
reguide

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PROPOSAL

A mobile app that supports young people in Vancouver to recycle more effectively through bin locating, item searching, and impact visualization. The goal is to encourage recycling through a simple yet informative tool that can also be used to visualize one's estimated impact on the environment.

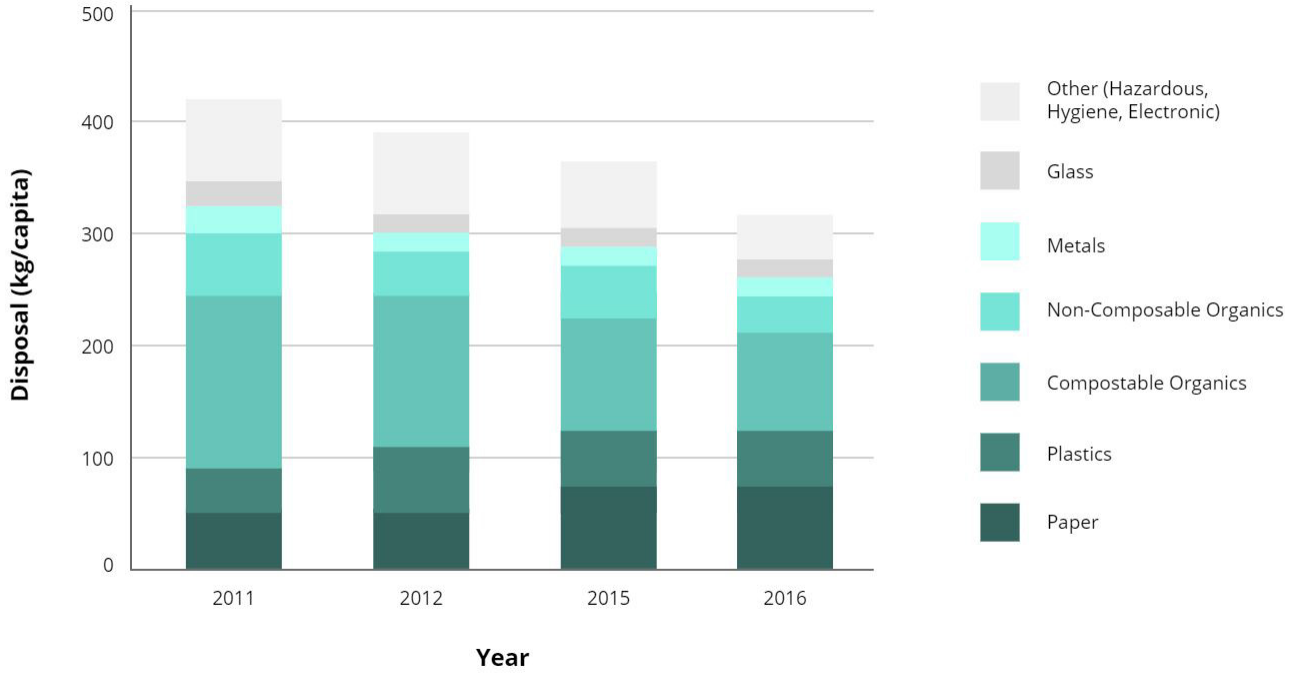
Despite the increase in recycling and decrease in waste disposal, ***people are still throwing recyclables in the garbage****. A closer look at the 2016 waste composition system showed the three biggest contributors to the waste stream were: compostable organics (27%), paper (19%), and plastics (19%).*

Metro Vancouver, 2016

THE CHALLENGE

Recycling has always been an issue for many communities. The matter of recycling is especially important to sustain the health and longevity of the environment. The way we make use of materials affects plants and animals. Recycling keeps the earth clean, conserves materials, and saves energy. With lesser trash in the landfills, pollution of air and water is reduced. The City of Vancouver has a goal of **reducing landfill waste by 50% from 2008.**

Waste Disposal per Capita (2011-2016)



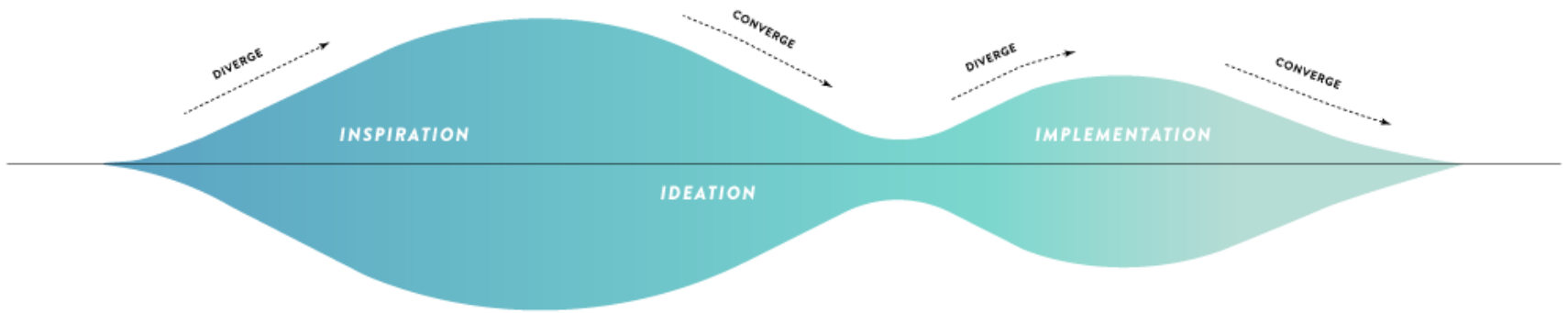
Metro Vancouver, 2017

INITIAL

How might we encourage people to be more sustainable by recycling?

HUMAN-CENTERED DESIGN

A creative approach to solving problems that begins with people and ends with solutions that serve their needs. The process involves **developing empathy with the people you are designing for, building prototypes, testing them, and then sharing the new solution with the world.**



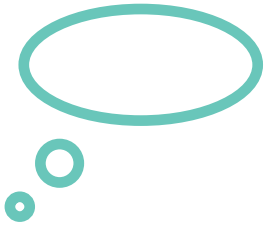
INSPIRATION

AUDIENCE

Deep understanding
of people and needs

IMMERSION

Immerse in context



REFLECTION

Reframe problem and
highlight insights

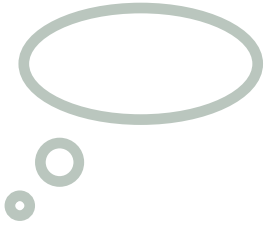
INSPIRATION

AUDIENCE

Deep understanding
of people and needs

IMMERSION

Immerse in context



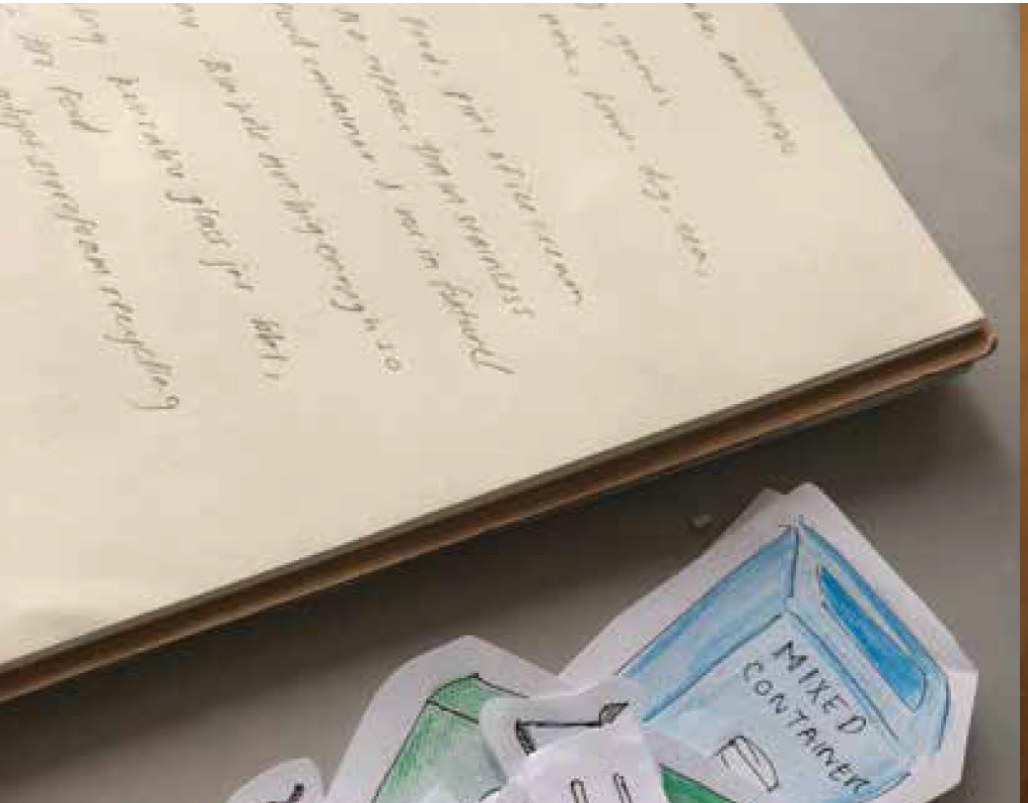
REFLECTION

Reframe problem and
highlight insights

AUDIENCE / USER INTERVIEWS

We started off interviewing young people in-person. We needed to narrow down our focus and there were sources indicating that young people were struggling to recycle. Their consumption levels are high and helping them develop sustainable practices at a young age can be advantageous for the future. A few questions we wanted to answer were:

1. *What prevents young people from recycling?*
2. *Do people understand the effect recycling has on the environment?*
3. *What are the existing resources that are used? Is there a lack of resources?*



AUDIENCE / CORE INSIGHTS

1

GETTING IT RIGHT

Many struggled with sorting even though they wanted to get it right as they weren't sure.

