trashtalk: Incentivising Waste Management at CMU

"It's confusing what is compostable and what is not. Looking at all the signs only adds to the confusion." - ***Student, CMU.***

Problem: How can we make individuals realize the importance of waste management and simultaneously educate them on proper waste disposal methods?

Solution: trashtalk, an application that allows users to make informed decisions about waste management and rewards them with points if done correctly. The desktop version of the app provides users with information about eco-friendly eating options on campus and redeem their reward points.

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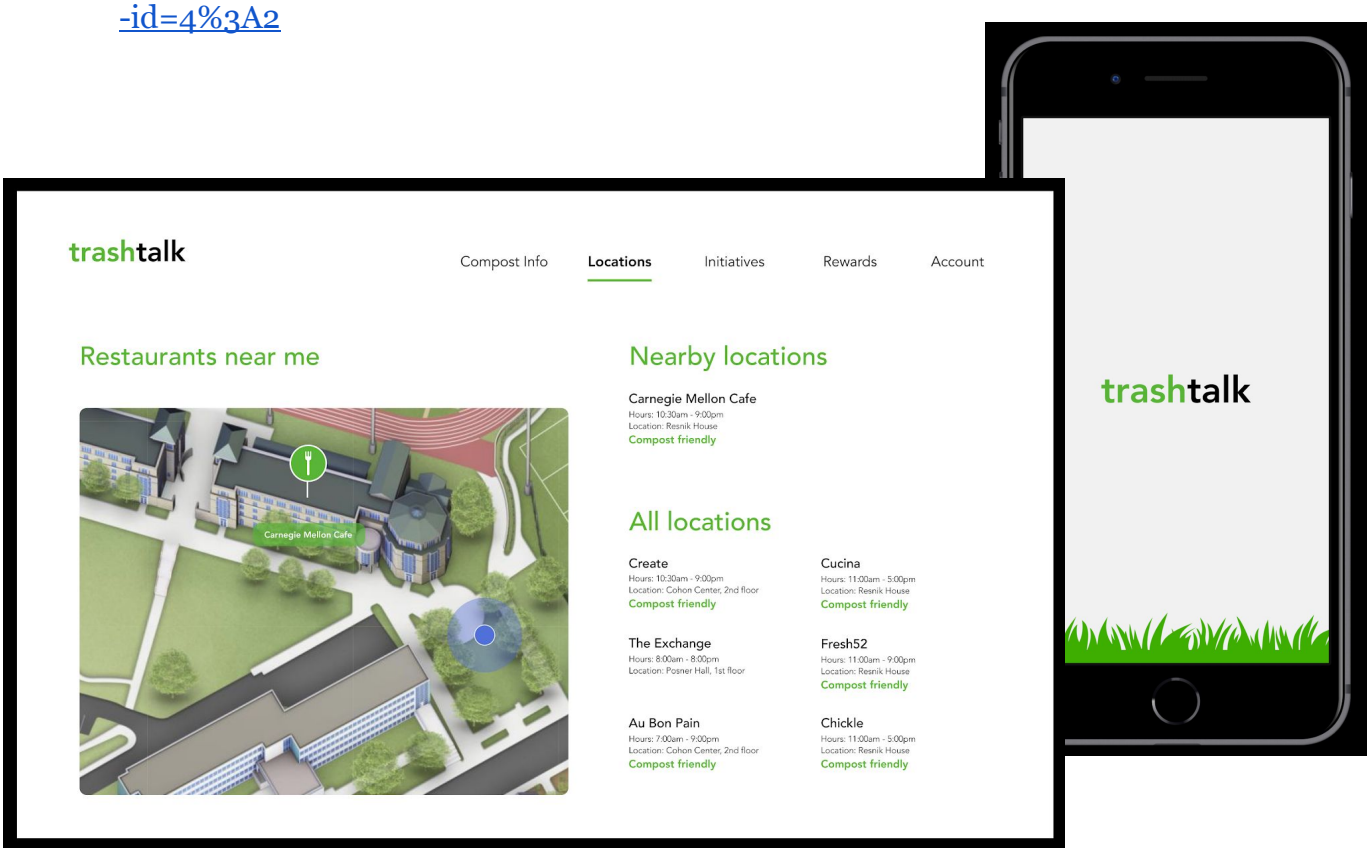
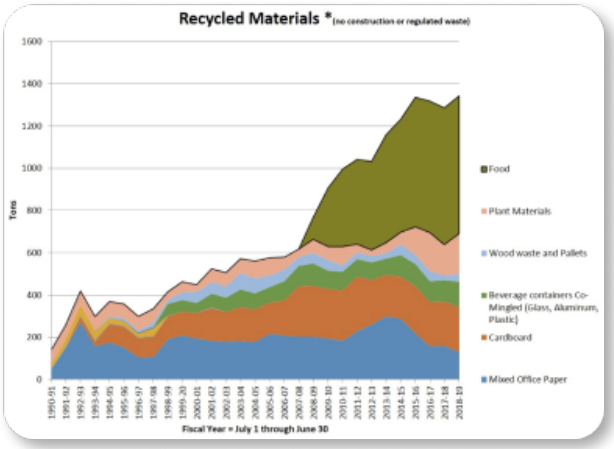
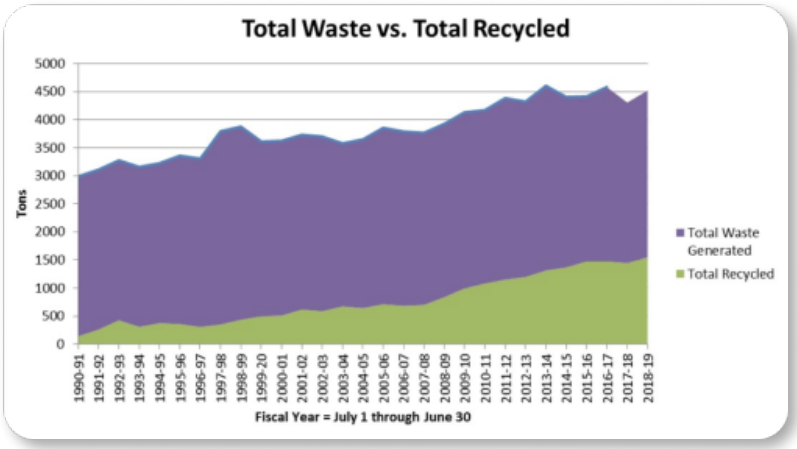


