

# COMPOSTING HABITS & MOTIVATIONS

A USER STUDY



# MEET THE RESEARCH TEAM

**Trash Talk** is a non-profit organization aimed at reducing landfill waste through recycling, waste diversion and composting.



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## STUDY BACKGROUND

- From reducing greenhouse gas emissions to cost savings, composting offers many benefits for individuals and communities.
- However, 72% of American households do not compost.<sup>1</sup>
- There *is* growing interest in composting by individuals, with one study reporting that 67% of its respondents said they would compost if it were more convenient to do so.<sup>2</sup>
- Our goal: Better understand the barriers to entry for people who would like to compost and the hurdles confronted by those who currently compost so that we can create a solution that encourages and eases the burdens of residential composting.

Our target users are **young adults (18 -26) and millennials (27- 42)** who are **interested in making more sustainable choices** and are **interested in using smartphone applications** for resources.

# RESEARCH METHODS

✦ Field Studies

✦ Interviews

✦ Survey

✦ Card Sorting



# RESEARCH FINDINGS

# FIELD STUDIES: APPROACH

- Eight participants, including five composters and three non-composters.
- Focused observations on the different tools, supplies and resources that participants are currently using to dispose of trash, recyclables and compostable materials.
- Observed how users transport or collect their waste, how they decide what to recycle or compost versus toss and collected insights on the pain points and emotions associated with the waste disposal process.







## INTERVIEWS: APPROACH

- Eight participants, including three composters and five non-composters.
- Focused questions to composters on how they feel about their composting practice, hurdles they face when composting, what they find rewarding and how they find information and perceive impact.
- Focused questions to non-composters on if they've ever explored it, what's kept them from trying composting and how they get information about composting today and what impact they think composting has.



# INTERVIEWS: FINDINGS

- **Primarily use web-based methods** for composting information.
- **Current composters overwhelmingly shared not needing informational resources.**
- All participants **used municipal services for their garbage and recycling pickup.** They also noted the **ease and perceived impact of recycling** when comparing to their idea of composting.
- Several participants shared that **a financial incentive would motivate them** to compost.
- There are a range of emotions around composting, from **disgust** to **shame, fear** and **concern**, but also **pride** for those who saw their efforts as successful.
- Non-composting participants showed a **lack knowledge** around composting.
- The **positive impact on the environment is a significant motivator** to compost.
- **External pressure was also noted as a motivator** to begin composting.
- Barriers in adoption include the **perception that composting is another chore, hard to do in an apartment, has a high start-up cost**, and the **assumption that it's only for homeowners and the wealthy.**

# SURVEY: APPROACH

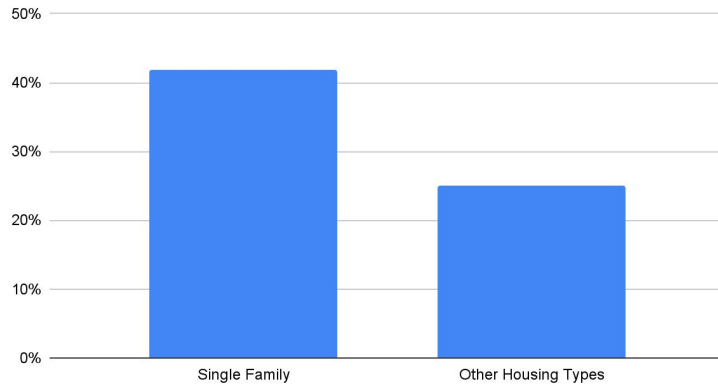
- 55 total respondents from across our target user group.
- 16 questions focused on understanding more about the age, housing type, household size and composting habits of our target users.
- Gauged our target users' understanding of composting impacts and their interest level in different composting topics.
- Used filtering logic to remove users who had no interest in helping the environment, don't use smartphone apps or that fell outside our target group.



