



MIMS Capstone 2024

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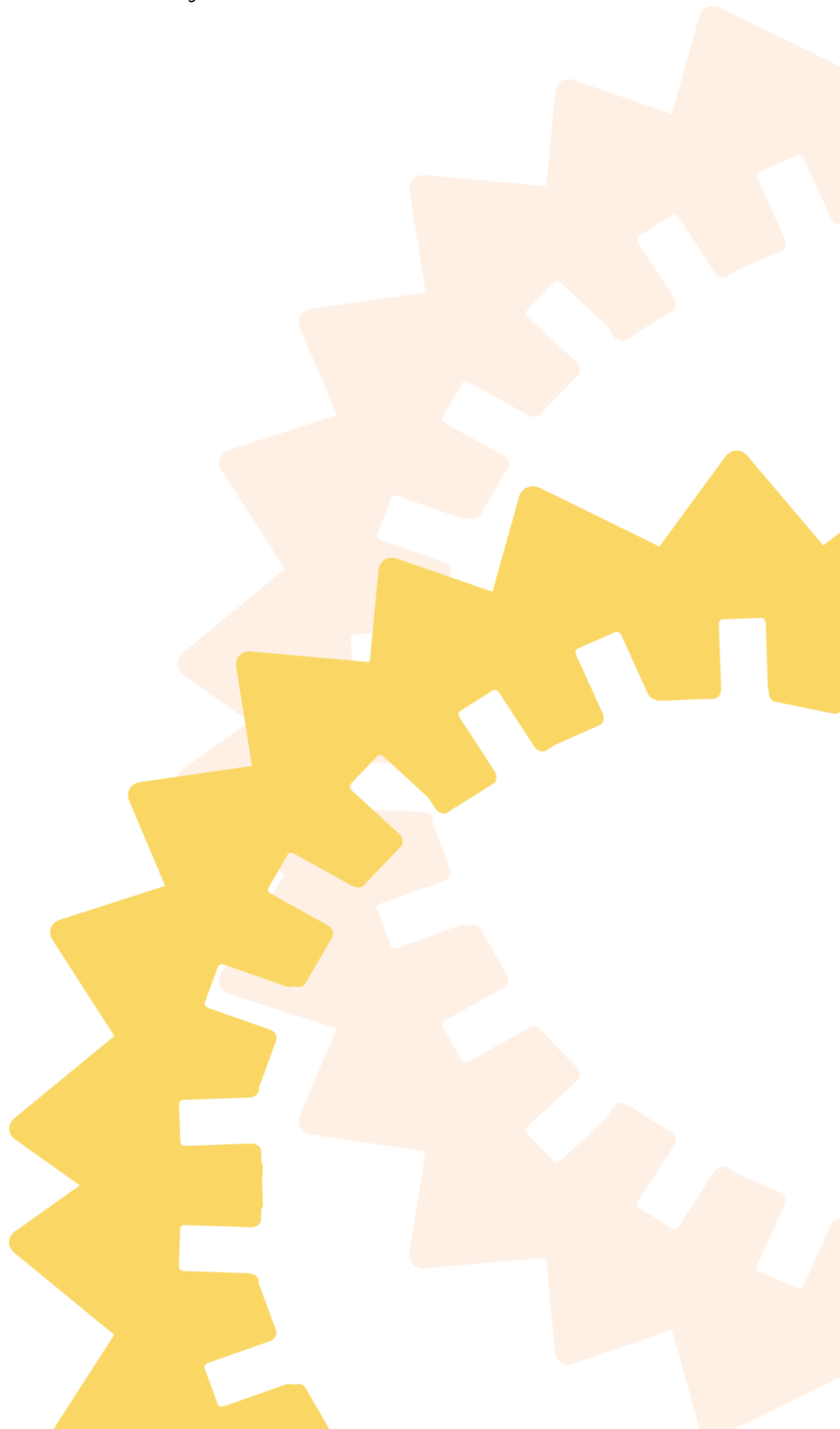


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Overview

Creating and maintaining feelings of community within your neighborhood is becoming increasingly more challenging. Many people no longer feel connected with their communities but are unable to find avenues for building that connection without fear for their personal safety and digital security. We began our journey with user interviews and a literature review before proceeding to the concept exploration and testing process. After scoping our concept and product requirements, we performed several rounds of design iterations from low fidelity to high fidelity, and refined our designs based on the feedback from usability testing. This report documents our journey and thought process as we walked through each step to create a user-centered product designed to enhance the collective good of the community.

Introduction

Sparking connection and conversation within your local community is difficult. With the innovation and integration of complex socio-technical systems in our immediate environments, people are no longer as motivated to reach out to their surroundings to express gratitude and excitement for the community around them. Creating neighborhood relationships is also no longer as simple as it once was - fear of digital deception and inauthenticity, risks associated with identity theft and online doxxing, and the competing interests of other social networks prevent the growth of unassuming, modest connections within neighborhoods.

Through detailed ideation, concept testing, and design prototyping- our capstone project presents Collective. This product aspires to bring back dialogue amongst your community by emphasizing positivity and growth in local neighborhoods. With the foundation built by social psychology, computer-mediated communication, and digital trust-building principles, we have created a product designed to engage and excite people about their local neighborhoods.

Problem Statement

How can we build on reasoning from literature and theories in social psychology and human-computer interaction to put forth a user-centered product that weaves together positive digital expression, establishes privacy and safety, and builds trust online for the creation of an experience of collective good?

