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# DESIGNING FOR SUSTAINABILITY

05 / 01 / 2022

Human-Centered Design - ITIS 3130

- RECYCLE PLEASE -



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# Introduction

For our final design report, we decided to focus on the topic of sustainable sustainability. We chose this topic because it was something that caught our attention, and felt that we were all passionate about. This was a topic that we wanted to know more about and what others think about it. Through needfinding we found that there was a problem when it came to the lack of education and awareness of sustainability. Individuals know that there is more that they can do out there but don't know how or what to do to contribute to sustainability.

We set out on a path to help develop a design that not only helped us better understand this problem, but how we can make an impact on our users by turning an existing situation into a preferred one. The following report is our finding from our research and the different design methods that we went through. In addition to this, through our successes and failures we were able to gain knowledge and valuable lessons from our design.

## Who our Users are:

Our users are people who have some knowledge about sustainable practices, and tend to have a desire to understand more about sustainability. They have a high concern for the environment and wish to prevent further "irreparable" damage. This typically consists of people from suburban areas around the ages of 18-20.

We believe this application is relevant to users because it's something that they can choose to incorporate into their life that's easily accessible. No matter where you are, you typically have access to the internet, whether it's your phone or via public service.

Some steps that users will have to take to include this potential technology into their life/routine is learning how to navigate the potential technology. In addition to this, users will have to figure out

where this potential technology could fit into their needs/life. Where might something like this be beneficial?

### Measuring Success:

- Helps inform people to make better choices to maintain resources that everybody uses, and produce less waste and hassle at the facility.
- The user wants to make more sustainable decisions and knows how important sustainability is, but isn't well educated about actions they can take that make a difference.
- Recycling facilities could give a report of how efficient people are recycling and how well the facility is running. In addition to this, a report via a visual design that is easily understandable can help people see what they can do to help improve their sustainable practices.
- Have a poll or survey with some kind of incentive tagged along to have users give feedback about the goals and how well the technology-based solution reflects them.
- Have an option for the user to report feedback or problems.

## Needfinding

We conducted a survey, [Sustainable Sustainability](#), using Google Forms. We sent the survey out to friends and family via email with the following 12 questions:

1. What is your age range?
2. On a scale of one to ten, one being nothing and ten being well educated how much do you know about Sustainability currently?

3. What are your impressions of sustainability?
4. How would you define sustainable sustainability?
5. How do you feel Sustainability could be improved in today's time?
6. Do you personally use any sustainable products?
7. Do you know anybody that practices sustainability, for example recycling, composting, etc.
8. On a scale of one to ten, one being bad and ten being great, what would you rate today's sustainability in the US?
9. What are some complaints you have about sustainability currently?
10. How often do you see incentives for sustainable practices or products?
11. What type of area do you live in?
12. Why do you think sustainability is important? Why or why not?

### Survey Results:

A total of 44 responses

- More than half (63%) of our participants are 20 and younger. We had a much younger demographic.
- Almost half (48%) indicated a 7 or higher on the scale of knowledge about sustainability. About a third (32%) indicated a 4, 5, or 6 on the scale of knowledge about sustainability. Our demographic was somewhat knowledgeable or felt knowledgeable on the topic of sustainable sustainability.
- 28 of the participants have the impression that sustainability is “important”, “necessary”, or “good for the environment”, and overall, a positive thing. More than half of our demographic thinks sustainability has an impact on the environment.
- The most used sustainable products are Reusable Water Bottles, with over 62% of participants. Tupperware/Utensils followed at a little over 55%. Lunch Boxes/Bags and Reusable Shopping Bags are over 30%.

People try to make sustainable decisions that are convenient and beneficial to them.

- 25 participants indicated that they knew someone or they, themselves, recycle.
- Ways sustainability could improve were its accessibility, education, and improved use of natural resources.

Through our needfinding, we discovered a problem. Based on our survey results, approximately 63% of our participants expressed that sustainability is important. However, throughout those survey results, there is an emphasized need for the standard of awareness and education on sustainable practices to be raised. This is best conveyed through specific responses that reflect the voices of many. For instance, "Push on consumers and not the market itself," "lack of resources," "lack of education," "need people to learn how to be sustainable." People understood sustainability from a definition basis, but putting sustainable practices into play is where there is a disconnect. We helped model a solution to this problem by first deriving personas based on our survey results. By developing an understanding of user behavior and their needs in mind, we were able to create a user experience. It allowed us to develop an application with specific people in mind and take a human-centered design.

## Personas:

Name: Destructive Dan



Occupation: Entrepreneur

Age: 27

Social Situation: In Dan's family, nobody recycles. Dan only knows a handful of people that actively recycle. While he grew up in the city, rather than practicing sustainable options Dan chooses to utilize ride-booking services, emitting carbon dioxide and producing harmful byproducts. He is never to be seen on a subway, or any other form of public transportation. Dan is primarily focused on anything that will push forward his business.

Story to Tell: Dan values materialistic objects above all else. Name brands and wealth come first. Dan starts his day off with Business Inside Magazine and stays on top of the stock markets. The sole purpose of his relationships is for business connections.

Demographic Information: Urban

Motivations: Money, regardless of the outcome.

Beliefs: There isn't a need to be sustainable due to how difficult it is to achieve, and deems it unnecessary to his goals. Sustainability comes to mind as a marketing strategy if it means profit.

Goals: Successfully owning his own business, purchasing a home, and being one of the richest people in the world.

Behaviors: Ignorant, self-absorbed, confident, outgoing, and ambitious.

Name: Recycling Rick



Occupation: Full-time Student

Age: 19

Social Situation: Rick's entire family recycles and is familiar with composting. Rick's family and friends promote recycling and attempt to implement it in everyday waste. In his free time, Rick enjoys morning yoga and meditation.

Story to tell: Rick loves to hike and is a committed vegan. Plant lover, with his own garden.

Demographic Information: Suburbs

Motivations: Rick wants to care for the earth and use resources that are non-toxic for the health of himself, and the environment.

Care for the earth and use resources that are non toxic for health of self and environment.

Beliefs: We can all do something to help make Earth a better place.

Goals: Rick wants to make the earth more sustainable, and give his future offspring a prosperous future.

Behaviors: Knowledgeable, resourceful, caring, and adventurous.