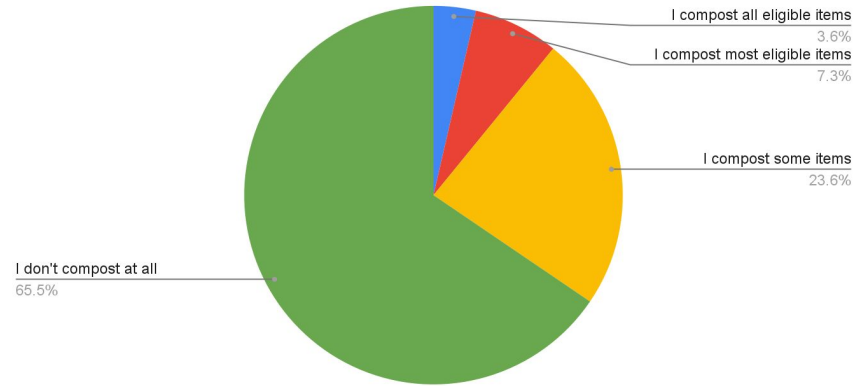
# SURVEY: FINDINGS

- **34.5% of our respondents compost** at some level.
- Even neutral or somewhat interested in sustainability **reported an interest in composting.**

Composting Participation Rates by Housing Type



Composting Participation

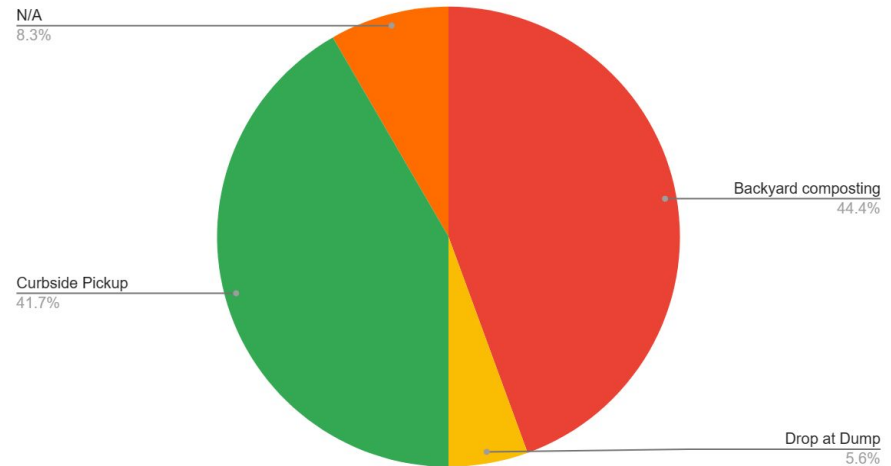


**Participants living in a single home were more likely to compost** than those living in other housing types.

# SURVEY: FINDINGS, CONTINUED

- **83.3% of composters use backyard composting.**
- The most common type of composting respondents expressed an interest in was also backyard composting.
- **50.9% of all respondents said they would prefer to use compost for their garden or house plants** versus disposing of waste through a service or drop-off site.
- But, many users indicating interest in sustainability also reported that a **composting pick up service or drop-off was also of interest.**

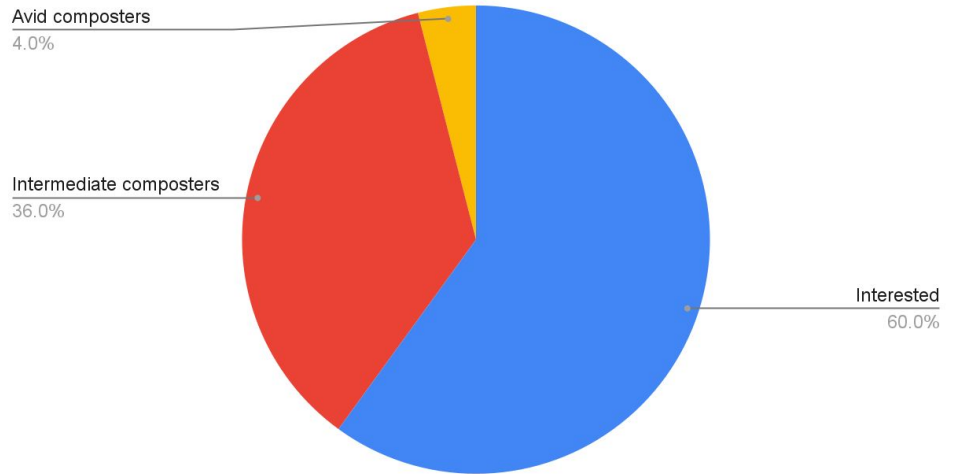
Non-Composters Interest in Composting Methods



# SURVEY: FINDINGS, CONTINUED

- Most participants **understood the two main benefits of composting**: reduced waste in landfills (89.1%) and soil enrichment (83.6%).
- The information category with the most interest was **“What to do with compost.”**
- Nearly **60% of our sample population in the category of “interested in sustainability and interested in learning how to compost,”** ~36% could be considered intermediate composters and 4% avid composters.