Literature Review

Creating a digital space that provides a home for trust and positivity within a community seeks investigation from prior literature around trust, the construction of communities (both physical and digital), and navigating community-based social networks. Through this initial literature review, we build a foundation for the concepts which our product presents and provide context for the principles upon which we have created our designs. From literature on trust-building practices to assessments of existing community-building social networks, we uncover how we can create a product that builds on existing work to push communities towards positivity.

Trust in digital spaces

Literature on trust, specifically in relation to human-human interactions and human-technology interactions assisted our understanding of providing a hub for trustworthy experiences [7]. Navigating the risk and uncertainty that influence actions and outcomes of human behavior online can be seen when considering financial resources and online dating tools. These examples, which provide a window into building online interpersonal trust, highlight how different modes of communication give rise to varying levels of digital risk and uncertainty. Furthermore, anonymity and pseudonymity play a large role in assessing online trustworthiness. Considering these needs was important in our initial discovery of neighborhood trust-building practices as our design standards focused on creating a channel of communication that produced trust through digital transparency and credibility.

Prior research on trust brought to bear in empirical claims includes encapsulated interest, moral commitment, and commitment from character [8, 11]. Creating assessments of potential trust online comes from sustained growth and relationship building, which our product aims to create a space for. By designing activities that present avenues for sustained participation and engagement amongst community members, we aspire to increase curiosity in community interests, highlight the moral commitment members make to each other, and discover more about one another's experiences.

Constructing communities

When considering symbolism and boundaries, researchers have highlighted how pre-existing notions of community claimed that the defining features of a community "cannot survive industrialization and urbanization" [2]. However, more recent work has attempted to communicate the norms of a community by attempting to navigate the boundaries that come with the word "community". They describe that those who have something in common and are able to distinguish themselves from members of other putative groups have implied to simultaneously signify both the similarities and differences [9,10]. Furthermore, boundaries seem to be intensified and clearly defined by people who are in interaction with one another. In this line of thought, these learnings can be seen in the key design features of our project which highlight finding similarities and engaging in positive conversation to spark feelings of community. Our product design also grapples with how neighborhood boundaries may be created in a way that gives room for personalization while also providing the optimal environment for trust building and maintenance.

Prior research has worked to navigate the changing ways with which the world regards the term 'community' [3]. Creating definitions around what categorizes a community, the ways in which people report emotional and social bonds within their community, and the cumulative impact of trust among a neighborhood have been reported as fundamental to aiding in the creation of both physical and online communities. Research has also considered the labeling of online communities, specifically taking a look at how

digital spaces alter arenas of interaction and the organization of social interactions. In-depth examinations of online communities have brought essential elements of community development to light. The use of "rules and conventions which grow out of common interests begin to structure online communication and parallel aspects of community found offline"[3]. Following this practice, our work embodies these core findings and attempts to create a space where users can naturally begin using the online space to discover commonalities with community members to spark conversation that increases trust and positivity within the area. Our vision of igniting community-based conversation through our product also aspires to provide people with a clear and customizable journey to begin creating digital relationships that translate to in-person interactions.

Community-based social networks

Discourse amongst social computing, computer-mediated communication, and human-computer interaction researchers have long discussed the potential benefits that may come with wider access to online information systems [4, 14]. However, as with other technological developments, researchers have also acknowledged and conversed about the various contingencies that come with the growing presence of technology in society. One of the most critical contingencies is that of trust. Prior work suggests the challenges that come with creating social digital spaces and the ways in which cross-functional technologists must contend with these challenges to decrease the risk of distrust online. In this conversation is the balancing of transparent identification services and the protection of individual interests which value privacy, freedom of association, and free expression [12]. The design of our product focuses on this intersection - allowing users to engage deeply with the interests and experiences of community members while giving them the authority to choose their level of information disclosure [15]. While the balancing of these notions enables the creation of environments for a wide variety of cyberspace activities, the trade-offs of these online interactions must be weighted to create a progressive social vision for cyberspace that preserves the degrees of freedom and trust established in our

product's values. Our product weaves free expression and association (community-based experience sharing through 'Collection' and 'Collective Wisdom'), privacy and safety (Personal Space vs. public profile settings), and trust-building (verification system and 'New' users) together to create Collective.

The use of modern technological systems, specifically social networks, to increase community conversation and enhance neighborhood communication systems is not a new idea [5]. In 2011, Nextdoor was launched and touted as "the first private social network for neighborhoods" [5]. While the app provided a space for members of the neighborhood to sell items, recommend local services, and report suspicious activities - the app's design and subsequent use did not provide a home to solely strengthen the bonds of the geographical community. Instead, research has suggested that it resurrected exclusion, provided a stage for racial profiling, and changed the ways many neighborhoods think of discrimination and perceptions of community and belonging. The constantly evolving nature of moderation on Nextdoor's platform and the inability to work through problems of social unrest have created an environment that doesn't always uphold the values the product set out to. We take from these learnings in our product to create a user experience that emphasizes the creation of trust and positivity to build relationships amongst community members. Many design decisions were made to assign an increased presence of positivity and give users the opportunity and stage to express gratitude and excitement for the community around them while sparking conversation amongst its members.