## Design Goals

Design Goals:

With our design in mind, we hope for our users to achieve:

- Access to a distribution of sustainable practices and products
- A better understanding of information about sustainability, and awareness of the reward behind sustainable decisions.
- Communication and engagement with other users

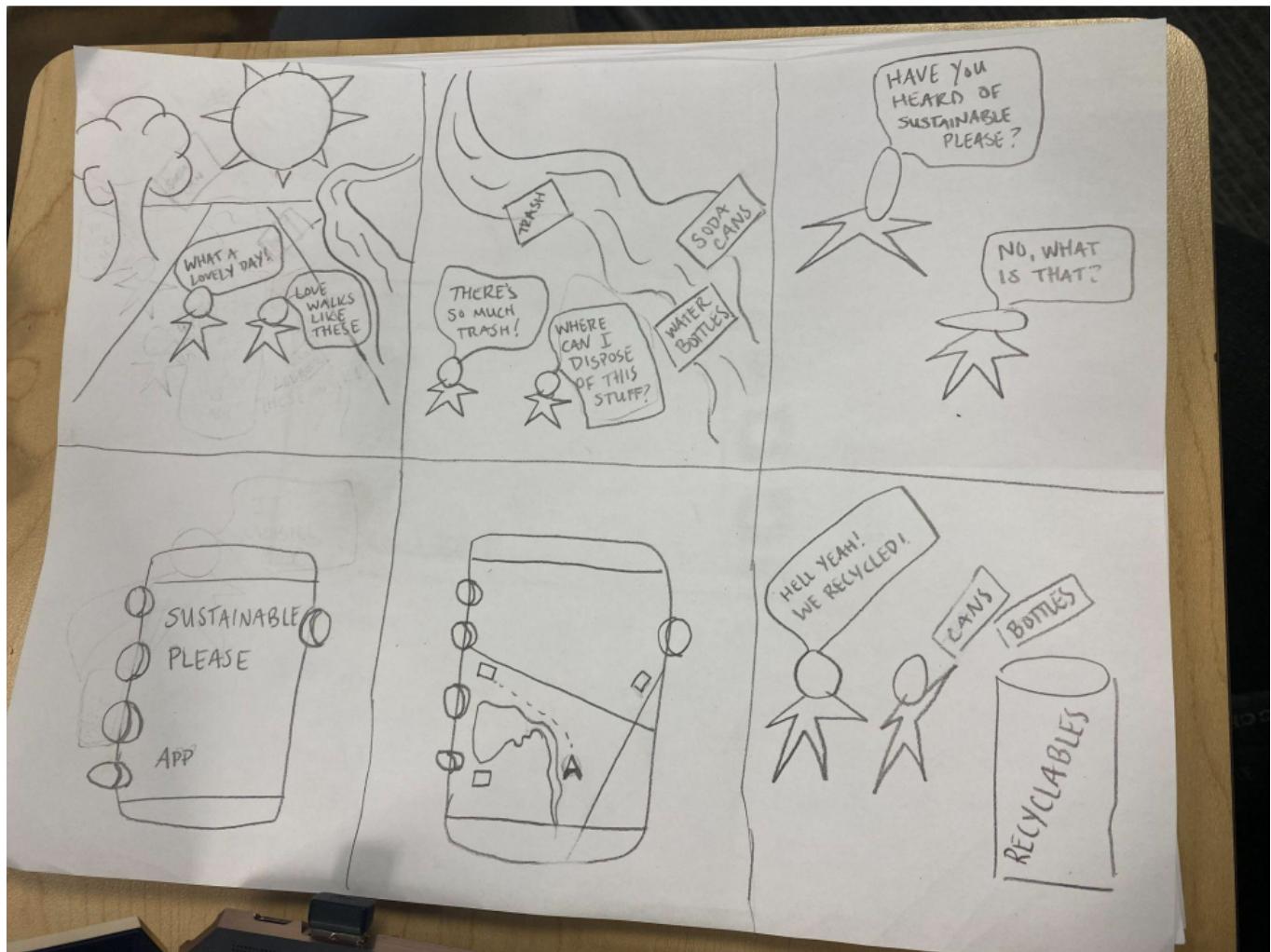
Scenario:

Sarah produces a lot of trash, and in an attempt to help declutter her home she wants to get rid of some things. Some of this trash must be disposed of in a specific manner, including items such as batteries or electronics that can be hazardous if disposed of improperly. She is unsure of how to recycle these items and is struggling to find the proper resources readily available to help her. In the hopes of finding the solution to her problem, Sarah turns to a friend for help, who redirects her to an application known as "Recycle Please". Through exploring this application, Sarah is able to easily find the answer to her problem. Through reading the articles listed within the application, Sarah was able to successfully

process information about sustainability, and learn the proper procedure to dispose of her trash. Sarah hopes to share her story with others that may be going through the same struggle, which she then shares on the application via posts. Through her posts, Sarah begins to engage with other users and communicate to help educate, not only herself, but others as well on sustainability. Sarah is able to successfully dispose of her trash and feels the delayed gratification of knowing she's helping the environment, as well as a clean home. Lastly, Sarah was able to prevent harmful by-products and pollutants from entering the atmosphere.

In the scenario above, our design goals are illustrated with the user in mind. We wanted to transform an existing situation into an ideal situation. In an existing situation, someone may have to do some digging to find the answer to their problems. This may include calling their local recycling center, local waste management, or even looking into the United States Environmental Protection Agency. By providing a technology-based solution, we're able to provide the answer at their fingertips, with a much more efficient and less pain-inducing procedure. Furthermore, our technology-based solution stands out on its own as it takes this problem and attempts to further build upon it. Rather than just helping the user understand information about sustainability and sustainable practices, the application allows the user to make contact with those in similar situations. At the tip of their fingertips is a database of sustainable practices and information that they can use as needed, with the possibility of engagement with others.

## Storyboard:



The above storyboard shows how the design of our app will support our area and local communities, as it illustrates proper sustainable practices. In this case, recycling will help reduce the amount of garbage in our landfills and also littering. Furthermore, this will help reduce energy costs and efficiently convenient means of disposing of trash and recyclables. Lastly, with the implementation of a map, the user is able to access a nearby recycling bin and other local resources, such as bus stations and parks. This exemplifies our design goals in mind, allowing the user to achieve access to sustainable products. The user was able to

process the information accessible via the application, and use it to better understand sustainable practices.