2

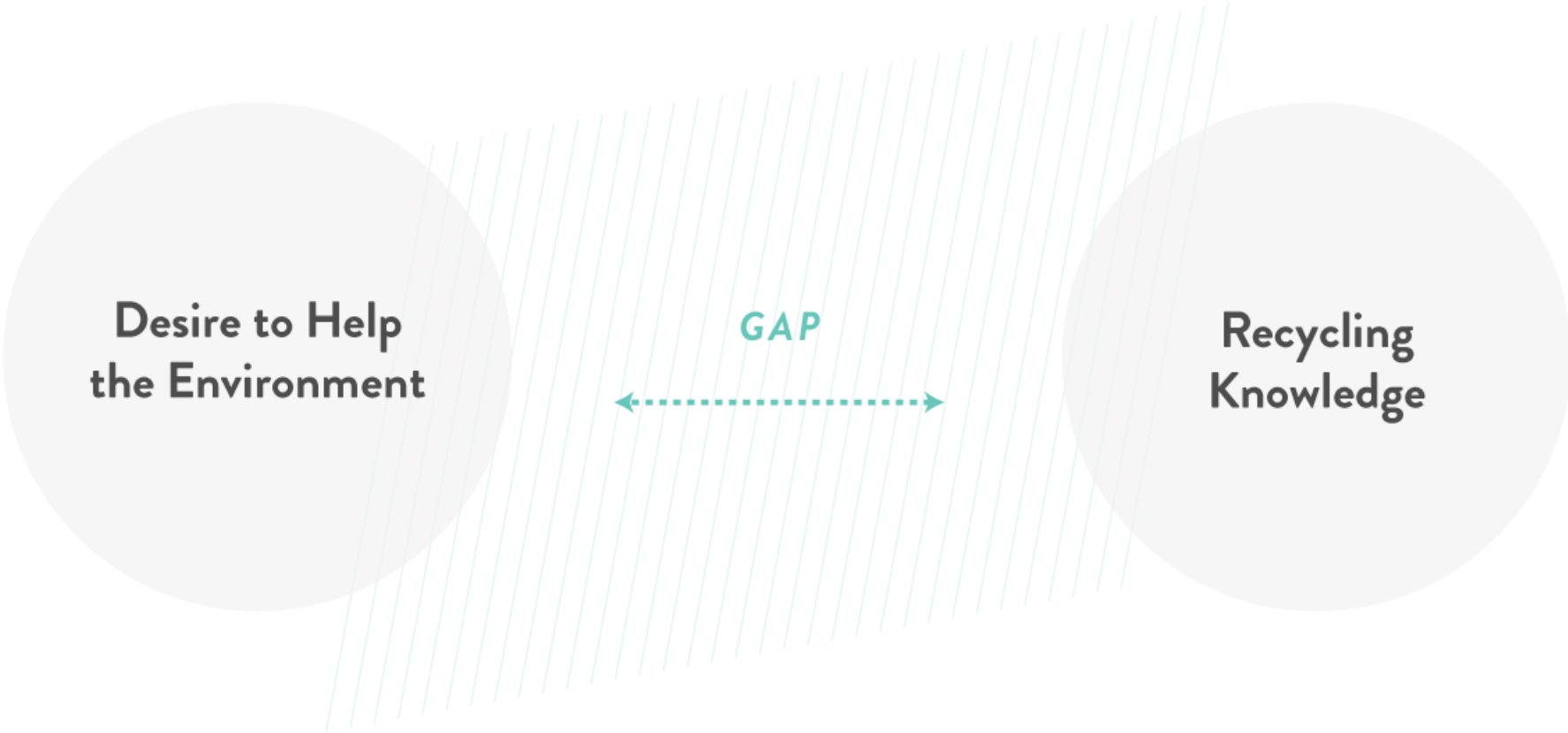
LACK OF TOOLS

Not enough simple tools out there to help them out, usually they searched it up on Google or messaged a friend. The last resort is to call the city to ask.

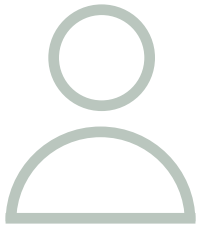
3

BIN LOCATIONS

Trouble finding bins sometimes, which they resort to throwing recyclable items into garbage cans. They often felt guilty afterwards.


Desire to Help
the Environment
GAP
Recycling
Knowledge

INSPIRATION



AUDIENCE

Deep understanding
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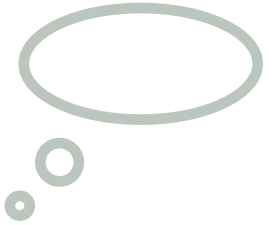
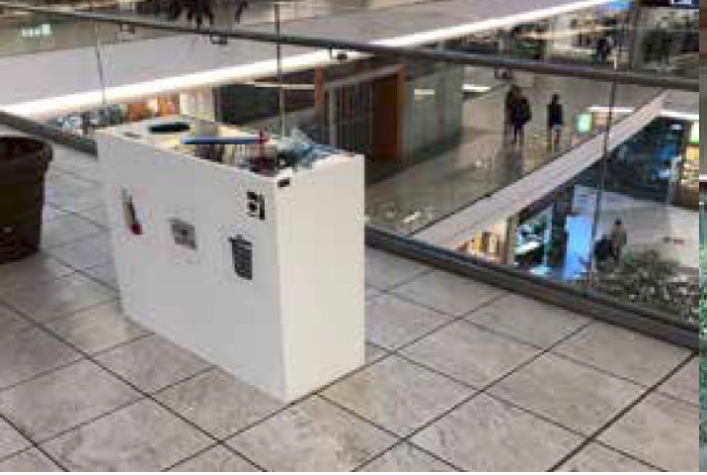
IMMERSION

Immerse in context



REFLECTION

Reframe problem and
highlight insights

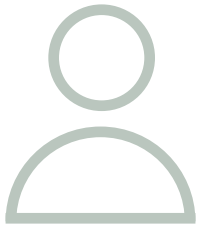


IMMERSION / CONTEXT

In order to really understand how people behave during the moment they find recycling bins, we had to immerse ourselves in the context. We sat around and took notes at parks, malls, and a friend's home. At the park, there was only one garbage bin and on the way there, the bins were very far apart. A few insights:

1. *At parks, people may have to carry things home to throw them away properly as bins were hard to find.*
2. *At the mall, the garbage bins were filled up and other recycling ones were not. Some items clearly were recyclable.*
3. *People seemed confused sometimes when at the bins.*

INSPIRATION



AUDIENCE

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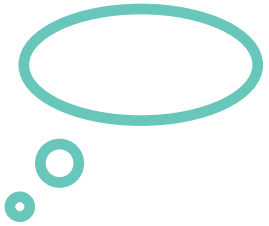


REFLECTION

Reframe problem and
highlight insights

REFLECTION / 3 THEMES OF INSIGHTS

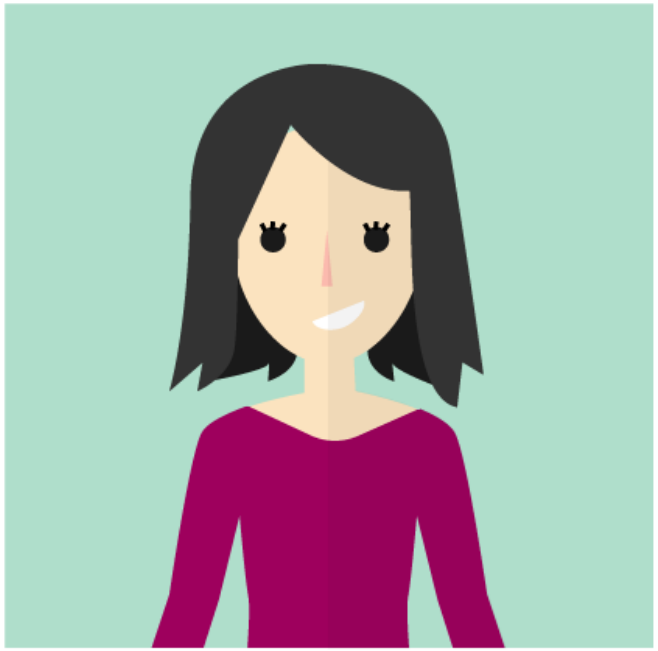
KNOWLEDGE

PROXIMITY

RESOURCES

REFRAMED

*How might we **support** young people in Vancouver to **recycle more effectively**?*