Further research on Nextdoor has also demonstrated that while it is designed to support local neighborhoods, the product has raised user concern over the definition of boundaries and neighborhoods as well as the privacy protections it presents [6]. While it joins an existing network of community-oriented social media resources, its distinct problems and user base have prompted research on civic engagement and local discourse [13]. Although people have seemingly found a way to incorporate Nextdoor as a part of their civic media ecosystems, there are a number of shortcomings that must be assessed and considered when looking into the creation of products that cater to neighborhoods. Some tradeoffs that researchers have cited that require consideration include: supporting

both large and small community-based conversations, defining boundaries that provide a home to meaningful conversation, and creating a channel that shares appropriate community-based social media. Through the research and designing of our product, we took the aforementioned trade-offs into consideration. Along with diverse mechanisms of interaction which range from community-centered prompts to direct messaging opportunities, users are given the chance to engage in a wide-variety of conversation types. Boundaries of a neighborhood are defined by the user themselves as they map out their perception of a "neighborhood" and personalize their experience to cater to their needs. Means of communication have also been created to provide a home to trust-based experiences that center around creating a stage for positive experiences.

Exploration & Concept Testing

Once our group conducted a literature review and brainstormed ideas which began addressing our problem statement, we identified concepts to test with users before beginning the design prototyping process. Below, we document the concept testing process, the main findings, and actions taken.

Methods

We conducted six 45-minute sessions with users who represented an array of demographics, backgrounds, familiarity with neighborhood/community-related products, and housing experiences. In this section, we will be covering the issues called out by participants during the concept testing and, separately, the information around the actions we took to remediate the issue or challenge faced by the participant(s).

Main Findings

Factors that lead to hesitancy to interact with the community

- Some key factors leading to hesitance are: shyness, concerns of danger, limited knowledge of each other (background, mental state, etc.), and different schedules-which leads to fewer in-person, natural encounters
- Some may avoid interacting with people who seem preoccupied or unapproachable
- People feel more comfortable and willing to connect with neighbors of similar age or interests
- Some participants mentioned that whether a neighbor is an immediate neighbor, which means living immediately next to each other, is a key factor in whether they would want to interact with them

Comfort in sharing information with neighbors

- A lot of participants mentioned that they prefer a gradual, evolving way to reveal personal information with neighbors based on how their interpersonal relationships develop and how well they know each other
- The scope of the sub-neighborhood is also important as people feel more comfortable with sharing information with immediate neighbors
- Trust and safety concerns are the key factors that prevent people from sharing too much information with neighbors. However, in-person connections and interactions can help establish trust and lead to more information-sharing

Information they want to know about neighbors

- Depending on the person, the answer ranged from just surface-level information to leaving the door open to build a personal relationship with their neighbor over time
- Overall, participants seemed to want to know their neighbor's names and scope out any information they could potentially connect on further (e.g. similar hobbies, age range, or lifestyle)

- Some participants mentioned wanting to know answers to logistical questions about their neighbors (e.g. if they have pets and rent costs)

Perceptions of a "positive, neighborly community"

- Participants largely defined being a part of a positive, neighborly community as being able to have small conversations with people around them and acknowledging one another's presence. Having the opportunity to interact casually and feeling safe having friendly conversations was a priority
- Being able to help each other, especially in time of need, without having to contact a governance entity (e.g., police department) and assisting each other with simple tasks (e.g. house repairs) were stated as beneficial to building a community atmosphere
- Knowing information, albeit minimal, about those in the neighborhood (e.g., name, vocation) adds a feeling of positivity and enhanced safety
- Community engagement activities which allow members to get to know one another were also stated as important to building a positive, neighborly atmosphere

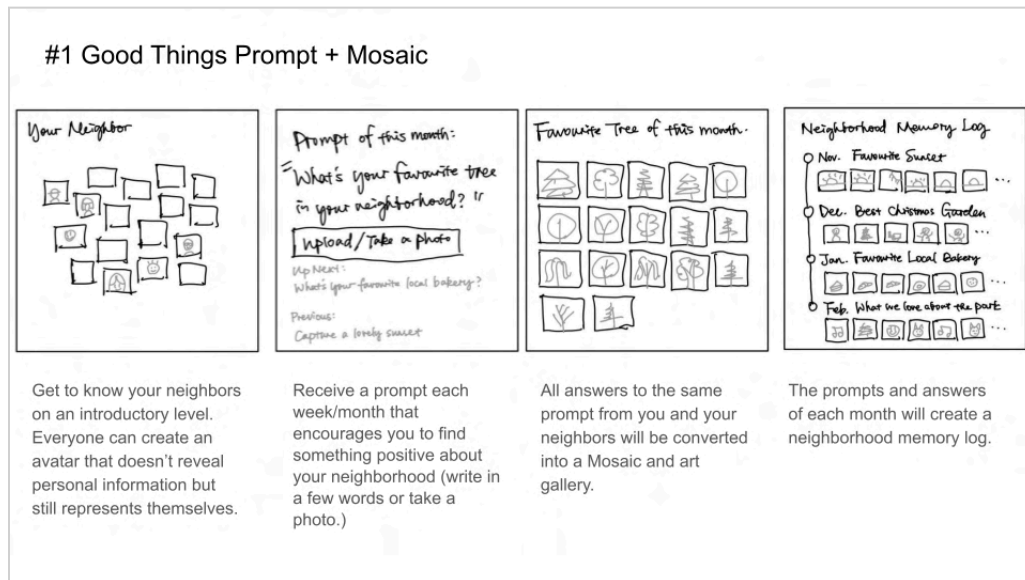
Other ideas that may benefit the neighborhood experience

- Ways to get to know fun/interesting information about neighbors and encourage mutual and voluntary exchange of information
- Ability to set up events and appreciate community through digital and in-person interactions
- Having points of contact or people in charge whom new residents can reach out to in order to obtain information regarding the neighborhood and have questions answered
- Investment in common or shared areas (e.g., parks, libraries) and care of the environment by local government and agencies

Concept Testing Results

Concept 1: Good Things Prompt/Mosaic

The concept is to send a prompt to people on a weekly or monthly basis, which encourages them to find something positive about the neighborhood. They will be prompted to write in a few words or take a photo to capture such positive things. The answers to each prompt will be built into a mosaic and memory log as a collective artifact for the community. In order to protect privacy, users can create their avatar from a set of illustrations that can represent their personality without revealing too much of their personal information.



