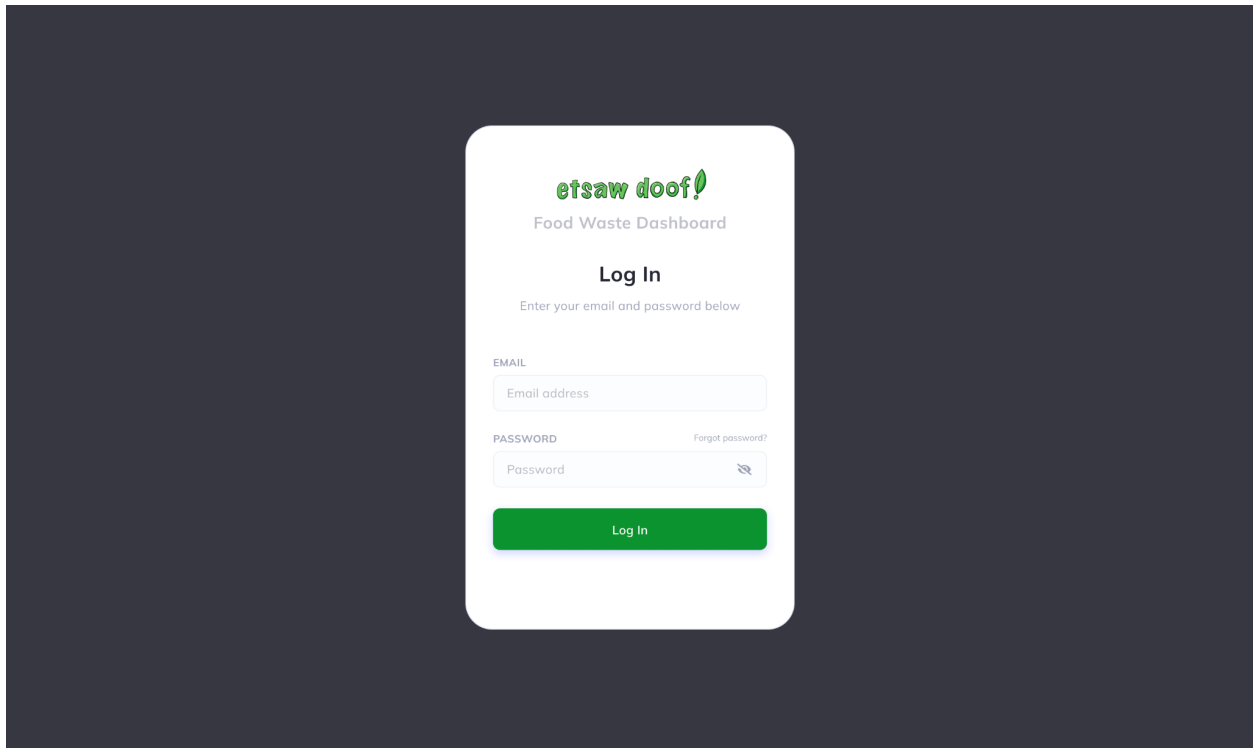
Observations & Key Findings	Notes from usability testing	Recommendations, Fixes
<p>Users want clear and simple metrics that immediately communicate the information he needs to see.</p>	<p>Kiel is interested in the following key metrics on a weekly, monthly, quarterly, and annual basis:</p> <ul style="list-style-type: none"> Cost of food waste (primary) 	<p>1. A clear, single metric within the circle that shows the overall cost of food waste and how it compares to the previous period</p>

	<ul style="list-style-type: none"> • Cost of food waste as a % of cost of goods • Waste rate by item (% of prepped items that were wasted) • Volume (weight) of waste (lowest priority) <p>Kiel was confused by the circle visualization as it did not have any clear numbers or metrics to accompany it.</p> <p>Kiel felt there were too many numbers and text and not enough quick visualization tools - he wanted something he could look at quickly and not have to read so much..</p> <p>Kiel wanted to clearly see a week-over-week comparison for the cost of food waste overall - the categories were not as important.</p>	<p>2. Reduce the number of individual charts within the dashboard from 9 to 5 to simplify the experience</p> <p>3. Highlight the top wasted food item at the top</p> <p>4. Turn the waste frequency table into a bar chart to easily see trends and highlight the top wasted items based on severity.</p>
<p>Users want more clarity and usability around specific action items for the disposal recommendations on the dashboard.</p>	<p>Kiel was unsure how the "Action Items" on the right were related to the "Recommendations" list and did not like how these were broken out and seemed too "vague".</p> <p>Kiel was unsure how he could "check things off" of the "Recommendations list".</p> <p>Kiel wanted the dashboard to notify him of when he would need to schedule a Food Pantry pick-up, as the</p>	<p>5. Highlight the number of items scanned for donation and add an alert to notify when to call for a pick-up</p> <p>6. Break out the to-do list on a completely separate tab with more specific details on each task with the ability to prioritize and "check things off". Provide a preview of the most recent tasks in the overview tab.</p>