Categories of Survey Respondents



# USER PERSONAS & SCENARIOS

## ABOUT

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Steven lives alone in an apartment outside of Philadelphia. He started composting last year after his friends got their own counter-top bins. He prides himself on living a sustainable life - he takes public transportation, uses reusable packaging, recycles everything he can, and uses his heat and A/C very moderately. Composting is a recent addition, but he does it fairly consistently.

## MOTIVATIONS

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Steven is motivated by peer modeling, through both his friends and also through broader social pressure. He is also motivated by his interest in sustainable living practices. He knows that composting is good for the environment, but he's still not sure about the specifics.



## STEVEN CHEN

**Moderate Composter  
with Room to Grow**

*"It's important to do and not as smelly as some people think, but I still don't know if I'm doing it right."*

## PROFILE

Age : 26

Residence : Apartment Building

## FRUSTRATIONS

- Confused about what can go in the bin
- Hasn't found the composting products he loves yet
- Sometimes annoyed about having to separate trash

## KNOWLEDGE

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Compostable Materials



Environmental Benefits



Composting Methods



## NEEDS

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Steven needs some additional education on the specific benefits of composting and what can be composted in various scenarios. He also needs more regular external motivation to keep up with his composting, as he doesn't love the extra work of separating items and will occasionally just throw food scraps into his landfill trash bin.

# SCENARIO 1: STEVEN CHEN

**Steven Chen** picks up Chipotle take-out on his way home from work. He tells the cashier that he doesn't need any plastic utensils. He eats his meal at home while he facetimes a friend. He scrapes his leftover food scraps into his countertop compost bin. He speaks into the Google voice search to check if the burrito bowl is compostable. The bottom is, but the aluminum foil is recyclable. He is frustrated that he has to research what to do with these items. He folds the bottom and puts it into the compost bin and rinses out the top and throws it into the recycling bin. He's not sure if the paper cup can be composted but he squashes it into the compost bin anyways. Steven feels good about trying to compost but not confident that he's correctly disposed of everything.



## ABOUT

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Alicia is a mom of two young children and lives in a townhouse in Ann Arbor. She Drives a hybrid SUV and always brings her reusable bag to the grocery store. She's usually good about recycling, but sometimes throws out her water bottle when she's on the go. She's heard about composting but is hesitant to start. She knows she could be doing more, but she's busy with her kids, household, and job.

## MOTIVATIONS

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Alicia is motivated by convenience. She cares about environmental causes, and when the "greener" choice is easy, she'll add an extra step to her process. She cares a little about peer modeling, but mostly she wants changes to fit seamlessly into her existing system.



## ALICIA CORTES

**Doesn't Compost, but  
Tries to Live Sustainably**

*"I know it's good for the environment,  
but it's smelly, dirty, and seems  
inaccessible."*

## PROFILE

Age : 34

Residence : Townhouse

## FRUSTRATIONS

- **Worried about compost smelling in her kitchen**
- **Overwhelmed by how to start**
- **Doesn't want to add a lot to her existing chores**

## KNOWLEDGE

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Compostable Materials



Environmental Benefits



Composting Methods



## NEEDS

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Alicia needs to find a compost pick-up provider who will come to her townhouse to retrieve her compost on a regular basis so it doesn't start to smell. She needs a system that won't add a lot of hassle to her already busy life, and she needs access to easily digestible information to walk her through the start-up process.