The concept received some positive feedback such as:

- People like the casual, light-hearted, community-driven, easy-to-use, and low-maintenance aspects of the idea
- The memory log can provide a way for newcomers to understand the history and collective experience of the neighborhood. It also enables the existing residents to deepen their understanding of their community
- The pseudo-avatar idea addresses the privacy and safety concerns of the users

However, there are also some concerns:

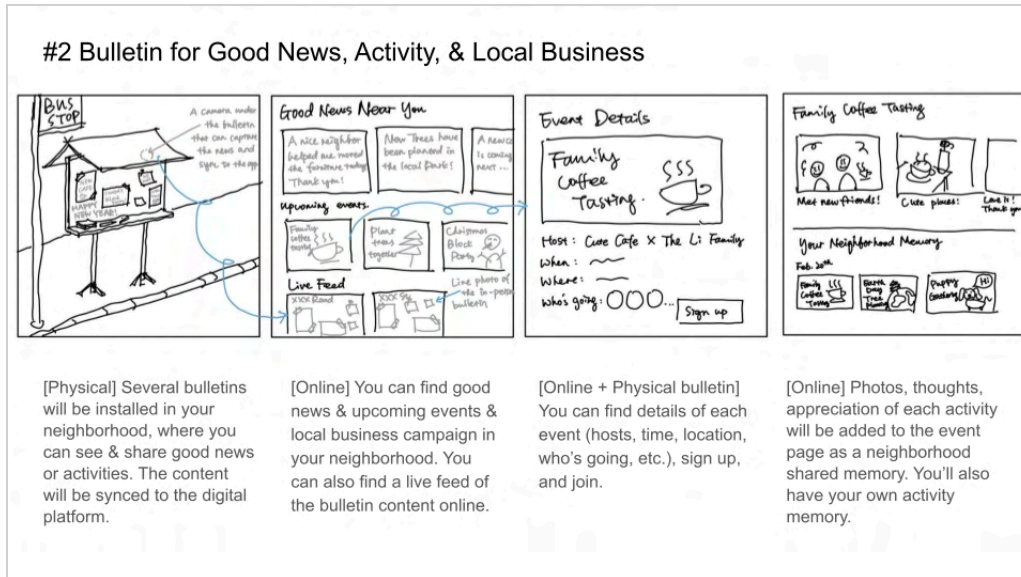
- The user-created content could be negative depending on how people actually use it. Content moderation is crucial to ensure a positive effect
- Contributing to the prompts doesn't provide a way for people to directly interact with their neighbors
 - It might be complemented by adding features such as DM, comments, likes, etc.
- Depending on the prompts and affordances, some worry that this could lead to competition among neighbors, such as whose garden was most praised, etc.
- While some participants find this idea easy to use, some find taking and uploading a photo too big of an ask for them

Besides, we also identified some ways to improve and facilitate this idea:

- The content of the prompt should be designed specifically for each neighborhood so that the prompts and answers could add meaningful impact to the neighborhood ties and understanding
- It's crucial to enable users to manage the scope of the neighborhood, allowing them to explore more content, narrow down what they want to see, and protect how their own information is accessed by others

Concept 2: Bulletin

The concept is to provide a space for people to share good news with their neighborhood, host neighborly activities, and support local businesses. It includes two media, physical bulletin boards that are spread in the neighborhood and a digital platform. In order to sync the information shared on the physical bulletin, a camera is considered to capture the information and sync the photo to the digital platform.



The concept received some positive feedback such as:

- The good news is a lovely way to bring positivity to the neighborhood - it's welcomed by most of the participants
- The activity info is helpful to engage people and help them find neighbors with similar interests, who they would like to know and interact with
- Even not going to the activities themselves, simply knowing that there's some communal event going on will make people feel a sense of belonging here
- The physical bulletin can provide a way for encounters and interaction among neighbors: when taking a walk or waiting for a bus, if there are two or more people reading the bulletin, there could be an opportunity for conversations

However, there are also some concerns:

- Regarding camera and privacy:
 - The camera might be used for surveillance, which can violate privacy
 - People might also want to set a threshold for who's able to see the information, rather than displaying it completely to the public
- Regarding the physical environment:

- It's hard to keep information updated and synced in the physical environment, such as event information and participation
- Regarding content moderation and actual usage:
 - The bulletin might be used for aggressive and inappropriate messages
 - The platform/bulletin might be abused by ads or other purposes
 - Whether people will post information (good news, etc.) on the platform/bulletin is crucial to the actual experience. If nobody posts anything, the platform/bulletin might exaggerate a negative feeling

Concept 3: New Neighbor Onboarding

This concept is designed to provide new residents in a community with resources to welcome them in an engaging and interactive manner. It presents them with resources they can explore, food recommendations based on neighborhood ratings, and information about neighbors who have consented to be contacted. It also gives the chance for these new residents to engage in a neighborhood scavenger hunt to explore as they get acclimated to their new environment.