Role - UX Designer
Duration - 4 weeks
Team Members - Ben Stone, Jessica Lim, Payal Bhujwala
Coursework - Interaction Design Studio

Research

We were broadly researching on waste management learning about landfills, toxic waste, food waste, and reusing waste which kindled our interest in sustainability. As we delved deeper into sustainability, we realized we can impact deeper if we constricted our research initiative to sustainability at CMU.



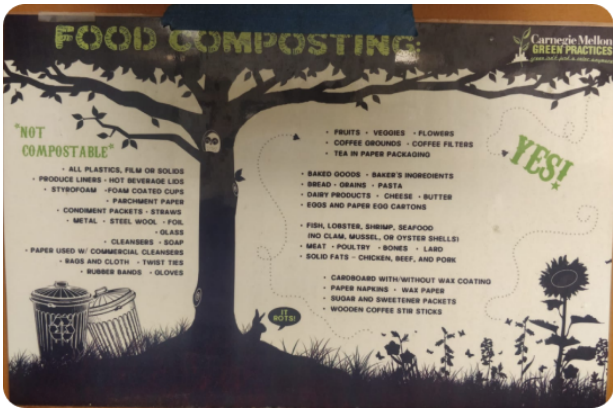


To understand more about sustainability on campus we interviewed Barbara Kviz, the Sustainability Director at CMU. She gave a lot of information on certain issues that the university is facing as well as the ways that she is working on to promote green practices on campus.

Some key insights from our interview with her were:
"Members need to stop using single use containers from off-campus vendors"
"Campus vendors agreed to use compostable containers but students are yet not able to dispose these of correctly to increase the amount of recycled waste"

We also did Guerrilla Research with a number of students on campus to understand how they disposed waste and generated the following insights:

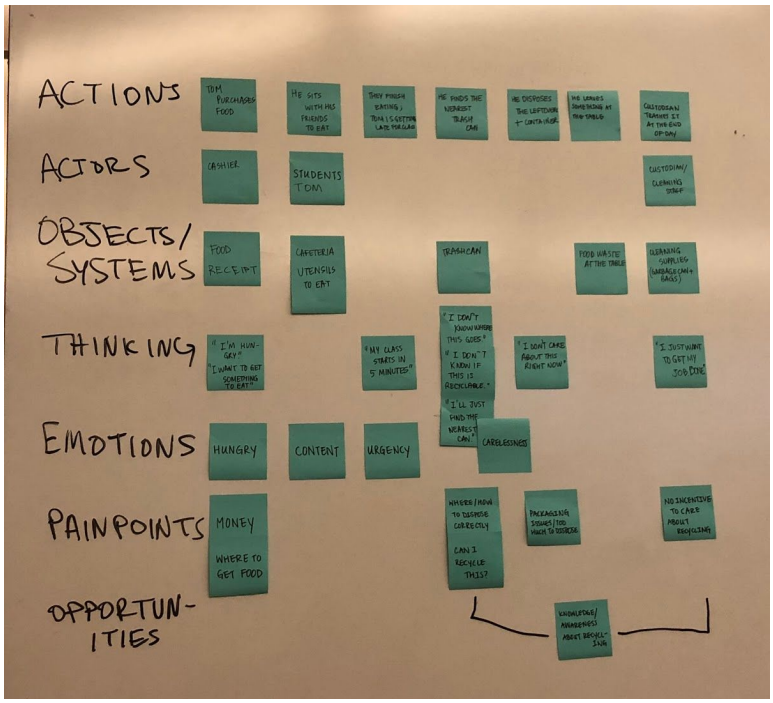
“Correct disposal of waste does not have any impact on students.”
“Lack of information on waste disposal is a big factor for students not engaging in sustainble waste management practices.”



This led us to define the problem:

The need for an informational resource that would also incentivize users to adopt sustainable waste management practices on campus.

Ideation

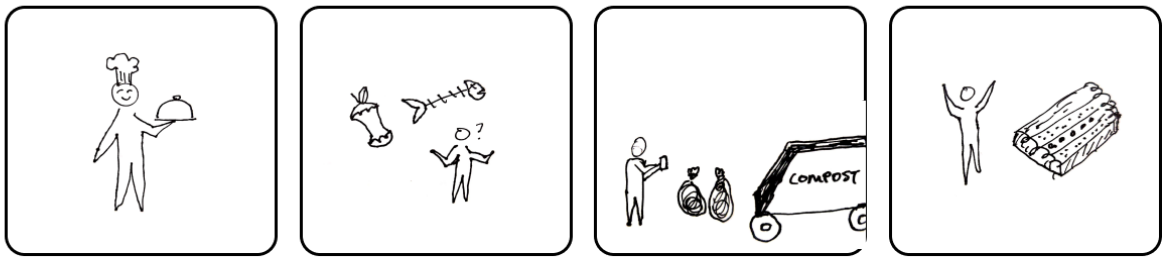


We began with mapping out the Customer and Service Provider Journey and generated the following insights:
“Reduce single-use, non-compostable packaging”
“Lack of knowledge about sustainability”

Based on these insights and understanding of the user’s needs we created three personas, one of a customer the user of this application, a student who is inquisitive about sustainable living but does not have enough incentive to recycle/compost. Second, that of a Service Provider who wants to create awareness about sustainable practices and wants to reduce buying from third party vendors that supply food in non-compostable containers. Third of the Business Provider who wants to generate profit for the institution and is against implementing expensive new initiatives.

We began by generating potential scenarios where the application can be used. Based on this we narrowed down on scenarios, to create storyboards. We then carried out speed dating on these storyboards, from which we gathered the following insights:
“People like to see the impact of their composting/recycling.”
“A guiding tool like this Eases the process for someone who is in a hurry.”

How might we realize the positive impacts of composting?