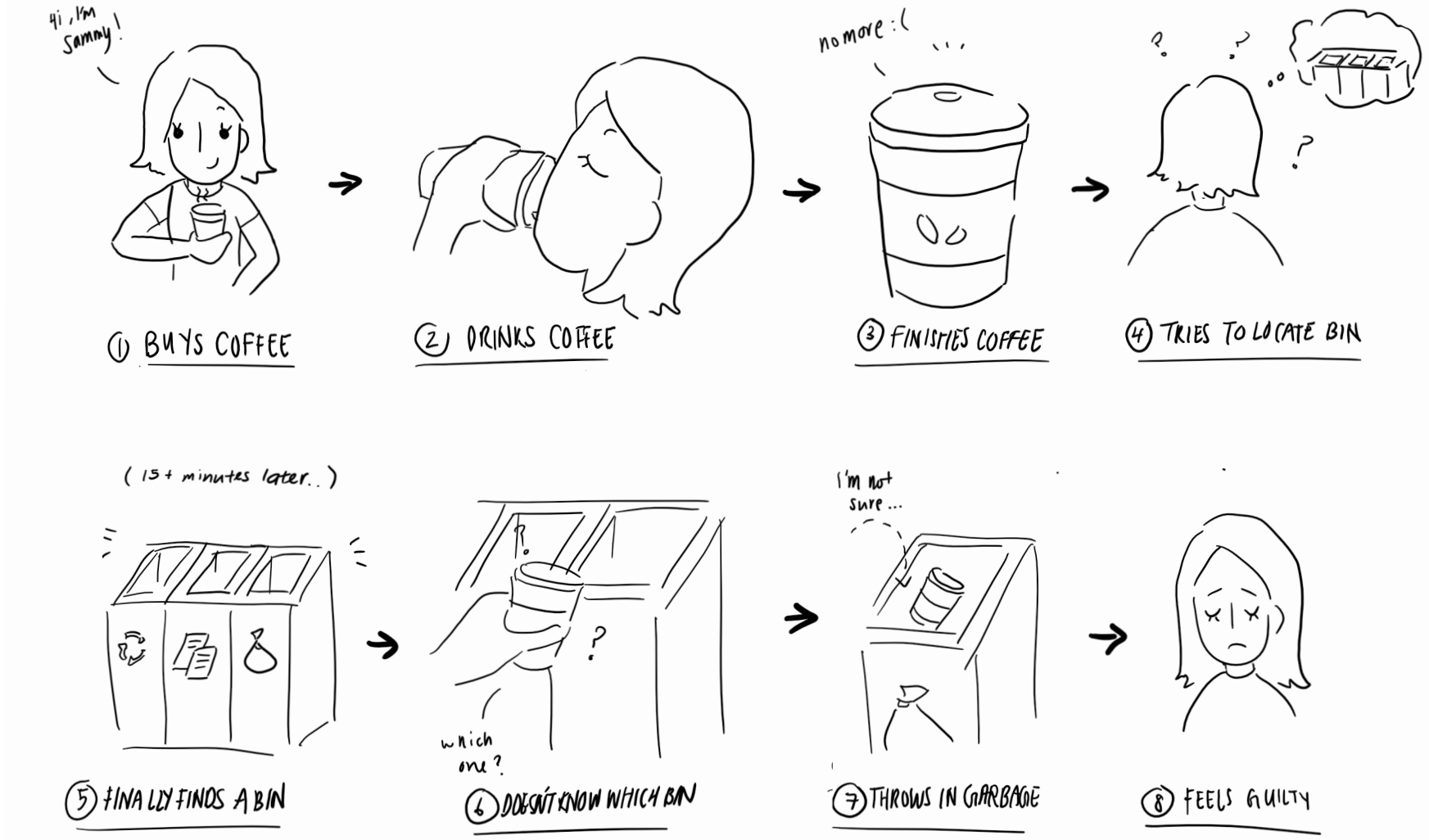
SAMMY

"I want to help the environment by recycling but I sometimes struggle to find bins or know what goes in which bin."

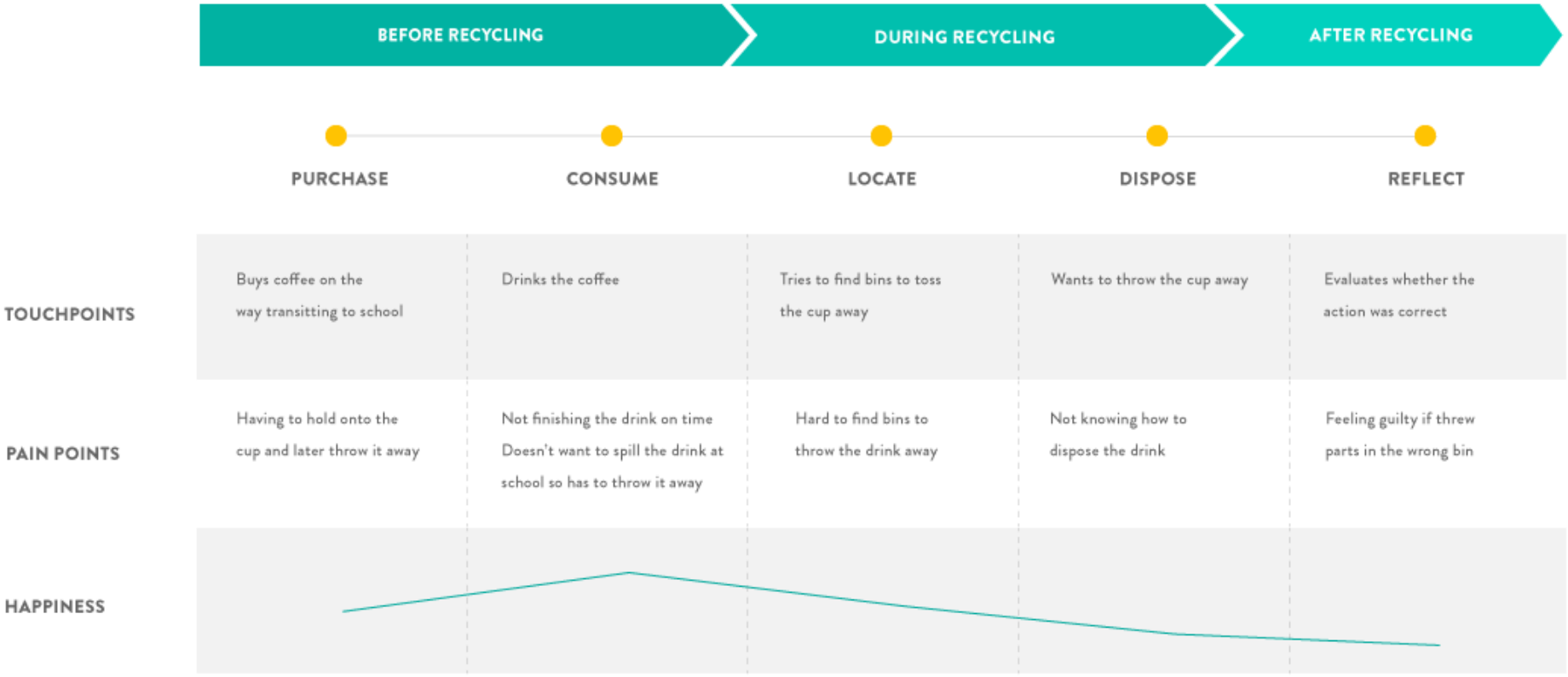
AGE 21

OCCUPATION Student

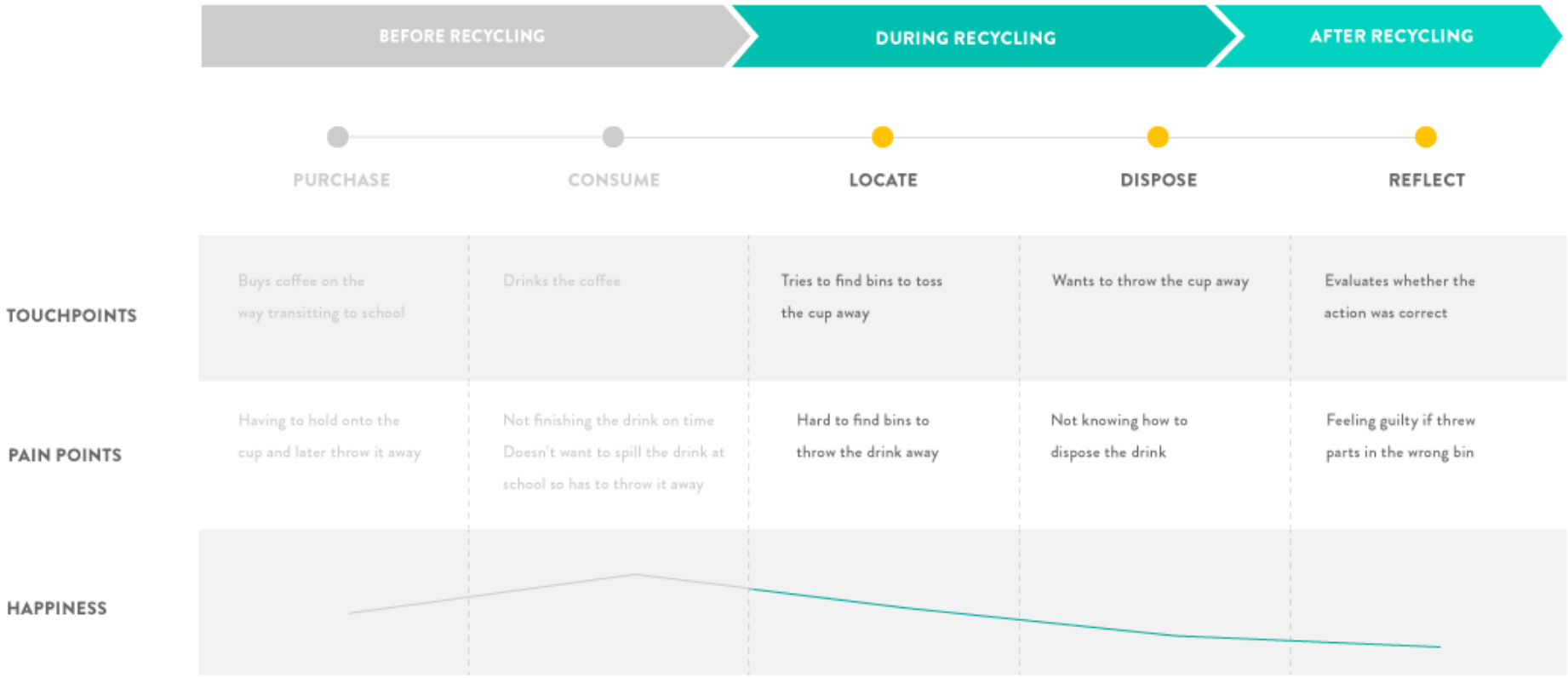
Sammy loves to eat or drink coffee on her way to school or at the mall. She also enjoys playing with animals, especially her dog. Her values include being healthy, maintaining a balance, and always expanding her knowledge. Sammy wants to help save the environment by recycling more effectively.


hi, I'm Sammy!
① BUYS COFFEE
② DRINKS COFFEE
no more :(
③ FINISHES COFFEE
④ TRIES TO LOCATE BIN
(15+ minutes later..)
⑤ FINALLY FINDS A BIN
which one?
⑥ DOESN'T KNOW WHICH BIN
I'm not sure...
⑦ THROWS IN GARBAGE
⑧ FEELS GUILTY

JOURNEY FRAMEWORK



JOURNEY FRAMEWORK (INTERVENTION)



IDEATION

We did some brainstorming into possible solutions, both digital and physical. We had ideas of redesigning the bins (too complex), making a card game to help people practice, developing manuals, and more.