Participants appreciated that

- It provides new residents with a voluntary means by which they can choose to engage with the community at a level they see fit and encourages participants to get to know each other based on their skills and interests
- The concept gives people an avenue to deeply investigate and understand their environment by seeing neighborhood history, exploring the variety of opportunities, and communicating with current residents
- They had a central repository they could use to find resources, especially as a new resident. It provides a sense of "local wisdom" and a place to begin looking at resources. It also uses a variety of ways by which people can connect with resources: scavenger hunt, finding resources, etc. The gamified nature of the scavenger hunt and the usage of maps encouraged users to understand their community more deeply

Participants did not like that

- They were unsure about who would be volunteering to help new residents during the onboarding process and it was difficult for them to see the reward that came from volunteering to assist a new resident. They wanted more clarity about this process and how it would work on both sides of the interaction
- They were concerned about privacy, and specifically, how their personal information would be depicted online, how many people it was visible to, and their contact information being on this platform for new residents
- Participants were also unsure whether they would be willing to commit to the scavenger hunt process and many questioned its relevance to older groups as it seemed to be an activity that younger residents would enjoy more

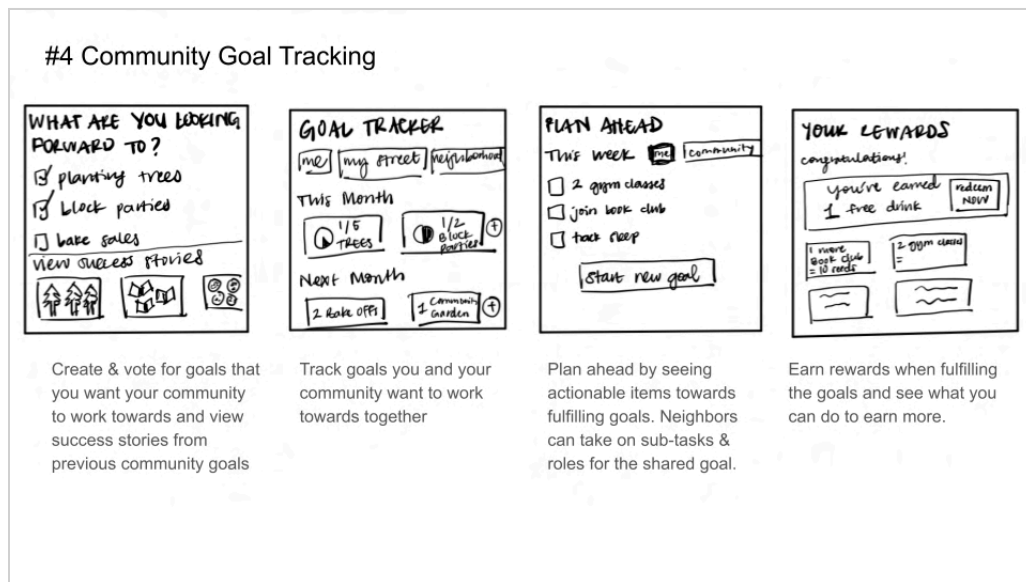
Participants questioned

- The number of people who would be willing to share information and contribute to adding information that builds the credibility of this platform. They also wanted

more information around assessing the trustworthiness of new residents, especially when trust and safety are so critical as a female

Concept 4: Community Goal Tracking

This concept presents community members with a platform to create, track, and complete goals as a community. Community members can denote what their interests are and what activities they would be excited to engage in. It then presents them with community and personal goals that they can take part in. With a detailed tracker to assist them along the process, participants are rewarded when they complete a goal successfully. Rewards encourage users to engage with local businesses and organizations



Participants appreciated that

- It increases the ways in which people can interact in their community and perform activities together. It allows people to take care of the community as a group and get familiar with the shared spaces in the area. By reaching goals together as a community, participants felt that they would be increasingly excited to do things with each other in the future

- Having rewards for these activities provides participants with something beyond getting something done for themselves. Being able to redeem rewards and taking advantage of the opportunity to interact with the local community was exciting
- Being able to toggle between the 'community' and 'me' views allowed participants to set separate goals and they would use these features depending on activity from other parts of the community
- Working together and seeing community goals adds a sense of accountability and being able to nominate/vote for different activities adds a further sense of personalization

Participants did not like that

- The tasks were highly dependent on whether people show up, what tasks they want to engage in, and what their skills are. If only a minimal number of people use this, it won't have much impact throughout the community or for a variety of different tasks. It requires high engagement throughout the community
- They have used goal trackers previously and tend to fall off the process. They were unsure if this resource would be any different in encouraging usage and motivating them.
- It may lead to added conflict in the community if it is not well-moderated and guided. Sub-tasks and other logistical elements also have to be clearly denoted as people cannot overlap in the ways they want to participate and organize the tasks