## SCENARIO 2: ALICIA CORTES

**Alicia Cortes** orders her grocery delivery while she's sitting at her daughter's soccer match. By the time she returns home, her groceries are sitting on her doorstep. She fills a pot of water to start dinner. She prepares pasta with parmesan because it's a favorite for a family of picky eaters. She's not sure if she can recycle the pasta box with the plastic so she tosses that in the garbage. She throws the cheese rinds in the garbage too. She cleans up the kitchen while the kids eat. The kids don't finish their meals so Alicia takes a few bites and then scrapes the rest of the leftovers into the garbage disposal. She feels guilty about wasting food and makes a mental note to check what she should do with her food scraps and packaging next time.

## ABOUT

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Doug and his partner purchased their first home a few years ago and developed an initial composting set-up. Originally, Doug started with a pick-up service, but soon decided to save some money and switch to a backyard system. Now he enjoys the methodical and almost meditative aspects of composting, and he loves providing fresh fertilizer for his partner's vegetable and flower gardens.

## MOTIVATIONS

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Doug is strongly motivated by his concern for the environment and also his knowledge of the impacts of composting. He acts on principle and doesn't require much external influence in his decision making.



## DOUG STROUPE

### Avid Composter Looking for a Community

*"I love the impact I can make with composting and I want to get other people excited to compost too."*

## PROFILE

Age : 31

Residence : Single Family Home

## FRUSTRATIONS

- Wishes more people understood the ease and benefits of composting
- Wants to find more people to connect with over composting

## KNOWLEDGE

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### Compostable Materials



### Environmental Benefits



### Composting Methods



## NEEDS

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Doug doesn't need anything to entice him to compost more, but he wants to connect with a larger community. He also wants an easier way to evangelize about composting, as it's not something he necessarily brings up depending on the context. He knows how big a difference it can make, and how much misinformation there is, so he wants to help spread the word.

## SCENARIO 3: DOUG STROUPE

**Doug Stroupe** stops by the farmer's market on his way home from work for some potatoes and onions. He carries his items in a reusable bag. When he gets home, he heads outside to his garden to harvest some carrots. He rinses, peels, and chops the vegetables. He makes sure nothing goes to waste and only the unusable parts of the vegetables are placed in the countertop composting bin. He prepares a soup. He sits down at the dinner table and eats with his partner. There is plenty of leftover soup, so Doug stores the rest in airtight containers in the freezer. He labels the containers with an expiration date. He feels accomplished that he was able to minimize the amount of wasted food. He notices an expired soup in the back of the fridge. He takes that to the outdoor compost bin. He feels guilty about wasting the expired soup and makes a mental note to consume his leftovers before cooking new meals next time.

# **CARD SORTING INSIGHTS & APP WIREFLOW**

# CARD SORTING: APPROACH

- A total of 10 participants were involved in the card sort study.
- Participants were allowed to come up with their own categories to be able to sort through 20 different cards covering various topics on composting.
- The goal was to understand common terms used by our target audience and how they organize key information in order to inform the design content of our app.