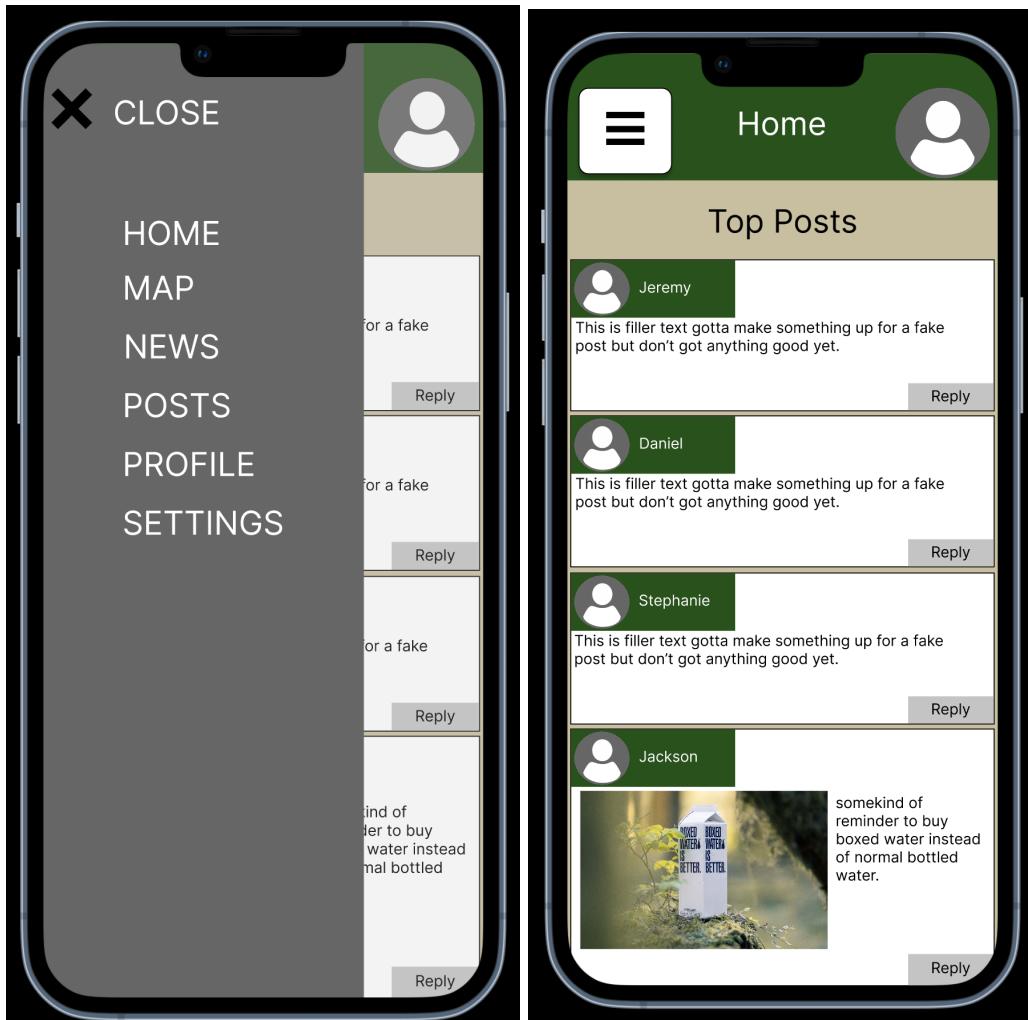
## Design Description

### Design Concept:

Our application is called "Sustainable Please." This application was created in mind to help better educate users to make more sustainable and informed decisions. Through our news and posts we hope to expand the knowledge of our users and expose them to information they wouldn't normally be exposed to. In addition to this, by implementing a news and posts section, we can better provide access to a plethora of sustainable practices. Furthermore, we hope to establish a community that allows users to share and interact with those of similar interests when it comes to sustainability. We integrated a map to show local resources and conveniently efficient ways of disposing of trash and/or recyclables.