CARD GAME

Too static

Hard to learn

Solves only knowledge

PAMPHLET

Too static

Inconvenient

Solves only knowledge

REDESIGN BINS

Too complicated

Hard to provide guidance

MOBILE APP

Convenient

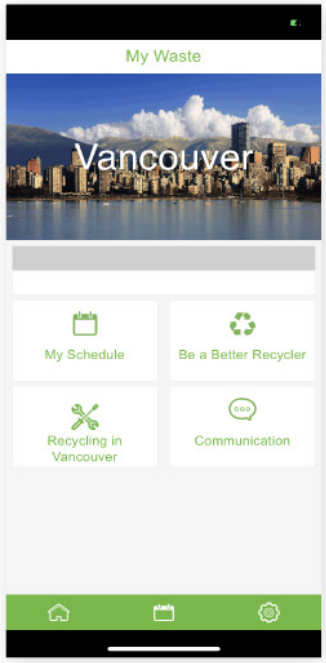
Easy to update

Flexibility with info

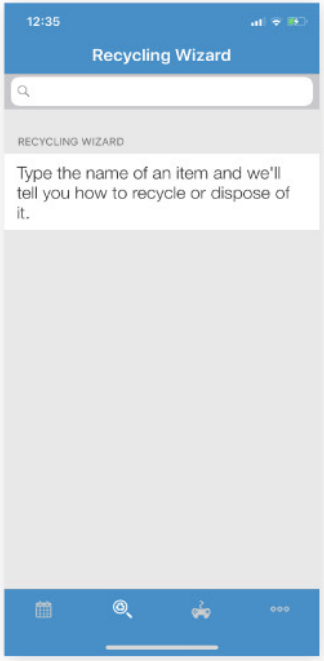
Solves many of the conflicts

EXISTING RESOURCES RESEARCH

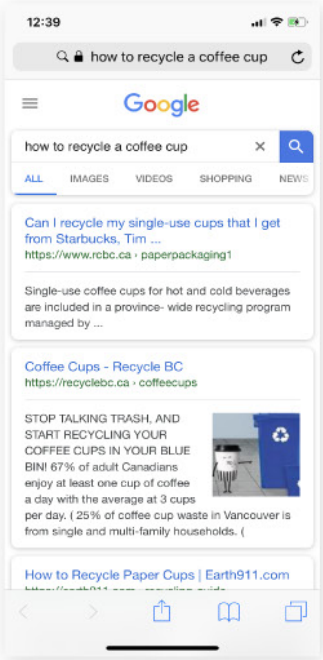
After careful consideration of constraints, we decided to go for a mobile application solution. Many young people now have their phones with them and they often search up information on disposal. Moreover, the existing resources out there are complicated and missing other relevant information. We wanted to make this process more simple and intuitive for them.



My Waste App: Consists of schedules of home recycling, quizzes, and contact info



RecycleDay: Allows for item searching but only shows which facilities accept each item and where they are located



Google is usually the go-to for questions but there are so many links to go through

DESIGN GOALS

Straightforward and simple onboarding

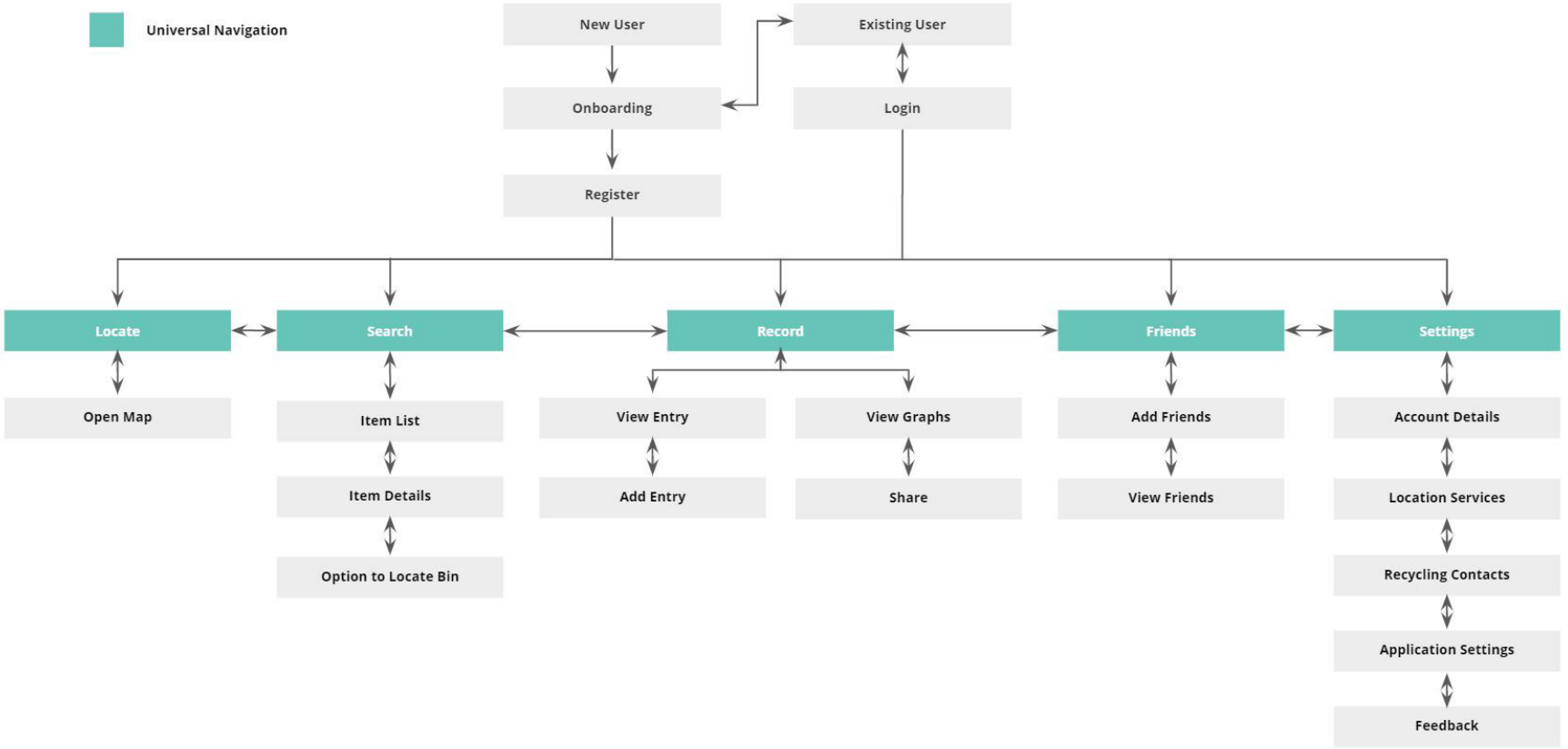
Locating bins with as few steps as possible