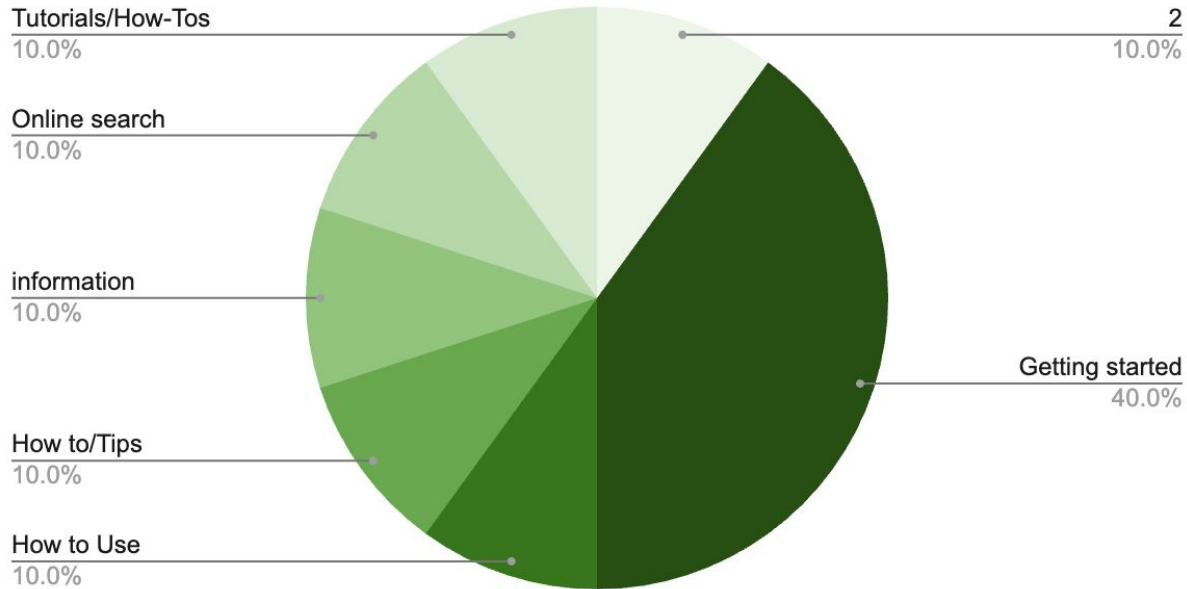
# CARD SORTING: FINDINGS



# CARD SORTING: FINDINGS

## Card Label: Composting Start-Up Guide

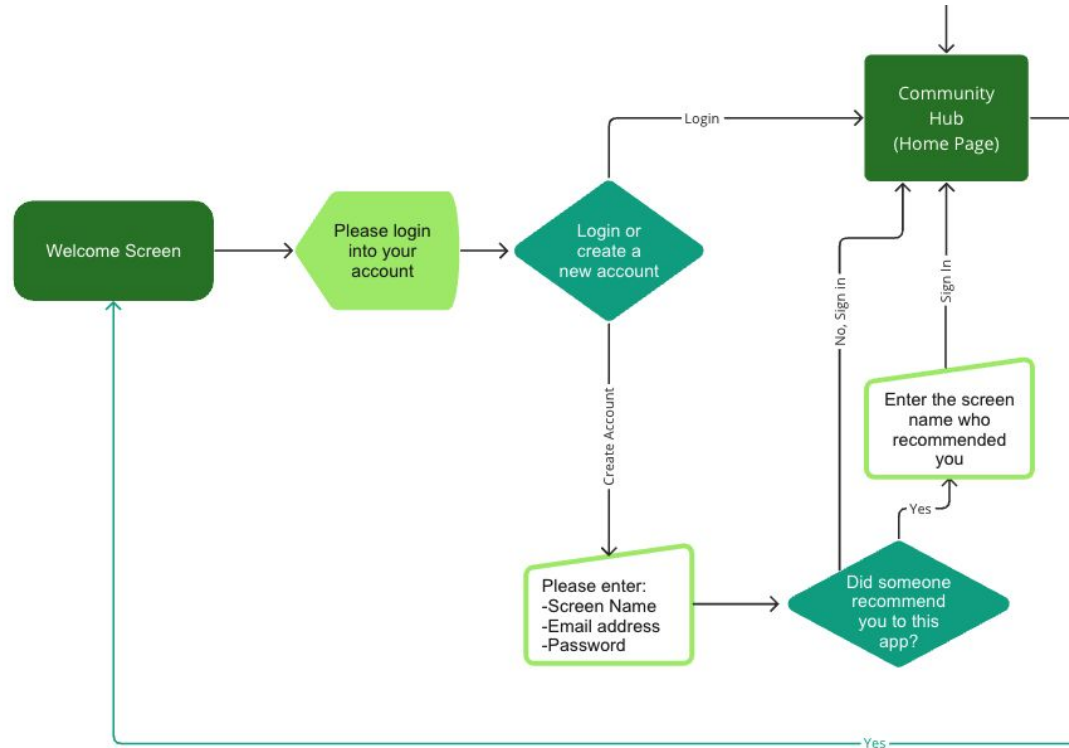
The unique category labels given to this card