## Interactive Elements:

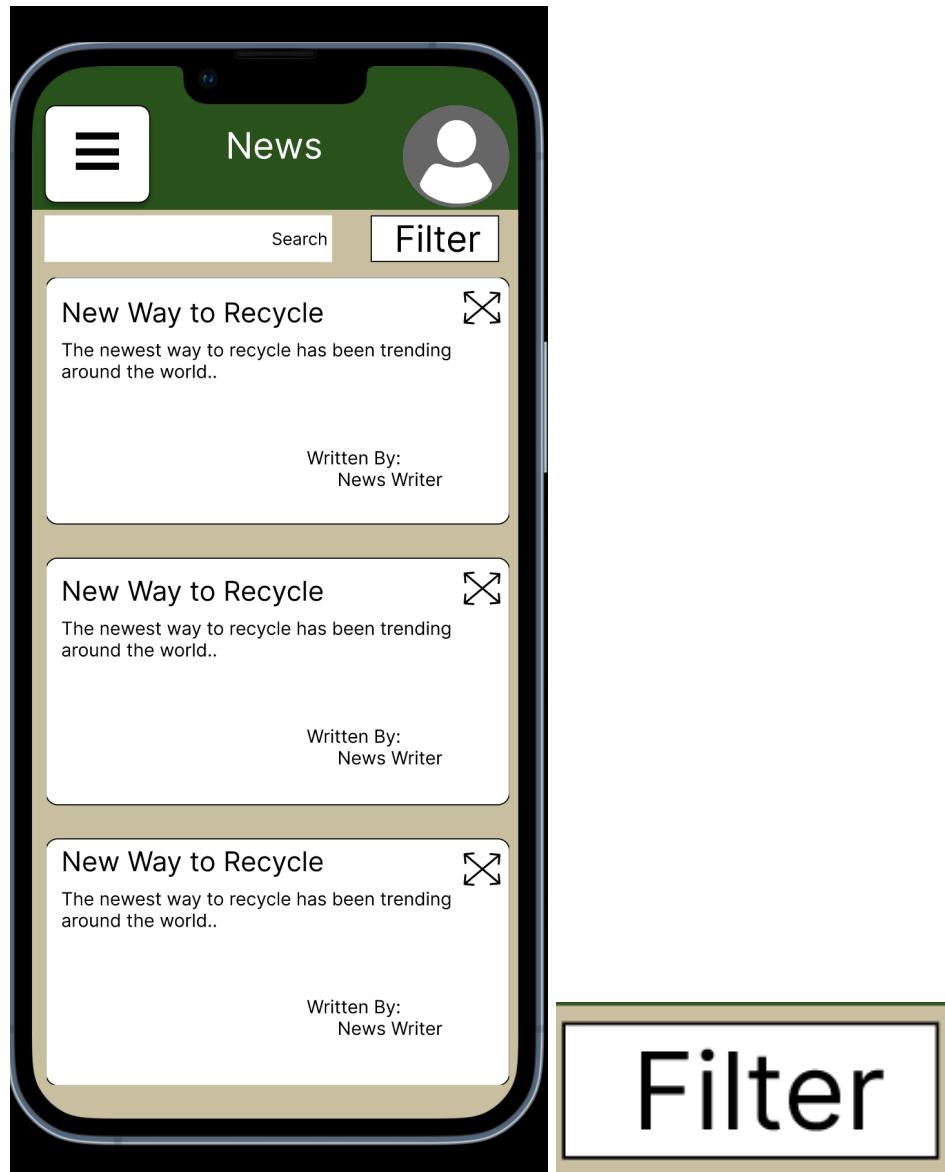
### 1. Pop-out Menu



## 2. Drop-down Menu



### 3. Filters



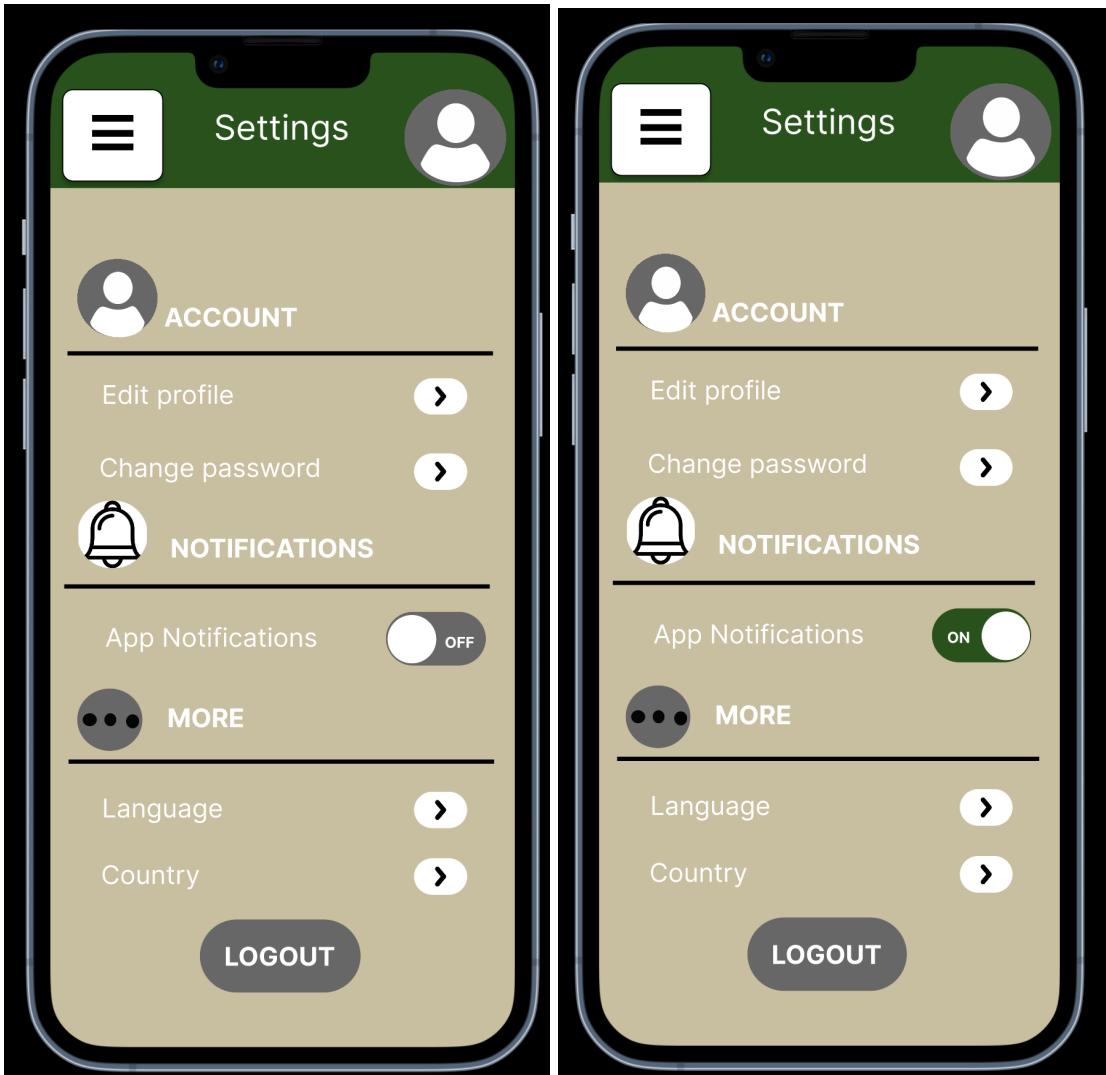
#### 4. Scrollable Content



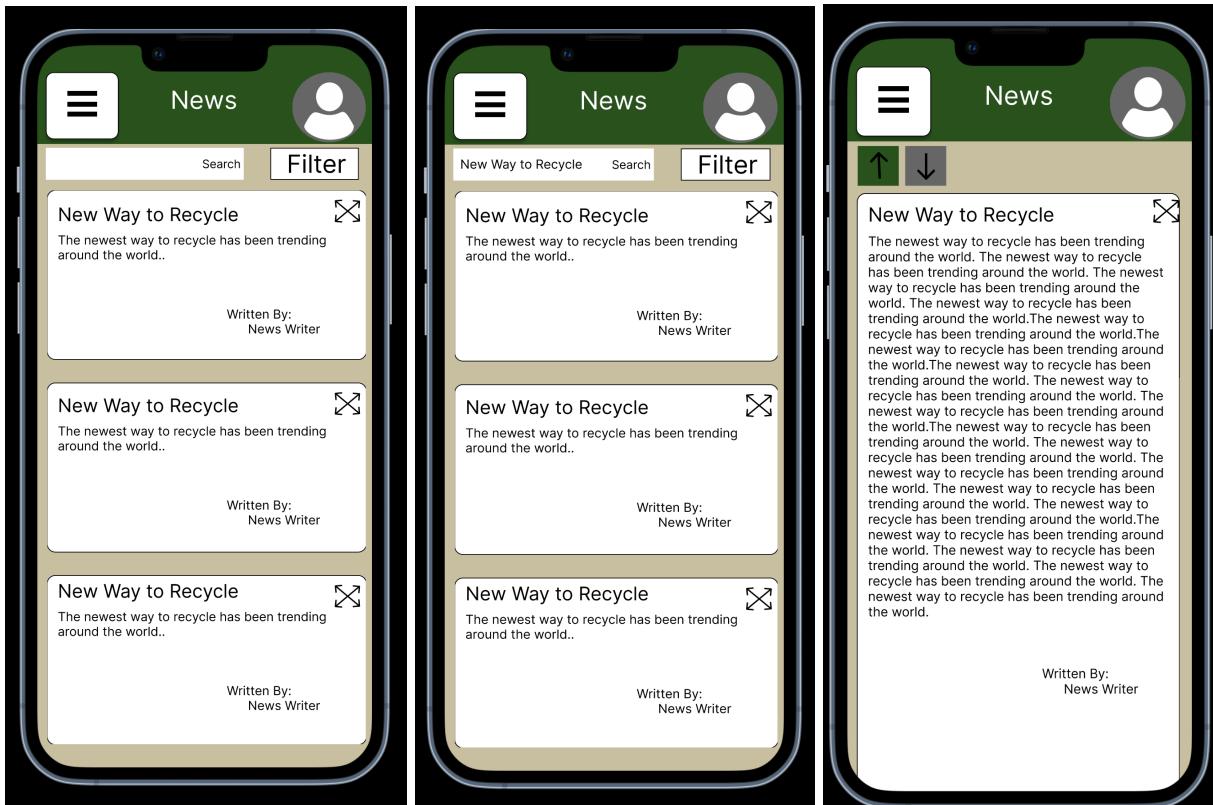
## 5. Text Entry



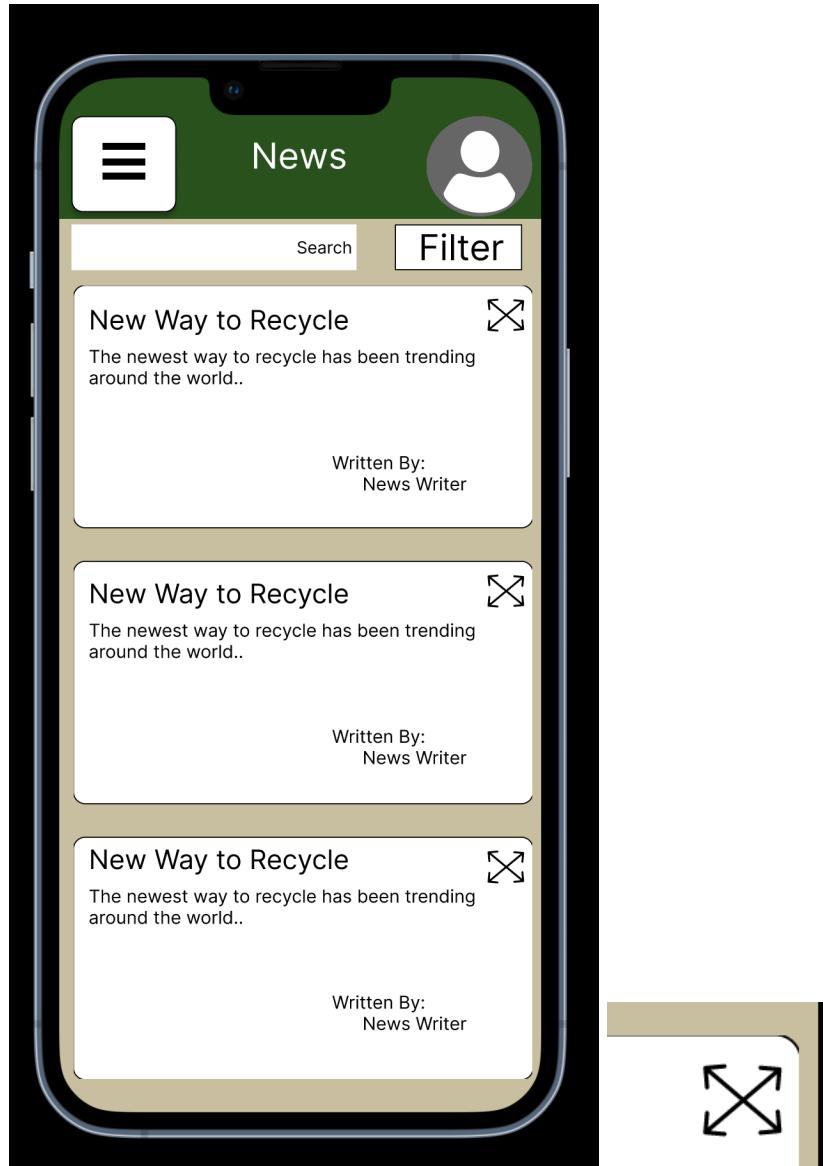
## 6. Toggle Feature



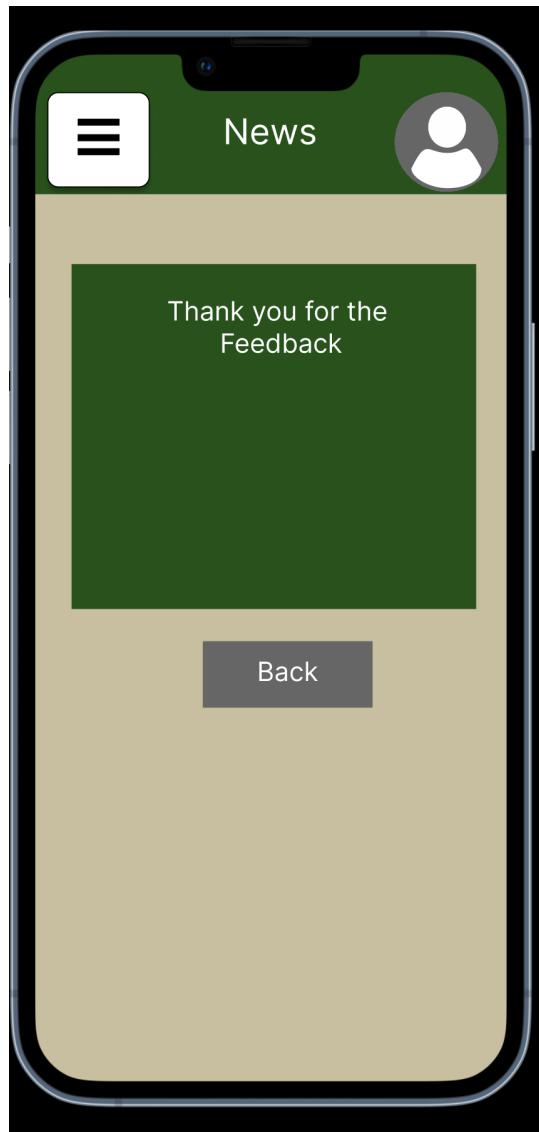
## 7. Search



## 8. Expandable button



## 9. Modal Windows



## 10. Icon



## Design Prototype:



This frame is of the map which can help the user navigate to the closest recycling bin nearby. By clicking on the maps, they're able to choose their direction and a route for navigation. They are able to use the drop down menu to filter what they're seeing. They are also able to use the legend to see what the symbols mean.

Example 1: Icons, buttons

**Signifiers:**

In the frame above, a signifier that we have is the “Select Filter” button. By including this signifier we know that once we interact with the element by clicking the button, something will be filtered.

**Affordances:**

In the frame above you can interact with different button elements such as the select filter and the help icon. There are different elements of those aspects such as the distinct beveled shape of the select filter button, and the drop shadow of the exclamation icon. These aspects tell you that you can interact with that element.

**Metaphors:**

The exclamation mark is utilized as a metaphor as the context of it in real life can be used in the same context on the web. For instance, in the real world an exclamation mark represents importance or some type of alert. This is the same in our virtual setting, as the exclamation mark creates familiarity with the real world. Furthermore, the bus icon can also be considered a metaphor. In the real world, a bus can represent a bus station or a form of public transportation, which serves the same purpose in our virtual format.

**Modalities:**

Touch, Web Interface



This frame is of local and/or national news. They can then filter through to see the newest article posted in order to click on it, as well as other filters that help them view what they want on the news page.

#### Example 1: text bar, buttons

Signifiers:

Search bar indicates that a user can search for specific articles or topics that may interest them. Filter indicates some kind of filter can be used by clicking the button. The crossed arrows signify some kind of expansion.

**Affordances:**

Bar affords that text can be added. Filter button affords that some kind of action can take place. Crossed arrows afford a place to click but unknown action.