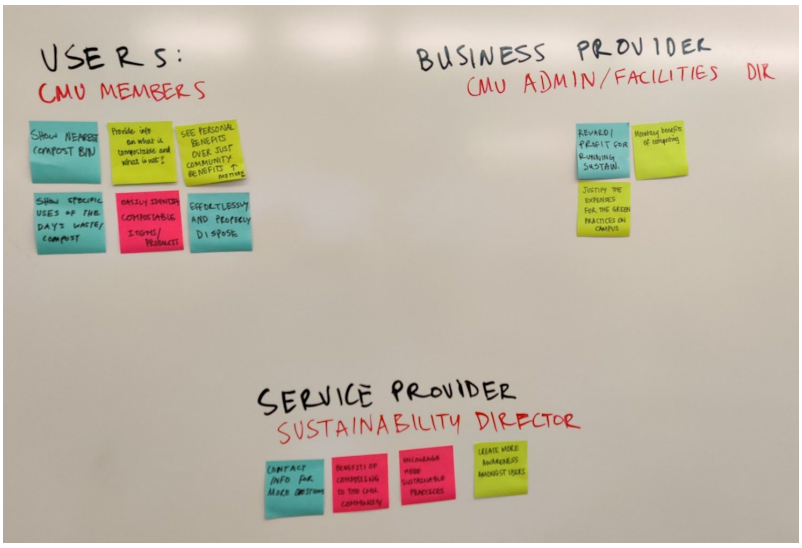
Taylor loves to host large dinner parties, so he's very excited for the one he's been preparing for tonight. He cooks a large and delicious meal for him and his guests, and they all have a great time.

He has a lot of food waste leftovers, which he knows he can compost, but he just doesn't see the point in composting.

He discovers a composting website that informs him about what to do. He gathers up the compost to be picked up, scans the bags he is composting, and a truck from the composting facility comes to pick it up.

Later, he checks his laptop, and is enthusiastic that his composted goods have been used to fertilize his local community garden. A month later, he tries some carrots grown there, and feels fulfilled with his contribution.

Based on all the feedback we received, the final direction that we chose for our design aimed to achieve the following user needs:

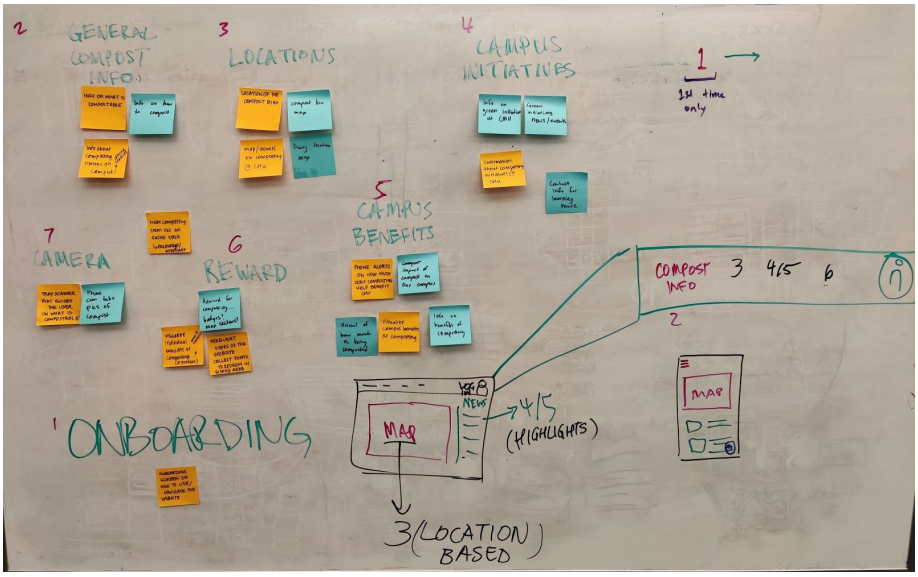


1. Allow users to distinguish between what is compostable and what is not.

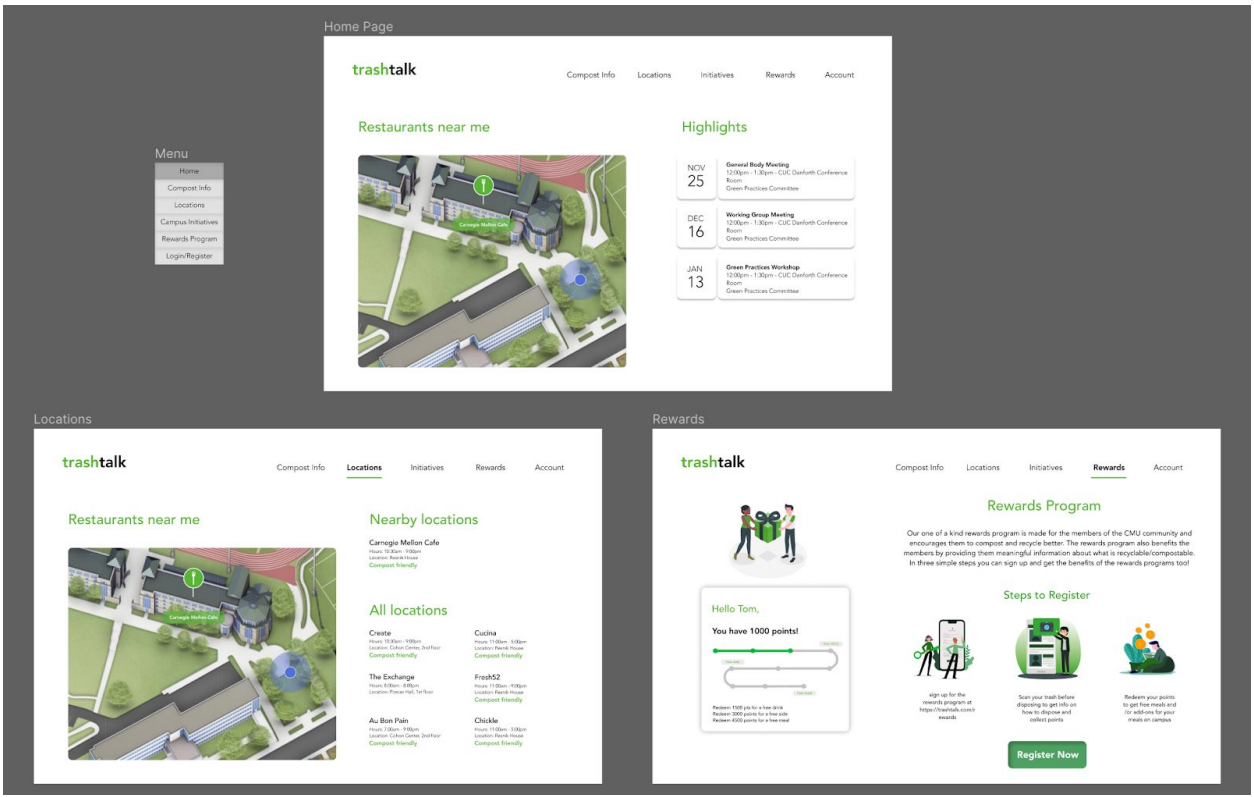
2. Make the process of composting more rewarding.
3. Show users how they benefit from composting / how it has a direct impact on them.