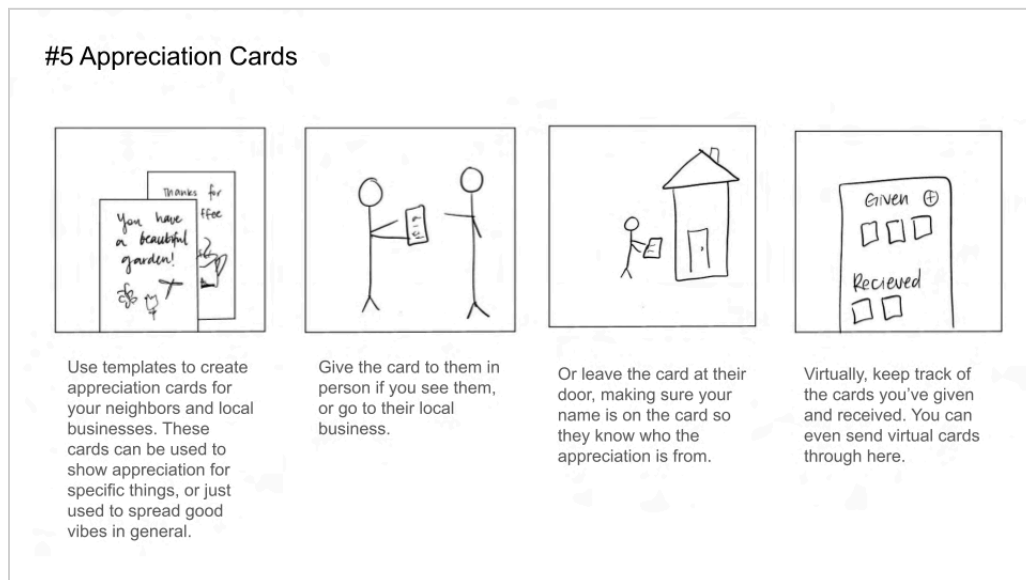
Participants questioned

- Who is controlling the distribution of rewards and how partnerships with local businesses would look. They wanted more information about rewards and what it would mean for their participation
- They were unsure of how community is defined and how tasks and goals are categorized based on this definition and understanding of community

- They were unclear around whether a neighborhood functions in a way that this model would be feasible (in terms of access and participation). Similarly, they didn't know how differences in neighborhood would change these tasks, division of activities, and overall participation
- The role that volunteering by sub-task, nominating sub-tasks, and the process of assigning responsibilities would work in this type of an environment

Concept 5: Appreciation Cards

The concept is to provide templates to people to make it easier for them to spread gratitude and positivity in their local community. People would be able to create appreciation cards to drop off in person or send virtually. This concept has a virtual component where people can track the cards they have given and received.



The concept received some positive feedback such as:

- This idea is an easy (seemingly guaranteed) way to spread positivity in the community, which could have a domino effect
- Appreciation cards seem accessible to naturally shy people or people who want to strike up a conversation (or show gratitude) but do not know how to

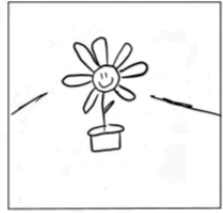
However, there are also some concerns:

- People's intentions may be different than just spreading gratitude and it could create some privacy/safety concerns
- There is confusion and concern about how neighbors will know what address to send cards to
- People feel like they don't need a tool or aid to say 'thank you' and feel comfortable saying that in person normally
- Worry about people treating the appreciation cards as social rankings based on who collects more cards

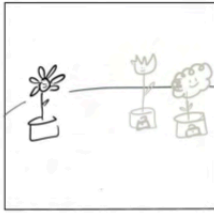
Concept 6: Unlocking Neighbors

This concept is to test out how people feel about virtual systems mediating information exchange between neighbors over time. People in this concept would be represented by flower avatars and all neighbors are "planted" in the same virtual garden. Over time and through interacting in person, people's flower avatars will become 'unfogged' or 'unmasked' to reveal more information about themselves and facilitate a closer neighborly relationship. This concept can also be used to keep track of information learned about neighbors in person.

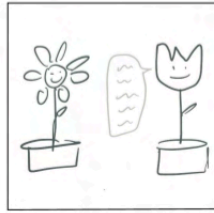
#6 Unlocking Neighbors



You and all of your neighbors in your community are represented as plants in a virtual garden.



You can unlock more information about your neighbors as you become more engaged in the neighborhood both virtually and in person and get to know them better.



Establish different levels of virtual communication with your neighbors— connect with some neighbors on a surface level and others on a personal level. You're in control about how much of your personal information gets shared with your neighbors.

The concept received some positive feedback such as:

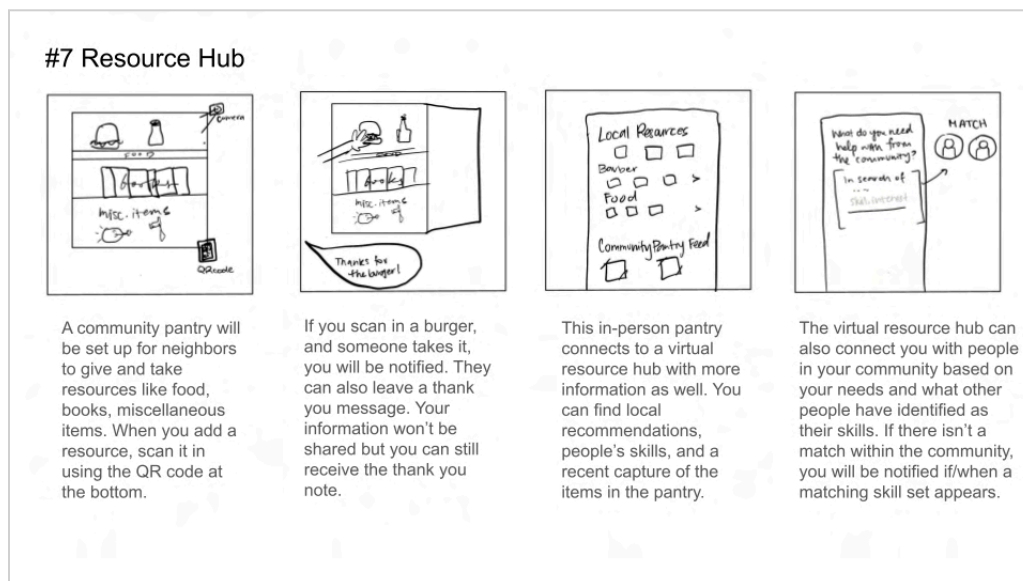
- Liking the garden and plant theme because it feels cute
- Liking that it feels like a novel concept and something worth trying
- This concept could be helpful to remind you of your neighbors' names and keep track of information shared
- This concept could help navigate neighbor relationships without rush and create intrigue in wanting to get to know each other more

However, there are also some concerns:

- This concept might lead to online-heavy relationships rather than meeting more in-person
- This concept feels unnatural; people would rather run into their neighbors naturally
- People don't like technology interfering in their relationship building and telling them how developed a relationship they have is

Concept 7: Resource Hub

This concept merges an in-person need-based pantry and donation space with an online skill-sharing platform. Neighbors can donate goods or items to a central location and can take items they need. In this concept, there will be a way to express gratitude— via a thank you note—to the neighbor who donated the item without revealing their personal information. The online counterpart to the resource hub will allow people to view what items are available in person. The virtual resource hub can also connect neighbors based on their needs and their skills, and they are encouraged to meet offline to provide skill-based help.