**Metaphors:**

The shape and use of the word search is a consistent metaphor to a recognizable assumption that this is a way to look up things related to the page. Another metaphor is the use of the word filter near the top and next to the search as it can be associated with the function of narrowing options of the page.

**Modalities:**

Touch, Web Interface



This frame is utilized as our pop out menu that helps the user navigate between our different frames. Based on what they click, they'll be able to navigate to that specific frame of either the map, the news, the posts, their profile, as well as their settings. If they click on the home button again, this pop out menu will appear and they can then navigate to the page they desire.

**Example 1: Icons, buttons, color palette**

Signifiers:

The words indicate that each leads to a different page within the app.

The “close” helps solidify the “X” as a way to exit/hide the menu.

Affordances:

The all capitalized words afford the user to interact with them due to their ordered appearance. The “X” and “close” afford that this causes some action to occur with the menu.

Metaphors:

The “X” is a consistent metaphor meaning to close an application or close a pop out window like in the menu’s case. The inline nature and spacing of the page names indicates a menu familiarity even without button outlines.

Modalities:

Touch



This is the page that is scrollable and contains posts, like a newsfeed, but for posts made by “friends” and the user. There is a button to create/make a new post.

#### Example 1: buttons, and scrollable

Signifiers:

The words “Create your own post” are an indication that this button leads to the creation of a post.

Affordances:

The clear indication of a button at the top of the page affords that it deals with a post interaction.

Metaphors:

The way the posts on the page are presented leads the user to understand the content is scrollable.

Modalities:

Touch, Web Interface



This is the page to write a new post, which the user will be directed to from the previous page.

#### Example 1: Icons, buttons, text box

Signifiers:

Filler text indicates to the user what input they need to add to each section. The “Submit” text indicates to the user this is how they complete their post creation.

Affordances:

The difference in color and outline of the title and post text sections affords a text box function. The shape and difference in color for the button affords it is some type of final action.