Instant item search with adequate suggestions and filters

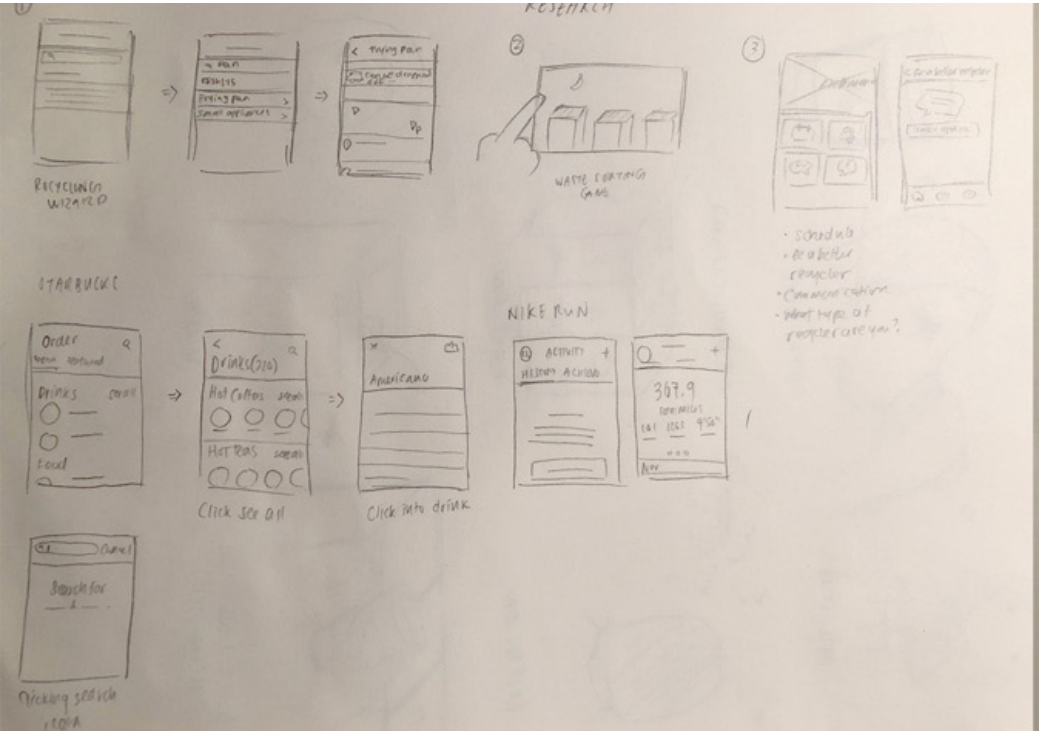
Consistent and delightful interface

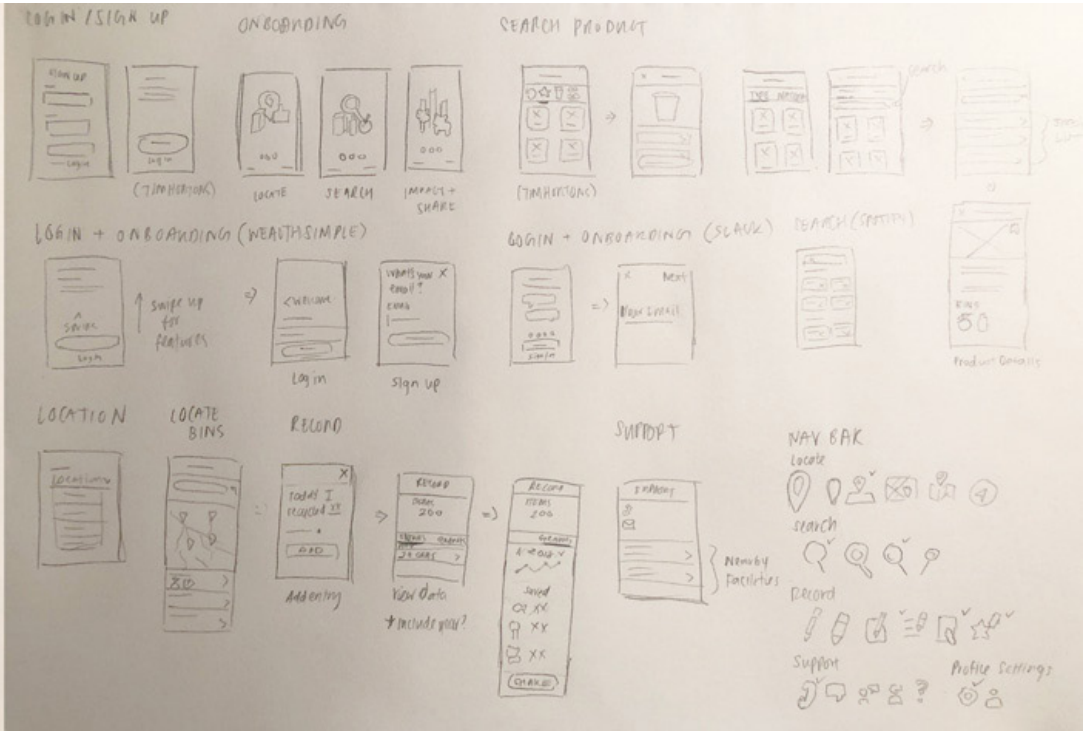
INTERACTION MAP

We considered all the interactions involved in our solution.

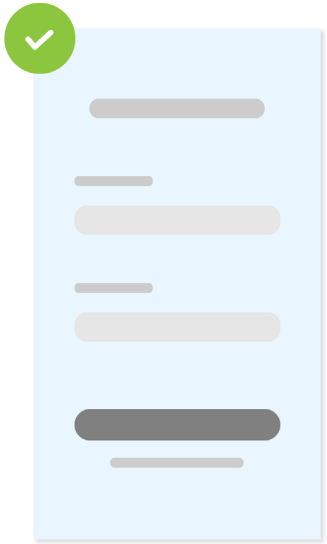


PROTOTYPING / SKETCHES





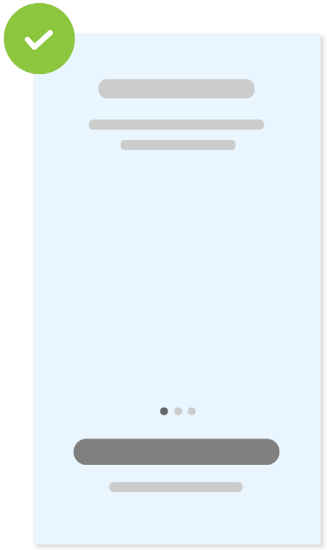
LOGIN SCREEN



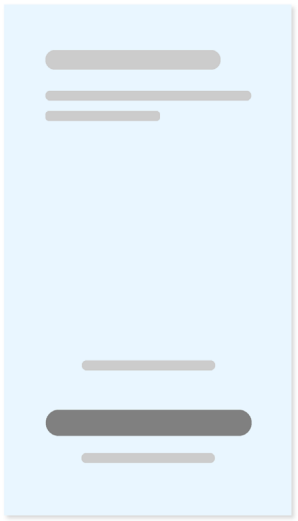
Straightforward without many steps. Makes use of the screen real estate and the space looks well-balanced.

Lots of awkward spacing at the top. Forms look squished together and feels messy.

ONBOARDING

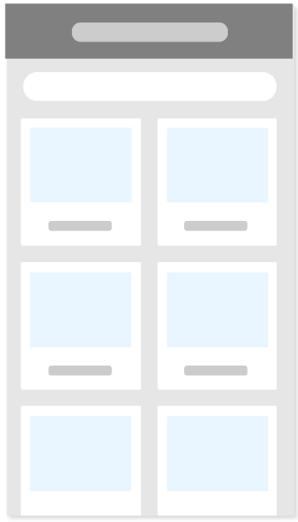


Amount of steps are shown in a progress bar so people know how much is left.



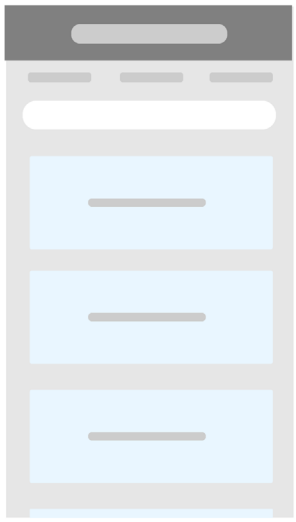
No idea how much information there is.

ITEM SEARCH



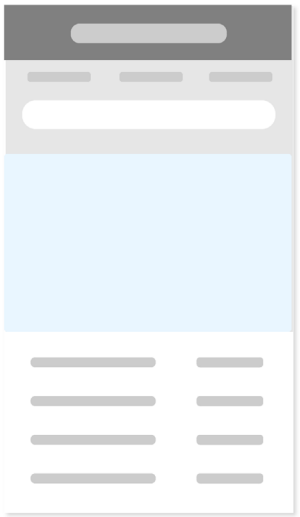
No way to sort all the categories depending on material or object type.

Has tabs for sorting by material or object type. Easier for people to search based on their knowledge and preferences.



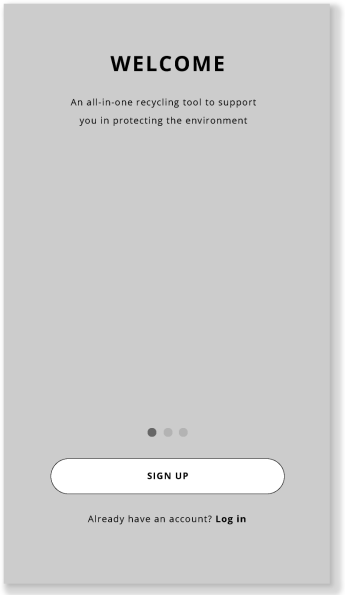
The images take up majority of the screen space and is unnecessary. In the rushed moment, it is better to see more upfront.

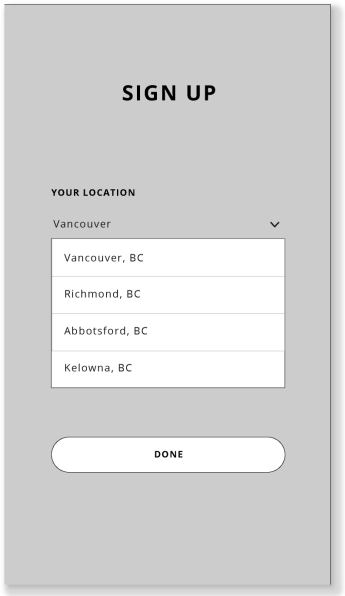
RECORD

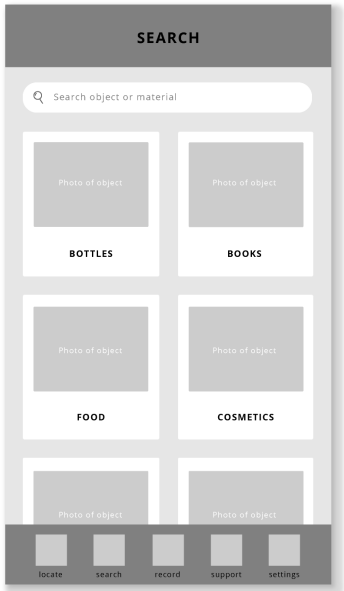


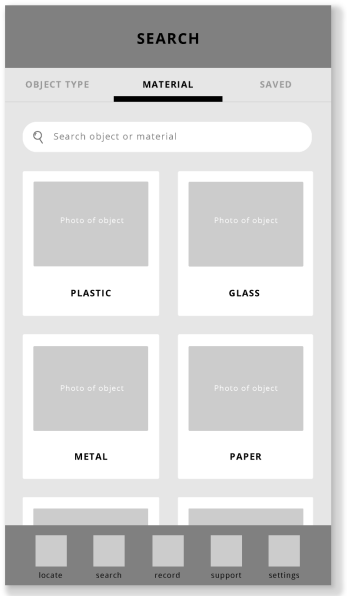
Consideration of categories and listing methods in the Record section.