	<p>storage space in his walk-in fridge is limited.</p> <p>Kiel wanted to see additional details around the recommendations - felt they were too vague and “could not be actioned”.</p>	
<p>Users want more detailed information about waste volume and where that waste is going.</p>	<p>Kiel was unsure how to use the “Waste unit % by day” table, and found it “overwhelming”. He wanted to just see what the top item or items were for that time period</p> <p>Kiel wanted to see more information about the waste volume metric beyond just the overall number, as they need to report waste that goes to the garbage specifically (vs donations and compost)</p>	<p>7. Adjust the waste volume to make it a visualization that also breaks down the % of waste by volume that is either donated, composted, or thrown in the garbage.</p>

Second Iteration - Dashboard

Login



The image shows a login form for the 'etsaw doof!' Food Waste Dashboard. The form is centered on a dark blue background. It features the 'etsaw doof!' logo at the top, followed by the title 'Food Waste Dashboard'. Below this is a 'Log In' heading and a prompt to 'Enter your email and password below'. The form includes two input fields: 'EMAIL' with a placeholder 'Email address' and 'PASSWORD' with a placeholder 'Password'. A 'Forgot password?' link is located to the right of the password field. At the bottom of the form is a green 'Log In' button.

etsaw doof!

Food Waste Dashboard

Log In

Enter your email and password below

EMAIL

Email address

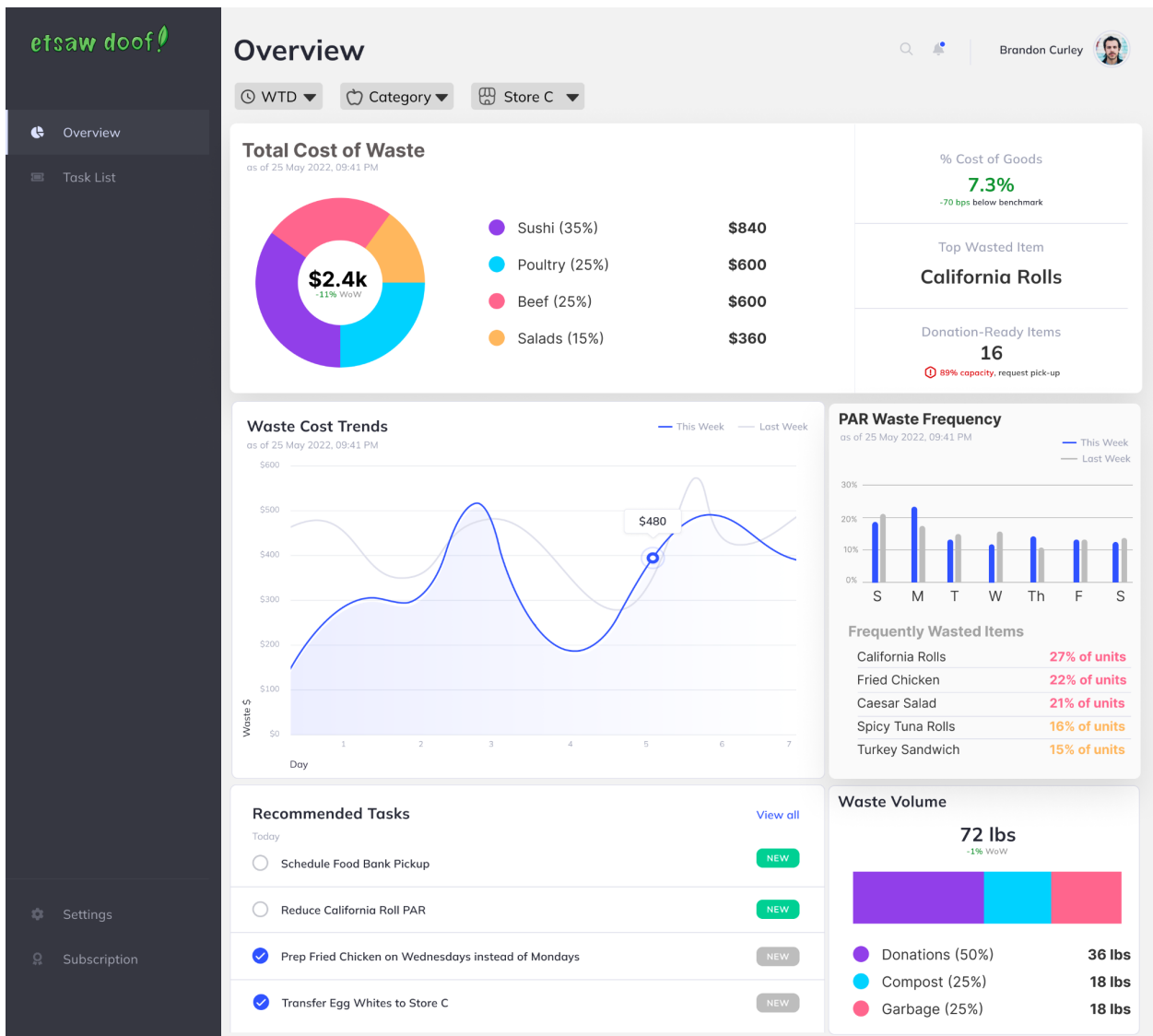
PASSWORD

Forgot password?

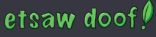
Password

Log In

Overview Tab





Tasks Tab



- Overview
- Task List**
- Settings
- Subscription

Task List




Brandon Curley

All Recommended Tasks				17 Sort	Filter
Task Name	Task Notes	Date Generated	Priority		