Metaphors:

The shape and order of the text boxes gives a user a familiar format to follow of title then contextual input. The position of the submit button is familiar in that it is at the end of the text input.

Modalities:

Touch, Web Interface

## Prototype

[Recycle Please.fig](#)

## Usability Study

Design Goals:

- Provide access to sustainable practices and products.
- Helping people process information, and encourage sustainable decisions more easily and enjoyable.
- Lets users communicate and engage with other users.

## Usability Goals:

- Learnability: How well the system supports the user in going from novice to expert?
- Generalizability: How well the system mimics similar systems to support onboarding?
- Responsiveness: Does the website work well and provides feedback based on the user's actions?

## Usability Study Protocol:

### Greeting/Introduction:

a. "Hello, and thank you for being a willing participant in our usability testing. Today we will give you some tasks to perform with a set of questions we will ask before and after the tasks. We would like to emphasize that we aren't testing you, but rather testing the application."

### Demographic/Pre-Task Questions:

- a. How old are you?
- b. How familiar are you with smartphones?
- c. Which phone applications do you regularly use?
  - i. Safari
  - ii. Google Chrome
  - iii. Reddit
  - iv. Youtube
  - v. Tiktok
  - vi. Instagram
  - vii. Snapchat
- d. How often do you use those specific applications?

### Tasks:

- a. Make a new post
- b. Use the map filter to remove the bus station

- c. Use the map to navigate to the nearest recycling bin
- d. Navigate to the news and upvote any article

#### Post-Task Interview Questions:

- a. How was your experience with the application?
- b. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?
- c. What are two things you liked about the application?
- d. What are two things you disliked about the application?
- e. Did the application feel familiar to any other application you've previously used?
- f. Was there anything in the application that you didn't understand, or felt confused about?

## Evaluation

### Usability Goals:

From the results we collected, our usability goals were met as all study participants improved on their navigation of the application through the recorded times taken during the study.

- **Learnability:**

There are clear indications of learnability in our application through its simple nature and design. From our results, it took less time to complete tasks after each one. The user's ability to navigate to different pages became easier after each task, as they knew where the navigation was. The last task confused many because "upvote" was an unfamiliar phrase and the button was hard to find. 5 out of 8 of our participants found the first and last task "confusing" or had some trouble and needed some guidance. Most of our participants found the website to have a good responsive nature, but a majority of participants (5 out of 8) found our use of an

inactive mock keyboard to be confusing therefore affecting both responsiveness and learnability. The keyboard wasn't a fully functional keyboard due to the limitations of Figma and the "upvote" button is only accessible after opening the news post.

- **Familiarity & Generalizability:**

All participants felt the application had a sense of familiarity with a varying amount; therefore, we can connect that generalizability was met to some extent. Our participants found that our application was familiar to previous applications they had used before, such as Geocaching, Niner Destination, Reddit, Tumblr, Twitter, and even Yikyak.

- **Responsiveness:**

Feedback received full marks. Completing the tasks at first was somewhat confusing; but once they were complete, participants knew they had completed the task.

### Design Goals:

While we did not get participants' direct responses on our application of meeting the design goals, we did accomplish them by having the participants complete the varying tasks.

We provided access to sustainable practices and products through the use of the map, which indicates points of interest in the realm of sustainable practices. Access to products can be brought about through the use of user engagement and communication using the application via "posts" and "news articles". For example, users can add text and image posts to the community feed and upvote news articles. Our application also helps people process information and encourage sustainable decisions through the use of our news page, which includes articles that pertain to most environmental and sustainability issues or topics.

## **Modifications:**

When presenting this study again, or if another prototype is created and a similar study is done, it would be best to inform the participants that not every feature works to completion. For instance, the Figma software does not allow for that type of interaction, such as a functional keyboard.

# **Summary & Conclusion**

## **Summary:**

Our design concept of “Recycle Please” was created for the intended use of expanding sustainable practices and applying these practices in local communities. Through expansion and application of sustainable practices, users are exposed to news articles and posts about sustainability. An application such as “Recycle Please” can encourage sustainable practices, such as using a map to navigate towards nearby recycling bins and sharing sustainable tips or knowledge through communicative interactions with other users.

Our application adopted different interaction modalities in a variety of ways:

1. Pop-out Menu
2. Drop-down Menu
3. Filters
4. Scrollable Content
5. Text Entry
6. Toggle Feature
7. Search
8. Expandable Button
9. Modal Windows

## 10. Icons

The different interactive modalities were adopted through our “hamburger” navigation bar, the “news” page, “posts” page, and “maps” page.

### Conclusion:

Our prototype indirectly met our design goals. The design concept and tasks given to our participants accomplished these ideal design goals. The prototype provided access to sustainable practices and products through the integration of a map. It exposed users with sustainable information through news articles. It also encouraged users to apply and share sustainable practices through engagement and communication of posts. We better understood the problem at hand behind the lack of awareness and education in sustainability, and were able to take away the type of impact a technology-based solution could have, in our case, “Recycle Please.”

Overall, a few suggestions for the future of this project would be to implement a fully functional keyboard. We described potentially adding trash cans and other local environmental resources, such as composting sites, and upcycling resources. Through the different design methods we went through, the biggest takeaway we felt was that you can never get something right the first time. We learned that there's so much more that goes into design, and it's a process that requires continuous reflection. It requires pilot testing and constant adjustments to any major or minor changes or deviations from our intended plans and goals. As we move forward, we hope that we can take away from this experience to apply what we've learned for future endeavors.

# Appendix

## Usability Study Data:

Name	Will
<p>Demographic/Pre-Task Questions:</p> <ol style="list-style-type: none"> <li>1. How old are you?</li> <li>2. How familiar are you with smartphones</li> <li>3. Which phone applications do you regularly use?             <ol style="list-style-type: none"> <li>a. Safari</li> <li>b. Google Chrome</li> <li>c. Reddit</li> <li>d. Youtube</li> <li>e. Tiktok</li> <li>f. Instagram</li> <li>g. Snapchat</li> </ol> </li> <li>4. How often do you use those applications?</li> </ol>	<p>Demographic/Pre-Task Answers:</p> <ol style="list-style-type: none"> <li>1. 19</li> <li>2. Very Familiar</li> <li>3. And 4. Safari - Often, safari is the main browser on his phone but other than that not often, Google Chrome - Not that much, he just prefers microsoft edge but still knows how to use chrome. Reddit - Not that much. Youtube - A lot</li> <li>Tiktok - Often, around 2 hours a day Instagram - 2 hours or so a day</li> <li>Snapchat - A lot</li> </ol>
<p>Tasks:</p> <ol style="list-style-type: none"> <li>1. Make a new post.</li> <li>2. Use the map filter to remove the bus station.</li> </ol>	<p>Results:</p> <ol style="list-style-type: none"> <li>1. 10 seconds</li> <li>2. 7 seconds</li> <li>3. 6 seconds</li> <li>4. 7 seconds</li> </ol>