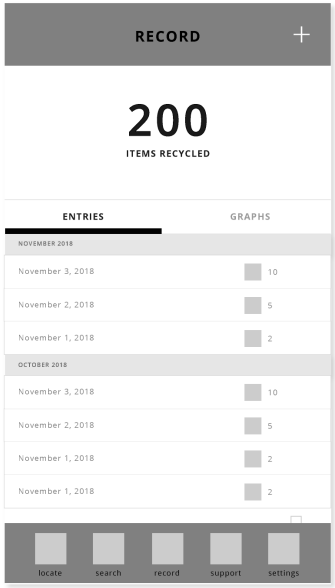

SIGN UP
EMAIL ADDRESS
abc@email.com
PASSWORD
SIGN UP
Already have an account? Log in

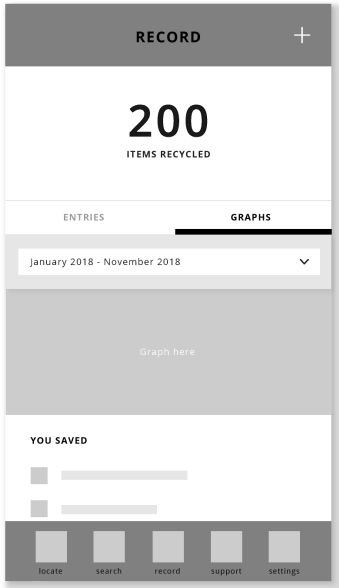

WELCOME
An all-in-one recycling tool to support
you in protecting the environment
SIGN UP
Already have an account? Log in

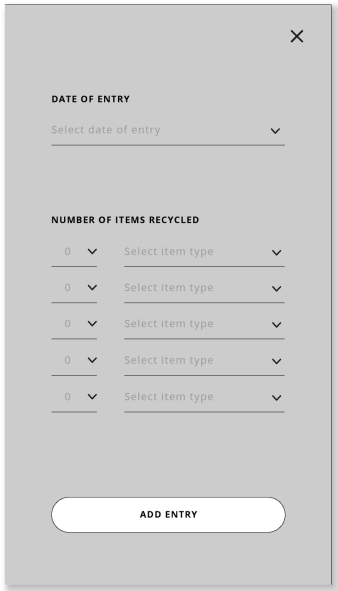

SIGN UP
YOUR LOCATION
Vancouver
Vancouver, BC
Richmond, BC
Abbotsford, BC
Kelowna, BC
DONE


SEARCH
Search object or material
Photo of object
BOTTLES
BOOKS
FOOD
COSMETICS
locate
search
record
support
settings

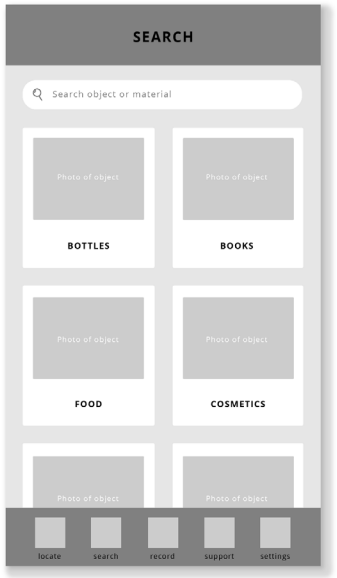

SEARCH
OBJECT TYPE
MATERIAL
SAVED
Search object or material
Photo of object
PLASTIC
GLASS
METAL
PAPER
locate
search
record
support
settings


RECORD
200
ITEMS RECYCLED
ENTRIES
GRAPHS
NOVEMBER 2018
November 3, 2018
10
November 2, 2018
5
November 1, 2018
2
OCTOBER 2018
November 3, 2018
10
November 2, 2018
5
November 1, 2018
2
November 1, 2018
2
locate
search
record
support
settings


RECORD
200
ITEMS RECYCLED
ENTRIES
GRAPHS
January 2018 - November 2018
Graph here
YOU SAVED
locate
search
record
support
settings

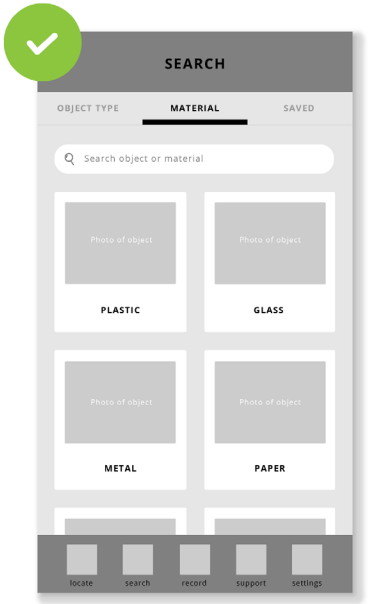

DATE OF ENTRY
Select date of entry
NUMBER OF ITEMS RECYCLED
0
Select item type
ADD ENTRY

ITEM SEARCH



Categorizing by just object type is quite tough especially if you're not sure what something should be considered.

Although the search bar would be the most likely used in a rushed situation, sometimes people would like to browse around.



Providing more ways for people to browse is preferred. They can also save products for later reference.

Sometimes an object is hard to categorize so it may be easier to find them by material.

Test Results: Many people prefer having more categories to browse or search from.

PROTOTYPING / ITEM SEARCH

The Item Search section was quite a tough part to arrange. Although the search bar will likely be used in a rushed situation (such as Sammy's), it is also useful to include categories. We were figuring out whether categorizing by material or object type would be best. After testing my prototypes with potential users, including different categorization options is best (right prototype). Depending on the situation, people prefer having various options to choose from when searching for items.

FINAL DESIGN / STYLE GUIDE

For the overall style of the app, we wanted to use a vibrant colour such as turquoise, a mix of blue and green that resembles nature. As our persona is young and passionate about saving the environment, we wanted to have a more warm and inviting look. The type and icons we have chosen are fun and modern, to lessen the intimidating feeling of recycling.

COLOUR PALETTE

MAIN COLOUR #67C6BA

INTERACTIVE COLOUR #4FAA99

BACKGROUND #F2F2F2

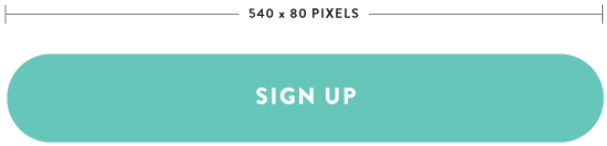
BODY TEXT #1A1A1A

ICONS

INACTIVE

ACTIVE

BUTTONS



TITLES + HEADING

Brandon Grotesque Bold, 48pt

Brandon Grotesque Bold, 24pt

BUTTON TEXT

Brandon Grotesque Bold, 24pt

BODY TEXT + CAPTIONS

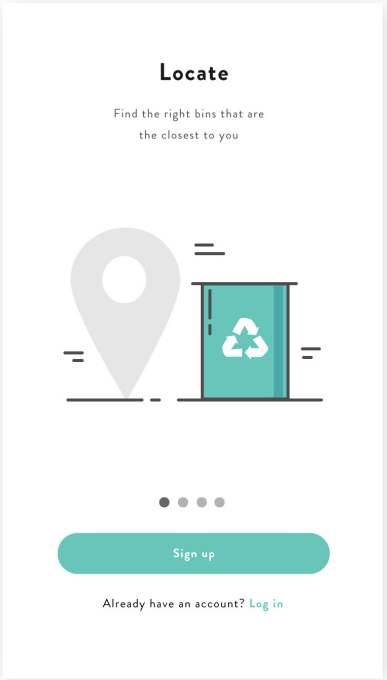
Brandon Grotesque Regular, 17pt

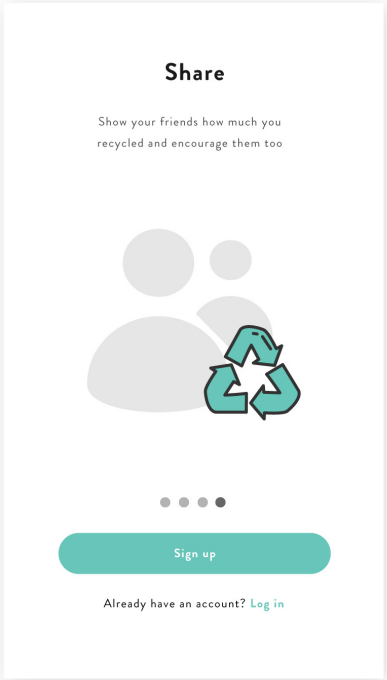
Brandon Grotesque Regular, 24pt

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nos trud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat.