<input type="radio"/> Schedule Food Bank Pick-Up <small>Updated 1 day ago</small>	Donation storage space is running low, schedule UW Food Pantry pickup (206) 543-5739 or email FoodPantry@UW.edu	May 26, 2022 <small>6:30 PM</small>	HIGH		
<input type="radio"/> Reduce California Roll PAR <small>Updated 1 day ago</small>	California Roll waste frequency is above average for 4 weeks, try reducing weekly PAR by -6.	May 26, 2022 <small>8:00 AM</small>	MED		
<input type="radio"/> Repurpose Expiring Chicken <small>Updated 1 day ago</small>	10 units of raw chicken are set to expire on 5/27. Try repurposing into chicken caesar salads.	May 26, 2022 <small>7:30 PM</small>	HIGH		
<input type="radio"/> Reduce Fried Chicken PAR <small>Updated 2 days ago</small>	Fried Chicken waste frequency is above average for 3 weeks, try reducing weekly PAR by -2.	May 25, 2022 <small>5:00 PM</small>	LOW		
<input type="radio"/> Transfer Cookies to Store D <small>Updated 2 days ago</small>	Transfer 6 units of chocolate chip cookies and 4 units of sugar cookies to Store D.	May 25, 2022 <small>4:00 PM</small>	LOW		
<input type="radio"/> Increase Roast Beef Sandwich PAR <small>Updated 3 days ago</small>	Roast Beef Sandwich waste has been below average for 4+ weeks, try increasing PAR by 4 units.	May 25, 2022 <small>2:00 PM</small>	LOW		
<input checked="" type="radio"/> Prep Fried Chicken on Wednesdays instead of Mondays <small>Updated 4 day ago</small>		May 25, 2022 <small>11:30 AM</small>	LOW		
<input checked="" type="radio"/> Transfer Egg Whites to Store C <small>Updated 6 days ago</small>		May 24, 2022 <small>1:00 PM</small>	NORMAL		

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Appendix

- [Usability Testing Raw Notes - Scanner](#)
- [Usability Testing Sticky Notes on Prototype - Scanner](#)
- [Service Blueprint](#)
- [Scanner Prototype first iteration](#)
- [Scanner Prototype Second iteration](#)
- [Dashboard Prototype](#)