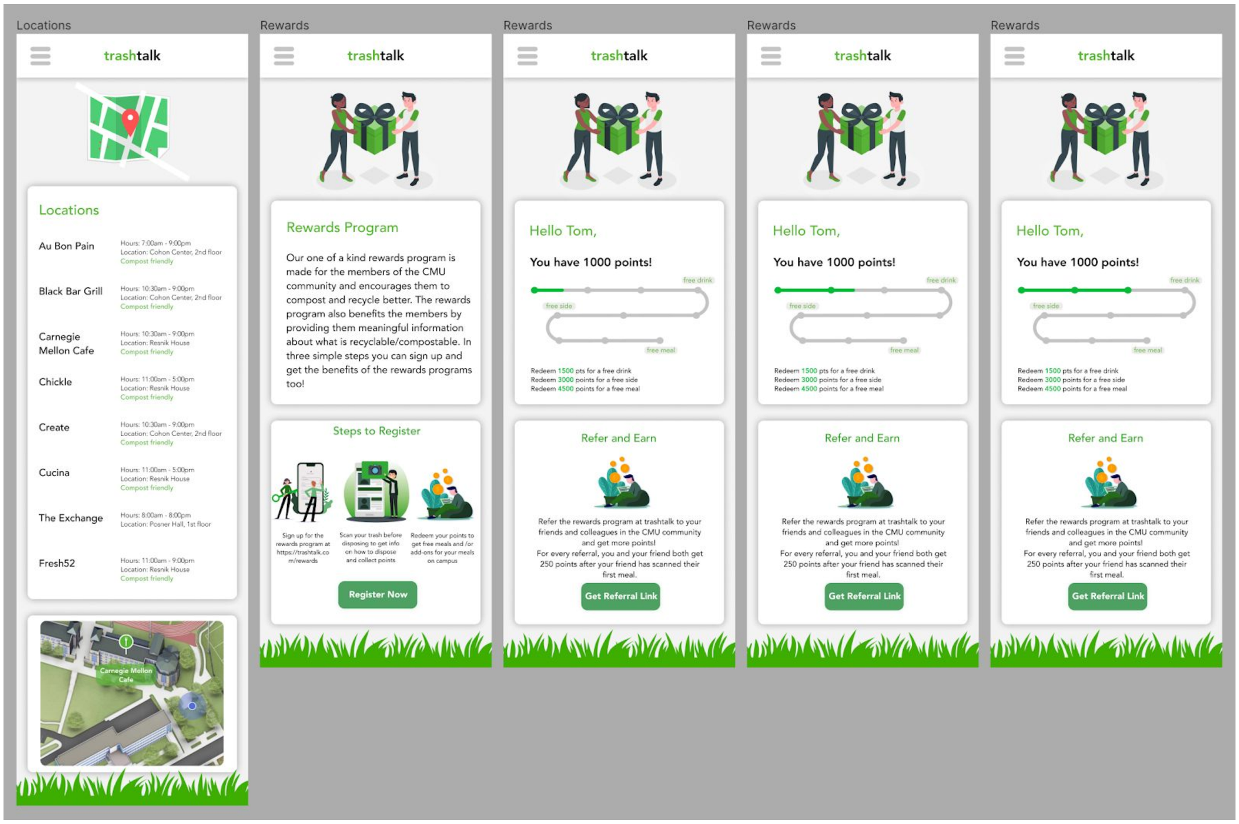
Wireframing

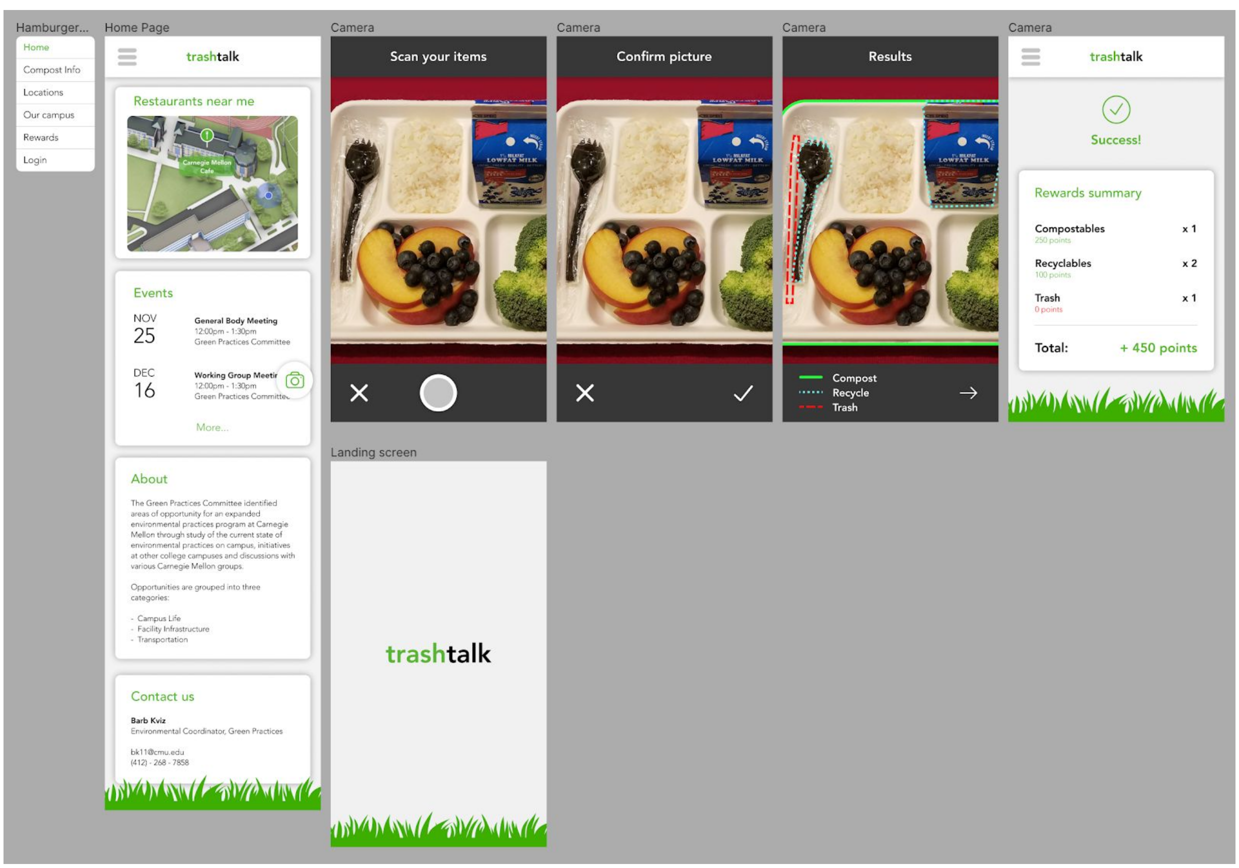
I led the process of creating the site flow for the application. We listed the possible pages that should be a part of this application and then we clustered them and formed links to create a flow.