ONBOARDING

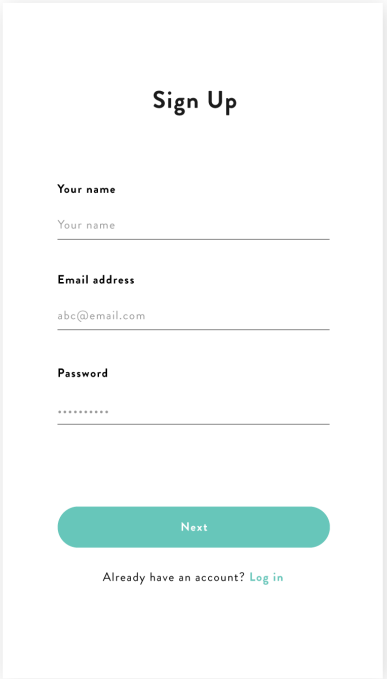
The key to this was combining the onboarding with the sign up button when the app is opened. This lessens the amount of steps it takes to get from sign up to home screen.



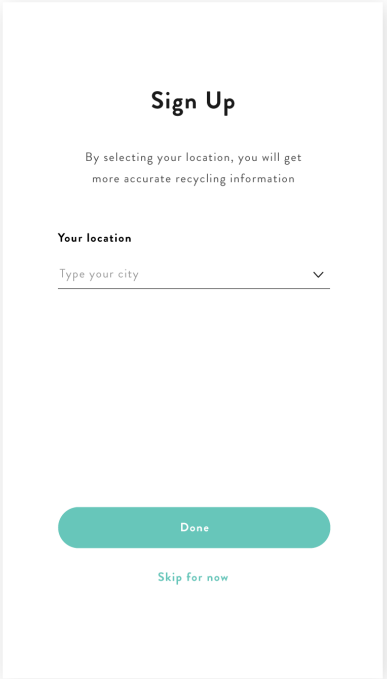


REGISTRATION

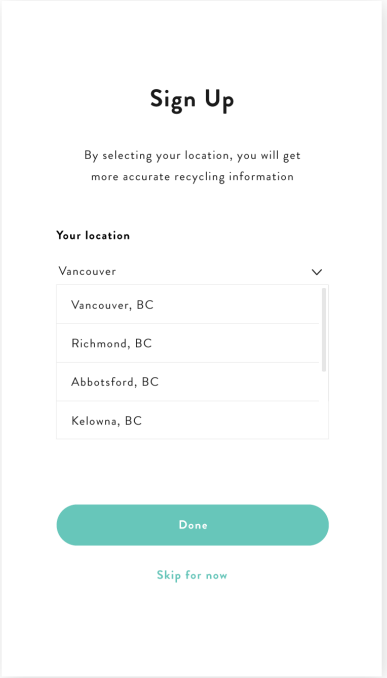
In the sign up, it is important for people to select their location as each city has their own recycle rules that may differ from others. I made sure to include a description indicating why location is recommended but can also be skipped.



Sammy signs up with her name, email, and password

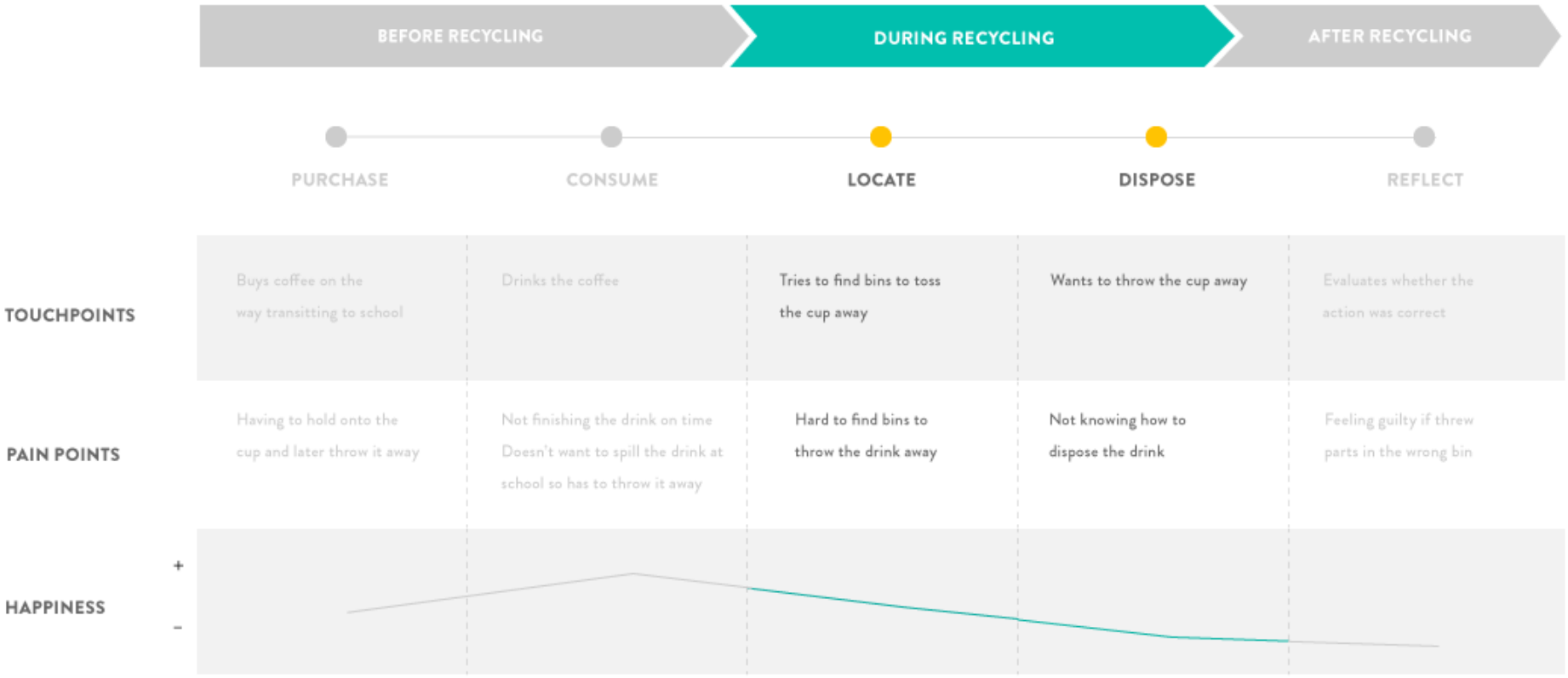


Location is important for different recycling guidelines



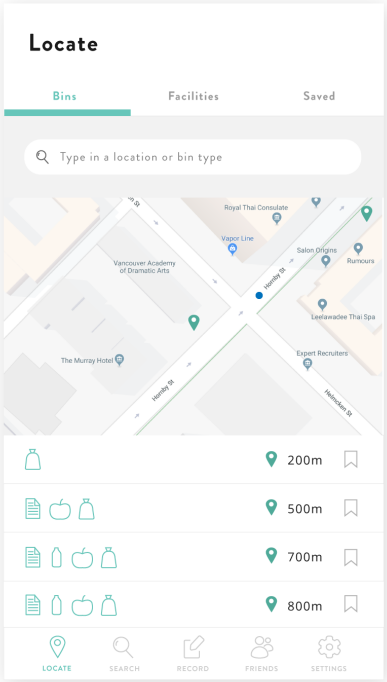
Sammy can also choose “My Location” options to make it faster

DURING RECYCLING / LOCATE + DISPOSE

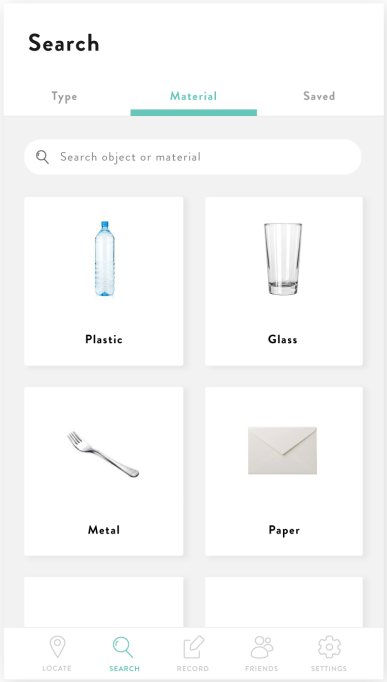


DURING RECYCLING / LOCATE + DISPOSE

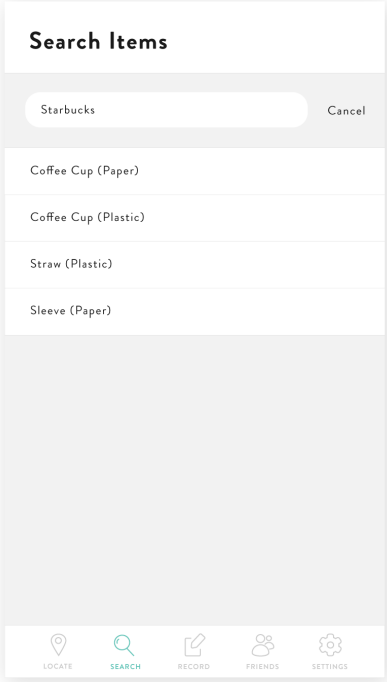
As people had trouble finding bins, like Sammy, it was important to keep that into consideration. Locate allows her to type in her location and find the nearest bin. This would require prior pinning of bins or a tracking code for each. Once she finds a bin, she may be confused about how to dispose the item (in her case, the coffee cup). Sammy can search up the item and find disposal details.