<p>3. Use the map to navigate to the nearest recycling bin.</p> <p>4. Navigate to the news and upvote any article.</p>	
<p><b>Post-Task/Interview Questions:</b></p> <ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<p><b>Post-Task/Interview Answers:</b></p> <ol style="list-style-type: none"> <li>1. Overall good, app felt "clunky" at first but felt smoother over time</li> <li>2. Sometimes the page wouldn't scroll all the way down or froze a couple times</li> <li>3. Easy to navigate and it felt very familiar due to it feeling similar to other applications</li> <li>4. No typing and froze a couple times</li> <li>5. Yes it did.</li> <li>6. After some of the bugs are fixed and some new features are added thought it would be very good.</li> </ol>

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Name	Jakeb
Demographic/Pre-Task Questions:	<p>Demographic/Pre-Task Answers:</p> <p>1. How old are you? 2. How familiar are you with smartphones? 3. Which phone applications do you regularly use? a. Safari b. Google Chrome c. Reddit d. Youtube e. Tiktok f. Instagram g. Snapchat 4. How often do you use those applications?</p> <p>1. 18 2. Very Familar 3. And 4. Safari - Often, safari is the main browser on his phone but other than that not often, Google Chrome - Often, this is his go-to web browser on his laptop Reddit - Not that much Youtube - A lot Tiktok - Often, around 2 hours a day Instagram - Not as much maybe 30 minutes a day Snapchat - A lot</p>
Tasks:	<p>Results:</p> <p>1. Make a new post. 2. Use the map filter to remove the bus station.</p> <p>1. 15 seconds, was a little confused where to go at first 2. 6 seconds 3. 5 seconds</p>

<p>3. Use the map to navigate to the nearest recycling bin.</p> <p>4. Navigate to the news and upvote any article.</p>	<p>4. 5 seconds</p>
<p>Post-Task/Interview Questions:</p> <ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<p>Post-Task/Interview Answers:</p> <ol style="list-style-type: none"> <li>1. Overall good, after looking at the application for a little he was able to navigate the application easily.</li> <li>2. Not being able to type and sometimes scrolling glitched out</li> <li>3. Easy to navigate and it felt very familiar due to it feeling similar to other applications</li> <li>4. No typing and scrolling was weird sometimes.</li> <li>5. Yes it did.</li> <li>6. Not really overall the application was good</li> </ol>

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Name	Wes
Demographic/Pre-Task Questions:  1. How old are you? 2. How familiar are you with smartphones 3. Which phone applications do you regularly use? h. Safari i. Google Chrome j. Reddit k. Youtube l. Tiktok m. Instagram n. Snapchat  4. How often do you use those applications?	Demographic/Pre-Task Answers:  1. 20 2. Use one daily 3. Safari, YouTube, Snapchat 4. Frequently
Tasks:  1. Make a new post. 2. Use the map filter to remove the bus station.	Results:  1. Had some trouble but made it to create a post in 15 secs 2. No problems and made it directly to the map and changed the filter in

<p>3. Use the map to navigate to the nearest recycling bin.</p> <p>4. Navigate to the news and upvote any article.</p>	<p>seconds</p> <p>3. No trouble made it in 3 seconds</p> <p>4. Had some trouble in the article finding where to click. But completed in seconds</p>
<p>Post-Task/Interview Questions:</p> <ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<p>Post-Task/Interview Answers:</p> <ol style="list-style-type: none"> <li>1. Beautiful</li> <li>2. No glitches, have real content</li> <li>3. User interface, template for the app</li> <li>4. Can't zoom in or out of map</li> <li>5. Similar to a geocaching app</li> <li>6. no</li> </ol>

Name	Trevor
Demographic/Pre-Task Questions:  1. How old are you? 2. How familiar are you with smartphones 3. Which phone applications do you regularly use? o. Safari p. Google Chrome q. Reddit r. Youtube s. Tiktok t. Instagram u. Snapchat  4. How often do you use those applications?	Demographic/Pre-Task Answers:  1. 20 2. Very familiar 3. Safari, Youtube, Tiktok, Instagram, Snapchat 4. Often to very often
Tasks:  1. Make a new post. 2. Use the map filter to remove the bus station. 3. Use the map to navigate to the nearest recycling bin.	Results:  1. Made a new post with no errors in 17 seconds. 2. Navigated to it correctly within seconds. 3. Had no trouble finding button within seconds

<p>4. Navigate to the news and upvote any article.</p>	<p>4. Had no trouble navigating to news and got it within 7 seconds</p>
<p>Post-Task/Interview Questions:</p> <ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<p>Post-Task/Interview Answers:</p> <ol style="list-style-type: none"> <li>1. Very solid no problems</li> <li>2. No bugs or glitches, more detailed map</li> <li>3. Simple to navigate, liked interface</li> <li>4. Map improvements, article's not including where they are from.</li> <li>5. Definitely feels familiar but not sure from where exactly.</li> <li>6. Nothing, it was fairly straight forward.</li> </ol>

Name	Trinity
<p>Demographic/Pre-Task Questions:</p> <ol style="list-style-type: none"> <li>1. How old are you?</li> <li>2. How familiar are you with smartphones?</li> <li>3. Which phone applications do you regularly use?             <ol style="list-style-type: none"> <li>a. Safari</li> <li>b. Google Chrome</li> <li>c. Reddit</li> <li>d. Youtube</li> <li>e. Tiktok</li> <li>f. Instagram</li> <li>g. Snapchat</li> </ol> </li> <li>4. How often do you use those specific applications?</li> </ol>	<p>Demographic/Pre-Task Answers:</p> <ol style="list-style-type: none"> <li>1. 20</li> <li>2. Pretty familiar, I would consider myself efficient.</li> </ol> <p>3 &amp; 4:</p> <ol style="list-style-type: none"> <li>a. Safari: Medium, everyday use when looking things up.</li> <li>b. Google Chrome: No</li> <li>c. Reddit: No</li> <li>d. Youtube: All the time, everyday for entertainment.</li> <li>e. Tiktok: All the time, everyday use.</li> <li>f. Snapchat: Sometimes - every other day.</li> </ol>
<p>Tasks:</p> <ol style="list-style-type: none"> <li>1. Make a new post.</li> <li>2. Use the map filter to remove the bus station.</li> <li>3. Use the map to navigate to the nearest recycling bin.</li> <li>4. Navigate to the news and upvote any article.</li> </ol>	<p>Results:</p> <ol style="list-style-type: none"> <li>1. Confused on the keyboard use. Took around 20 seconds.</li> <li>2. 5 seconds</li> <li>3. Confused on how to go to a specific location, 7 seconds.</li> <li>4. 13 seconds.</li> </ol>