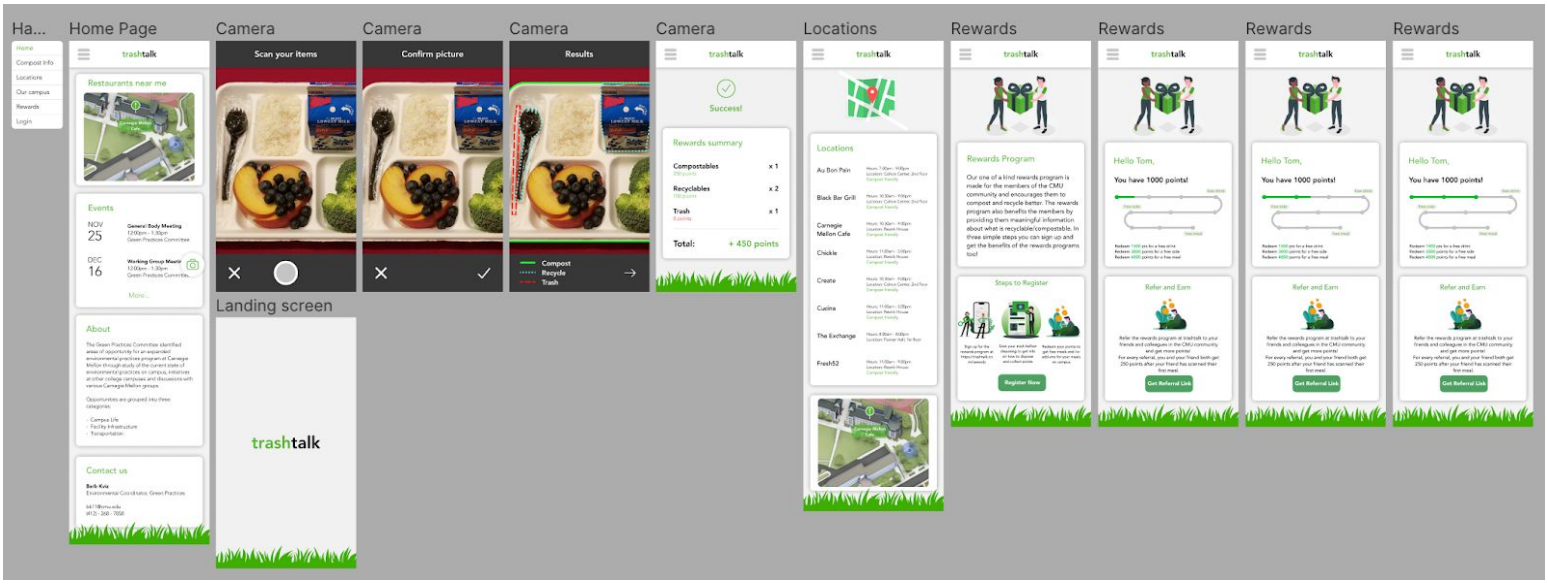


Next, we used this site flow and created the following screens for our application:



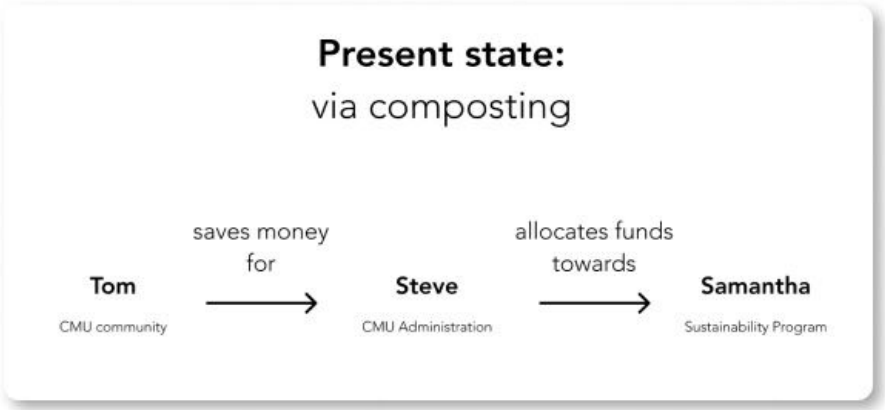

Locations
Rewards
Rewards
Rewards
Rewards
trashtalk
Locations
Au Bon Pain
Black Bar Grill
Carnegie Mellon Cafe
Chickle
Create
Cucina
The Exchange
Fresh52
Rewards Program
Our one of a kind rewards program is made for the members of the CMU community and encourages them to compost and recycle better. The rewards program also benefits the members by providing them meaningful information about what is recyclable/compostable. In three simple steps you can sign up and get the benefits of the rewards programs too!
Steps to Register
Register Now
Hello Tom,
You have 1000 points!
Refer and Earn
Refer the rewards program at trashtalk to your friends and colleagues in the CMU community and get more points!
For every referral, you and your friend both get 250 points after your friend has scanned their first meal.
Get Referral Link

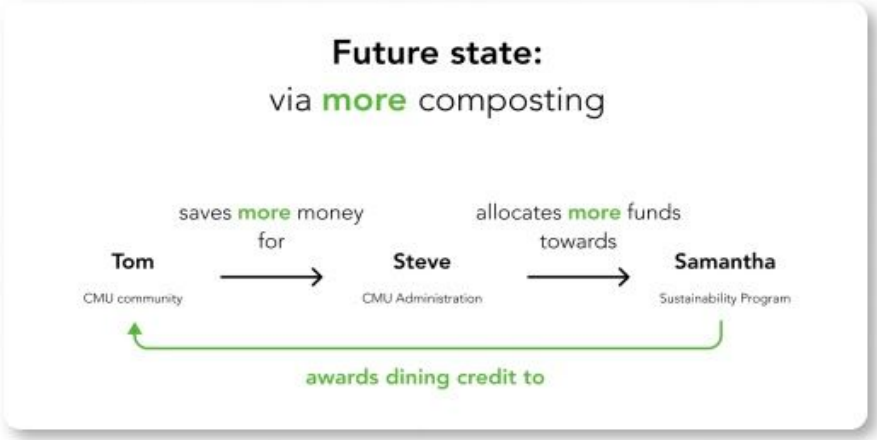

Hamburger...
Home Page
Camera
Camera
Camera
Camera
Home
Compost Info
Locations
Our campus
Rewards
Login
trashtalk
Restaurants near me
Events
NOV 25
General Body Meeting
12:00pm - 1:30pm
Green Practices Committee
DEC 16
Working Group Meeting
More...
About
The Green Practices Committee identified areas of opportunity for an expanded environmental practices program at Carnegie Mellon through study of the current state of environmental practices on campus, initiatives at other college campuses and discussions with various Carnegie Mellon groups.
Opportunities are grouped into three categories:
- Campus Life
- Facility Infrastructure
- Transportation
Contact us
Barb Kviz
Environmental Coordinator, Green Practices
bk11@cmu.edu
(412) - 268 - 7858
Scan your items
Confirm picture
Results
Compost
Recycle
Trash
Success!
Rewards summary
Compostables x 1
Recyclables x 2
Trash x 1
Total: + 450 points
Landing screen
trashtalk



Value Flow Creation

The main purpose of this project was to design a system that creates value for it's users. We discovered that our proposal indeed brought back value to its customers and persuaded them to contribute more responsibly to the system. Hence virtuously adding more value to the Service Provider and Business Owner.





Moving Forward

As a project requirement, we need to 'pitch' our idea to a client in front of the class. We received positive feedback after our pitch and we are curious to see if a system like this actually creates an impact for it's users and whether it incentivises composting on campus. One critique that we also received was that students might exploit the rewards program and not actually dispose the waste after scanning it. It would be beneficial to have a feedback mechanism to check that the waste has been correctly disposed for the benefit of the CMU community.

With this design process, I've learned how to identify a problem, conduct relevant research, synthesize the results towards a defined direction, and iterate on a responsive design. This project tied together the skills I had been working on in previous projects as well as other classes, and allowed me to work on a comprehensive, full development cycle design project.