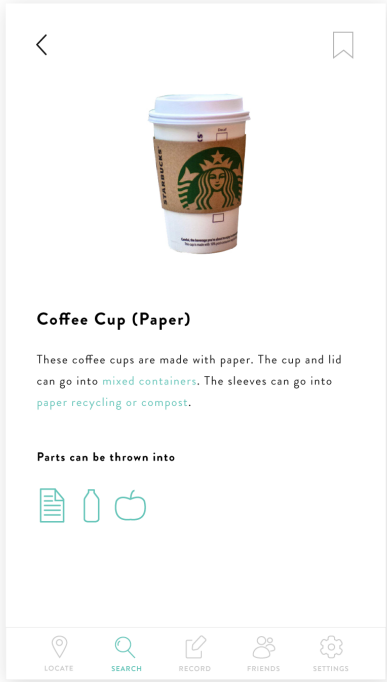
In Locate, Sammy can search up where the bin is located so she can find it faster



When she finds the bin and needs help figuring out which bin to throw the coffee cup in, she can use Search to search it up

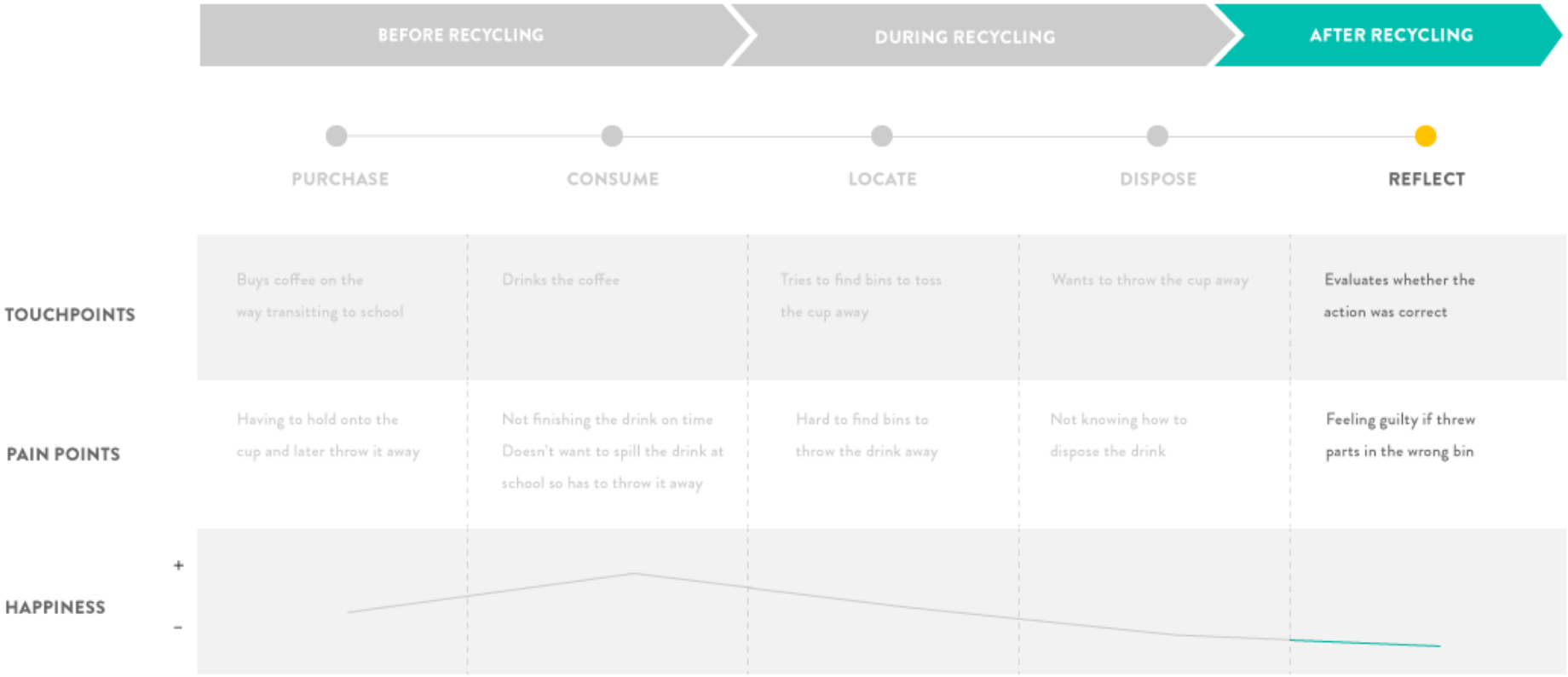


A list of related items to her search will be shown



Tapping on the item will open up its description, instruction, and symbols of bins it can be thrown into

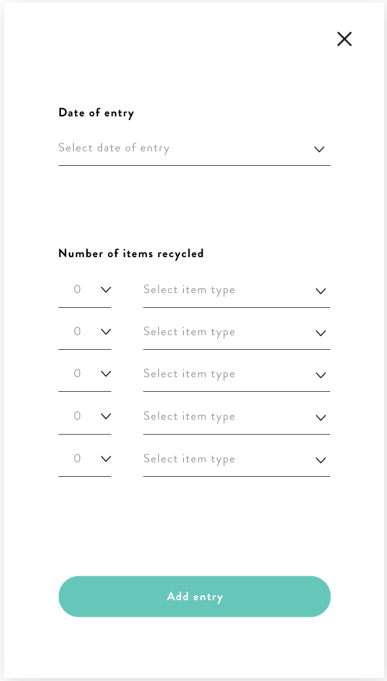
AFTER RECYCLING / REFLECT



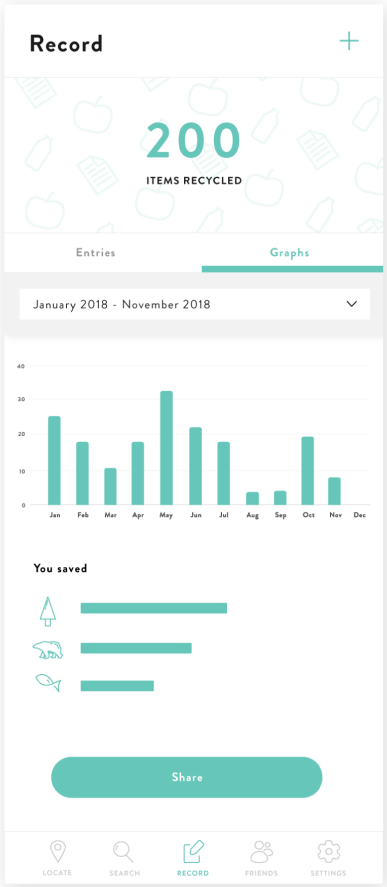
AFTER RECYCLING / REFLECT

In Record, Sammy can mark down how many items she recycled so far. This will add up to the total presented at the top. We came up with this as a way to further motivate young people to recycle. In the Graph tab, she can see visualizations of her recycling achievements and impact. The impact would just be an estimation as it is hard to measure. Finally, she can share her achievements with her friends.

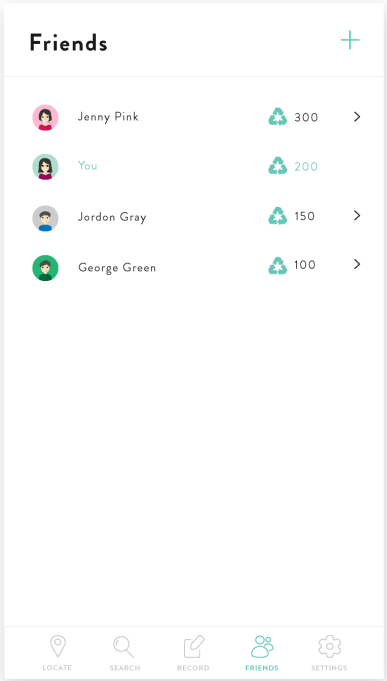
In Record, she can see her total amount of items recycled and her history of entries. The tracking helps Sammy stay motivated.



The entries can be added by tapping “+” and then Sammy can input each amount and type of item recycled (glass, plastic, paper, etc.)



In the Graphs tab, Sammy can see a monthly graph of her recycling progress. She can also see her estimated impact.

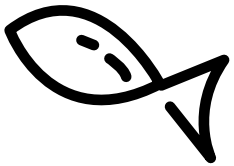


In Friends tab she can see how much her friends recycled in comparison. This adds motivation and challenge.

SUMMARY

Helps people locate bins around them

Allows for item searching to provide people with answers



Encourages recycling through tracking and impact visualization

Fosters a community of recycling and spreads the motivation to recycle

REFERENCES

Apples (Image): http://www.bctreefruits.com/fruits/apples/

Bottle (Image): https://www.friendsofglass.com/wp-content/uploads/Glass-Recycling.jpg

Debris (Image): https://www.environment.co.za/wp-content/uploads/2013/03/Beach_strewn_with_plastic_debris.jpg

Envelope (Image): https://www.freeimages.com/search/white-envelope-no-background

Fabric (Image): https://www.istockphoto.com/ca/photo/burlap-fabric-patch-label-isolated-on-white-background-gm668551474-122097939

Fork (Image): https://reeces.com.au/product/diane-sweet-fork

Human-Centered Design & Methods: http://www.designkit.org/methods

Plastic Bottle (Image): https://www.dnaindia.com/india/report-rip-plastic-bottles-in-maha-by-may-2018-2560301

Recycling Rates for 2016: http://www.metrovancouver.org/metroupdate/issue-29/409/Recycling%20rates%20are%20in%20for%202016

Vancouver Millenials and Recycling: https://www.cbc.ca/news/canada/british-columbia/vancouver-recycling-mmbc-1.3780022

Zero Waste: https://vancouver.ca/green-vancouver/zero-waste.aspx

FIN

PROTOTYPE : https://invis.io/J8PA09RFD5V