<p>Post-Task/Interview Questions:</p> <ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<p>Post-Task/Interview Answers:</p> <ol style="list-style-type: none"> <li>1. Easy to navigate</li> <li>2. Sometimes when navigating throughout the app, the frame wouldn't have the home button and would force us to restart the testing. Can't reply to posts, or type in to the text box. Improvement on these bugs.</li> <li>3. You can navigate using the hamburger menu and the inclusion of a map.</li> <li>4. The layout of the map, and the functionality of the app. Felt like they were restricted and couldn't necessarily make mistakes.</li> <li>5. Yikyak/bus route app</li> <li>6. The post part when it came to upvoting, and the map didn't provide clear instructions as to how to use it when it came to navigating.</li> </ol>
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Name	Kausika
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<p>Demographic/Pre-Task Questions:</p> <ol style="list-style-type: none"> <li>1. How old are you?</li> <li>2. How familiar are you with smartphones?</li> <li>3. Which phone applications do you regularly use?             <ol style="list-style-type: none"> <li>a. Safari</li> <li>b. Google Chrome</li> <li>c. Reddit</li> <li>d. Youtube</li> <li>e. Tiktok</li> <li>f. Instagram</li> <li>g. Snapchat</li> </ol> </li> <li>4. How often do you use those specific applications?</li> </ol>	<p>Demographic/Pre-Task Answers:</p> <ol style="list-style-type: none"> <li>1. 18</li> <li>2. Pretty familiar, smartphone user herself</li> <li>3 &amp; 4:             <ol style="list-style-type: none"> <li>a. Safari: Uses it a lot, main browser</li> <li>b. Google Chrome: No</li> <li>c. Reddit: No</li> <li>d. Youtube: Yes, but not often. About 2 hours a week.</li> <li>e. Tiktok: Yes, pretty often. At least an hour to two a day.</li> <li>f. Instagram: Yes, at least one to two hours a day.</li> <li>g. Snapchat: Yes, doesn't really use it that often.</li> </ol> </li> </ol>
<p>Tasks:</p> <ol style="list-style-type: none"> <li>1. Make a new post.</li> <li>2. Use the map filter to remove the bus station.</li> <li>3. Use the map to navigate to the nearest recycling bin.</li> <li>4. Navigate to the news and upvote any article.</li> </ol>	<p>Results:</p> <ol style="list-style-type: none"> <li>1. Confused about the typing portion. 25 seconds</li> <li>2. 5 seconds, felt the task was self explanatory</li> <li>3. 30 seconds, confused, needed to be walked through as they weren't sure where to click.</li> <li>4. 33 seconds - needed guidance, wasn't sure</li> </ol>

	where to click.
<p>Post-Task/Interview Questions:</p> <ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<p>Post-Task/Interview Answers:</p> <ol style="list-style-type: none"> <li>1. Good experience</li> <li>2. There wasn't any glitches, some of the navigation, upvoting as well as map could use some instructions.</li> <li>3. The possibility of communicating/discussing with other people, and the color scheme of the application.</li> <li>4. More explanation, and the possibility of more navigation.</li> <li>5. Reddit.</li> <li>6. The map.</li> </ol>

Name	Mehak
<p>Demographic/Pre-Task Questions:</p> <ol style="list-style-type: none"> <li>1. How old are you?</li> <li>2. How familiar are you with smartphones?</li> <li>3. Which phone applications do you regularly use?             <ol style="list-style-type: none"> <li>a. Safari</li> <li>b. Google Chrome</li> <li>c. Reddit</li> <li>d. Youtube</li> <li>e. Tiktok</li> <li>f. Instagram</li> <li>g. Snapchat</li> </ol> </li> <li>4. How often do you use those specific applications?</li> </ol>	<p>Demographic/Pre-Task Answers:</p> <ol style="list-style-type: none"> <li>1. 18 and 9 months</li> <li>2. Quite familiar, proficient enough</li> </ol> <p>3 &amp; 4:</p> <ol style="list-style-type: none"> <li>a. Safari: Yes, fairly often, uses it for everything.</li> <li>b. Google Chrome - No</li> <li>c. Reddit - No</li> <li>d. Youtube - Not that often</li> <li>e. Tiktok - Yes, pretty often, at least an hour a day.</li> <li>f. Instagram - Yes, 20 minutes a day.</li> <li>g. Snapchat - Yes, uses it everyday. Varies from an hour to two a day.</li> </ol>
<p>Tasks:</p> <ol style="list-style-type: none"> <li>1. Make a new post.</li> <li>2. Use the map filter to remove the bus station.</li> <li>3. Use the map to navigate to the nearest recycling bin.</li> <li>4. Navigate to the news and upvote any article.</li> </ol>	<p>Results:</p> <ol style="list-style-type: none"> <li>1. 40 seconds, was confused about the keyboard</li> <li>2. 4 seconds</li> <li>3. 1 second</li> <li>4. 30 seconds, confused on where the upvote button was located</li> </ol>

<p>Post-Task/Interview Questions:</p> <ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<p>Post-Task/Interview Answers:</p> <ol style="list-style-type: none"> <li>1. It was ok, there wasn't anything too complex just kind of straightforward and easy to navigate.</li> <li>2. No bugs. Improvements: more interactive, more engaging, make it a little more appealing.</li> <li>3. Concept behind the application, and the colors.</li> <li>4. Didn't like the font, it was very dry. Didn't love the way it was structured, there was a lot going on.</li> <li>5. NinerDestination</li> <li>6. Didn't explain things, confused about what the filters have to do with the map.</li> </ol>
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Name	Sasha
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<p>Demographic/Pre-Task Questions:</p> <ol style="list-style-type: none"> <li>1. How old are you?</li> <li>2. How familiar are you with smartphones</li> <li>3. Which phone applications do you regularly use?             <ol style="list-style-type: none"> <li>a. Safari</li> <li>b. Google Chrome</li> <li>c. Reddit</li> <li>d. Youtube</li> <li>e. Tiktok</li> <li>f. Instagram</li> <li>g. Snapchat</li> </ol> </li> <li>4. How often do you use those applications?</li> </ol>	<p>Demographic/Pre-Task Answers:</p> <ol style="list-style-type: none"> <li>1. 21</li> <li>2. Pretty familiar; has an iphone 11 now, but have used older models before. Used a blackberry phone before.</li> <li>3. All of them except Reddit.</li> </ol>
<p>Tasks:</p> <ol style="list-style-type: none"> <li>1. Make a new post.</li> <li>2. Use the map filter to remove the bus station.</li> <li>3. Use the map to navigate to the nearest recycling bin.</li> <li>4. Navigate to the news and upvote any article.</li> </ol>	<p>Results:</p> <ol style="list-style-type: none"> <li>1. Easy, took 6 seconds.</li> <li>2. Easy, took 4 seconds to complete.</li> <li>3. Easy, took 4 seconds.</li> <li>4. 19 seconds, weird wording for “upvote.”</li> </ol>
<p>Post-Task/Interview Questions:</p>	<p>Post-Task/Interview Answers:</p>

<ol style="list-style-type: none"> <li>1. How was your experience with the application?</li> <li>2. Did you encounter any bugs or glitches, and do you have any suggestions that could help improve the application?</li> <li>3. What are two things you liked about the application?</li> <li>4. What are two things you disliked about the application?</li> <li>5. Did the application feel familiar to any other application you've used previously?</li> <li>6. Was there anything in the application that you didn't understand, or felt confused about?</li> </ol>	<ol style="list-style-type: none"> <li>1. Good, a little confused about "upvoting" took a little longer than other tasks. Unfamiliar with "upvote." Like buttons are "normally on the bottom, so positioning threw me off."</li> <li>2. No, none.</li> <li>3. Simple and easy to navigate, straightforward. Overall premise/idea is cool.</li> <li>4. Not very interactive, very plain. Not engaging, not excited to recycle. Execution was boring.</li> <li>5. Yeah, pretty basic. Not similar to any other application. Reminded of Twitter or Tumblr, but more boring and bland.</li> <li>6. Not necessarily, the "upvote" was confusing.</li> </ol>
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