The concept received some positive feedback such as:

- The resource hub feels like a nice, central place to get resources which would be positive and helpful
- It is helpful to have both physical and intangible (skill-sharing) resources
- The thank you notes feel like the right amount of interaction with neighbors
- The happenstance aspect of skill-sharing is appealing and people are excited about this aspect of the virtual resource hub

- This concept could be a good place for local businesses to be involved in the community and create reciprocal support

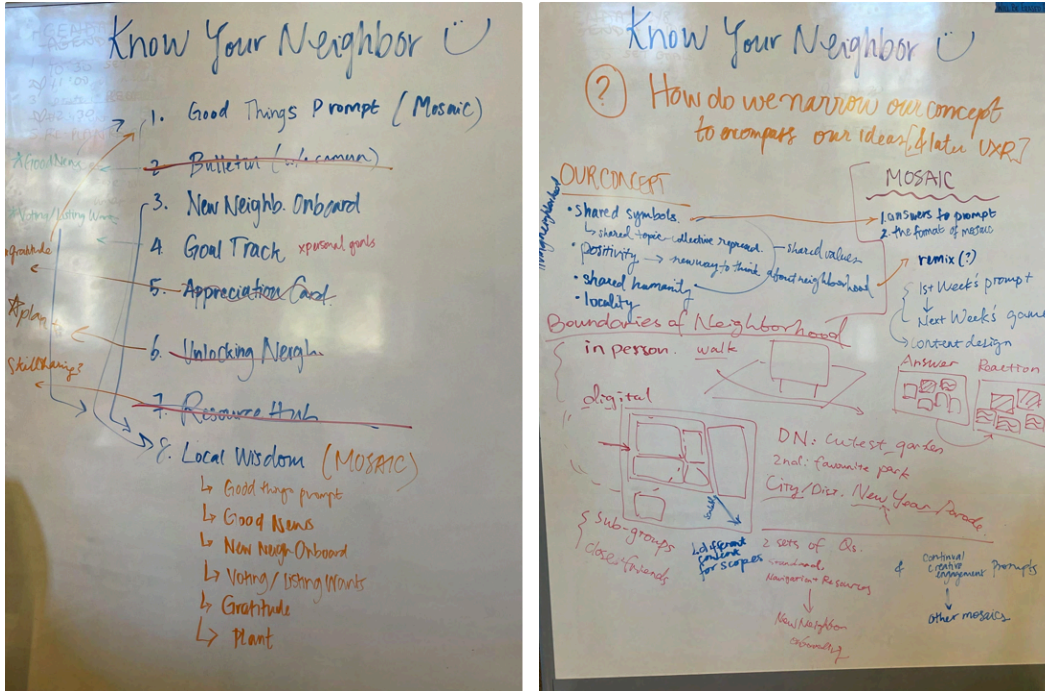
However, there are also some concerns:

- The resource hub will only be as good as the quality of the resources and skills provided– this can depend heavily on the people involved and the SES of the community
- Maintaining the in-person resource hub will be a difficult task
- Alternatives to this idea exist, such as ‘buy nothing’ groups and Facebook marketplace.
- Having an anonymous resource hub reduces accountability which could lead to lower-quality in-person resources
- The camera is a privacy concern and it feels odd to have

Scoping

Concept Identification

Moving forward from the concept testing results, we reanalyzed the concepts and narrowed down the concepts based on testing results and the potential to combine some of the ideas:



Whiteboard Sketches for Concept Scoping

We recognized that there were both pros and cons to each direction, while there were common traits that resonated with most of the users. Rather than building a tool or platform where people can directly, interpersonally exchange information, hold activities, or resolve conflicts—which might be highly vulnerable to negative interactions without a communal tie among people—we decided to take a step back, to re-envision how to build the conceptual and emotional bond of a neighborhood, which could prompt people to have more positive interactions in the aforementioned scenarios.

From the above-mentioned analysis and process, we determined the following principles and directions for our project:

1. **Constructing and visualizing the neighborhood community, its symbolic visualization, and the collective identity:** “The consciousness of community is... encapsulated in perception of its boundaries, boundaries which are themselves largely constituted by people in interaction.” [2] However, the symbolic boundary

and collective identity are missing in people's current conception of their neighborhoods. So we decided to construct a way that can easily show users who are in their neighborhoods, what experiences and perceptions they share of the same environment that they live in, and the resourceful information from people's everyday life in the neighborhood, which can highlight the existence of a collective community.