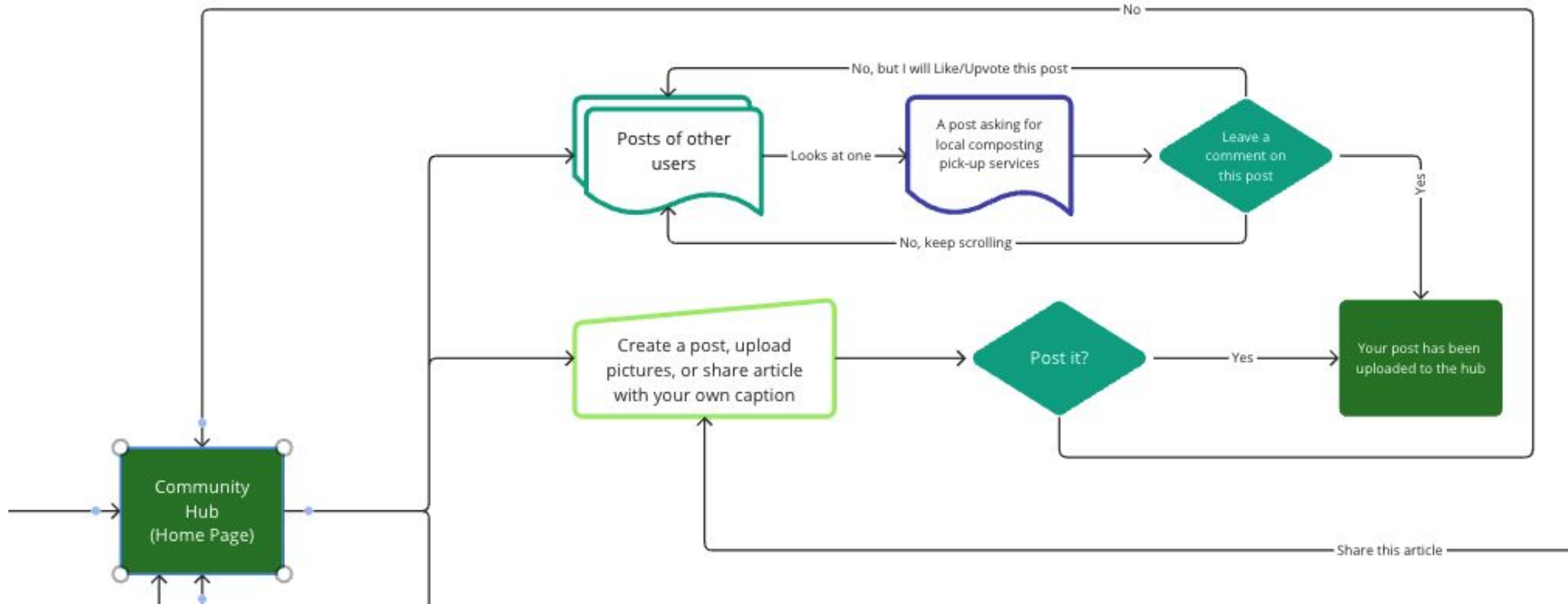




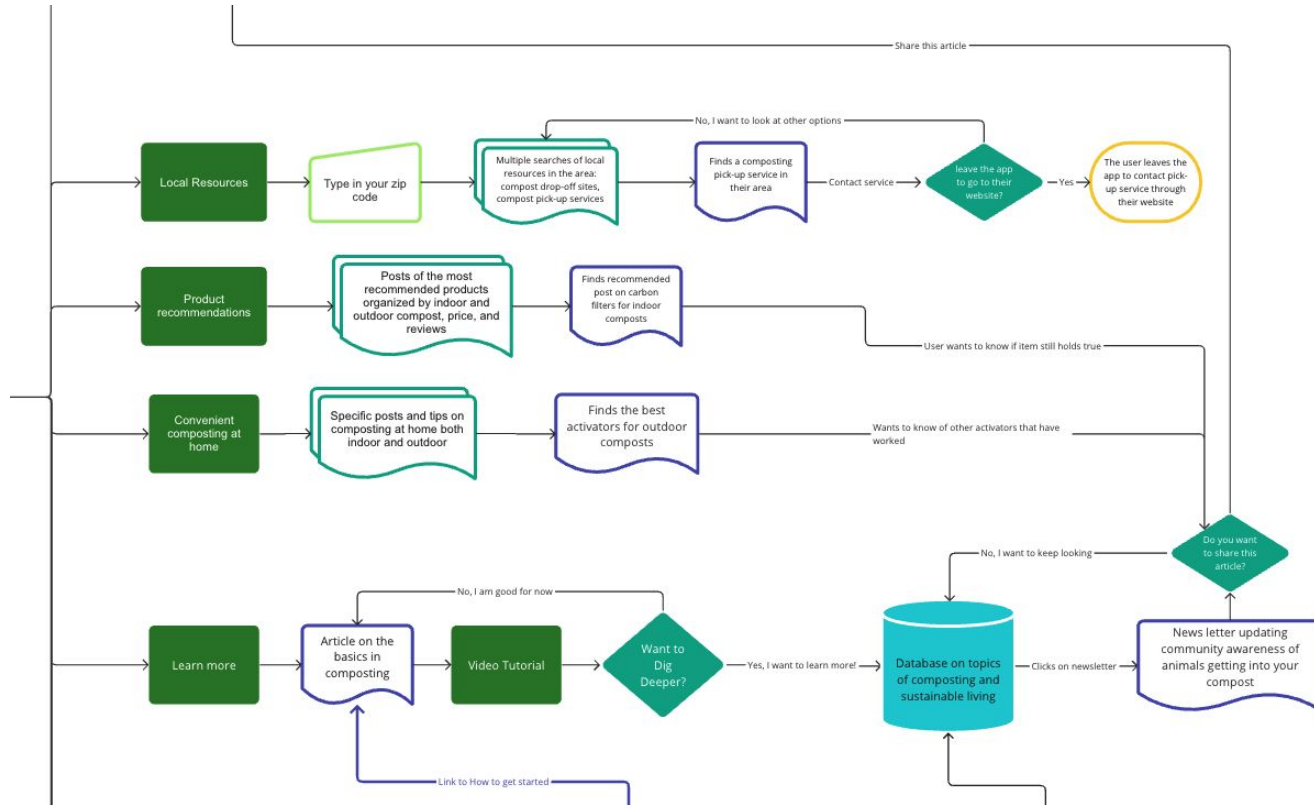
# PROPOSED WIREFLOW : Welcome page



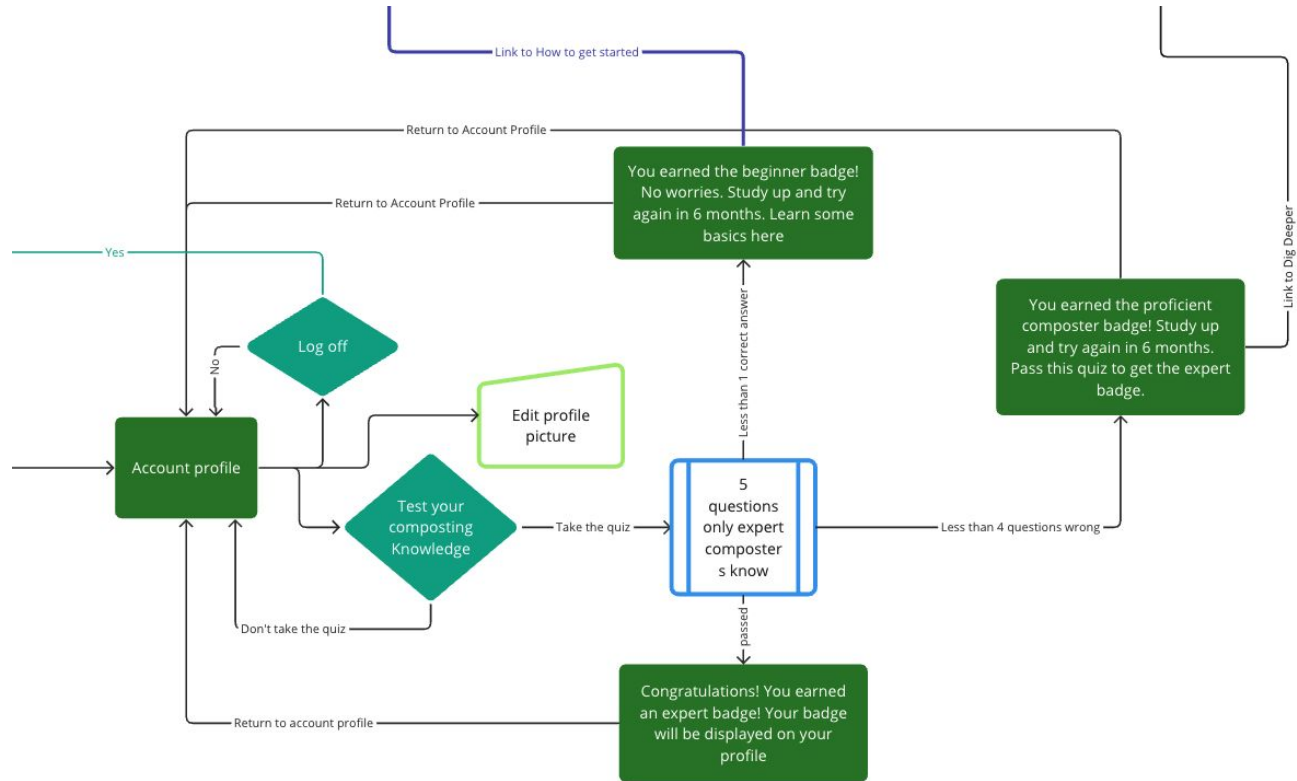
# PROPOSED WIREFLOW: community feature



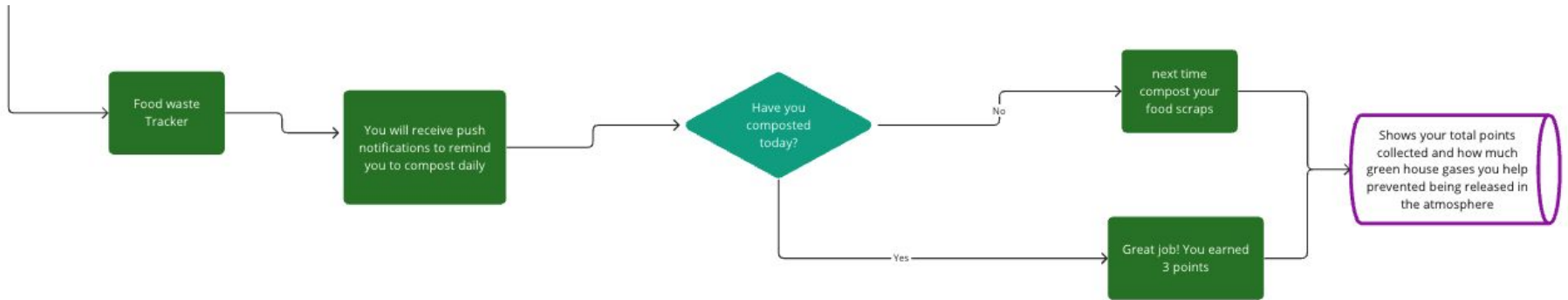
# PROPOSED WIREFLOW: information feature



# PROPOSED WIREFLOW: account feature



# PROPOSED WIREFLOW: food waste tracker



# CONCLUSIONS & NEXT STEPS

# CONCLUSIONS & RECOMMENDATIONS

- 1 There is appetite for **an app that informs and engages users** around composting. Current resources available can be intimidating, so **a simple app with a low barrier for entry** would be most valuable to our target users.
- 2 Our target users are motivated by a variety of factors, including peer modeling and a desire to help the environment. They would welcome financial incentives to encourage a composting habit. We recommend exploring **an incentive structure** within the app, as well as **a community-building element** as an effective way to leverage peer-driven composting motivation to create behavior change.
- 3 Where a person lives and their current level of composting participation doesn't necessarily indicate their interest level in a variety of composting methods. There is a broad interest in backyard composting, and we want to make sure that the app **provides ample resources and information on backyard composting while also highlighting different methods** to ensure all composters are aware of their options.



# NEXT STEPS

1

Develop an app prototype based on research findings. Include:

- Composting Information
- Community
- Incentives

2

Engage target users in a second phase of research, including:

- Diary studies
- Usability testing
- Additional card sorting

3

Continue to iterate on the design and content to best serve users.



**THANK YOU!**  
**QUESTIONS?**