2. **Focusing on discovering and highlighting the positive aspects of the neighborhoods:** While people have different expectations for interactions with neighbors and tend to be willing to learn from others more than revealing information about themselves, they are generally interested in and excited about seeing the positivity in their neighborhoods. Hence, we decided to create prompts and guidance that encourage people to notice, discover, and share the lovely aspects of their neighborhood and connect each other's perceptions together.
3. **Adopting a semi-moderated method to cultivate the platform and community:** From research, we noticed that the positive atmosphere is highly contextual, largely depending on who is in the neighborhood and the actual content that users bring to the platform and the community. Hence, we focused on the content design of the weekly prompts, tuned the flexibility of user interactions with each other, and limited some of the features that are common in other social media platforms.
4. **Prioritizing privacy and safety to determine what information to collect and reveal:** Privacy and safety concerns are recurring topics in the user research and critical in the neighborhood settings. So we decided that it should be highly prioritized. We would restrict the visibility of users' personal information and platform activity while still revealing their personal traits in low-stake aspects. This will allow users to understand their neighbors in a more humanized way while not leading to privacy or safety risks.
5. **Building a motivation system that encourages users to engage and creates benefits shared by other neighbors together, further enhancing the feeling of a collective community:** An interesting finding from the research reveals that while

people are either hesitant or reluctant to share information about themselves or unwilling to go through the process to merely contribute information, they are usually interested in learning from what others have shared. In order to provide incentives to users to contribute to the platform, a motivation and reward system would be helpful. Meanwhile, to further strengthen the perceptual connection among the neighbors, it'd be helpful to visualize how their contribution could benefit one another, so that we could potentially address the imbalance between the unwillingness to share and the willingness to see. So we decided to create a reward system that connects the main features of our platform, and a mechanism that makes one user's own reward not only beneficial to their own but also helpful to other people in the same scope of the neighborhood.

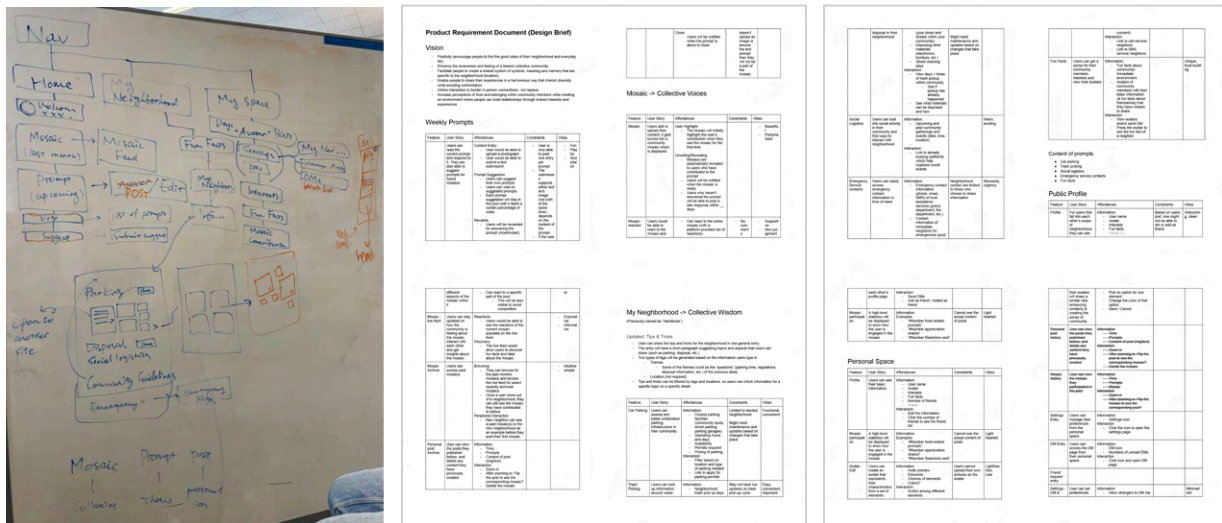
User Journey and Product Vision

Based on the research findings and concept identification, we built the vision for our solution and the expectation for the overall user experience on this platform:

- Fundamentally, enhance users' awareness and feeling of a shared collective community in their neighborhood—facilitating people to create a shared system of symbols, meaning and memory that are specific to the neighborhood.
- Encourage people to find the good sides and positivity of their neighborhood and everyday life and share their experiences in a harmonious way that cherishes diversity while avoiding confrontation.
- Increase perceptions of trust and belonging within community members while creating an environment where people can build relationships through shared interests and experiences.
- Utilize the online interactions to bolster in-person connections—not to replace the offline interactions

Information Architecture & Product Requirements

After identifying the concept, we moved on to the information architecture of the platform to determine what the user journey should look like and what features should be included. Utilizing this practice to determine the scope of the project, we also did several iterations based on the low-fidelity testing results, usability testing, and design critique, where we resolved the confusion of terms, determined what relevant information and functionality should be grouped together for higher usability, and the back-end mechanism to ensure feasibility and consistency.



Whiteboard Sketches for Information Architecture and Product Requirement Documents

(Please refer to the Appendix for the full document of the product requirement)

We then solidified the components and key functionalities in the Product Requirement Documents, where for each feature we specified the user story, affordances, constraints, and vibes, as a foundation for the following low-fidelity and high-fidelity prototyping. Because we did several rounds of iteration based on testing and critique, the information architecture of the final solution has evolved considerably from the initial version. Here we will briefly introduce the high-level structure of the final version of the project, with more details included in the section Final Design.

Our platform consists of four major parts: Homepage, Collection, Collective Wisdom, and Personal Space.



The **Homepage** will provide a metaphorical visualization of their engagement with their neighbors and contribution to the neighborhood. It also includes the upcoming collections where users can contribute to the next collection, suggest, or vote for future collection prompts. The Neighborhood Fun Facts will give a high-level yet engaging understanding of the neighborhood.

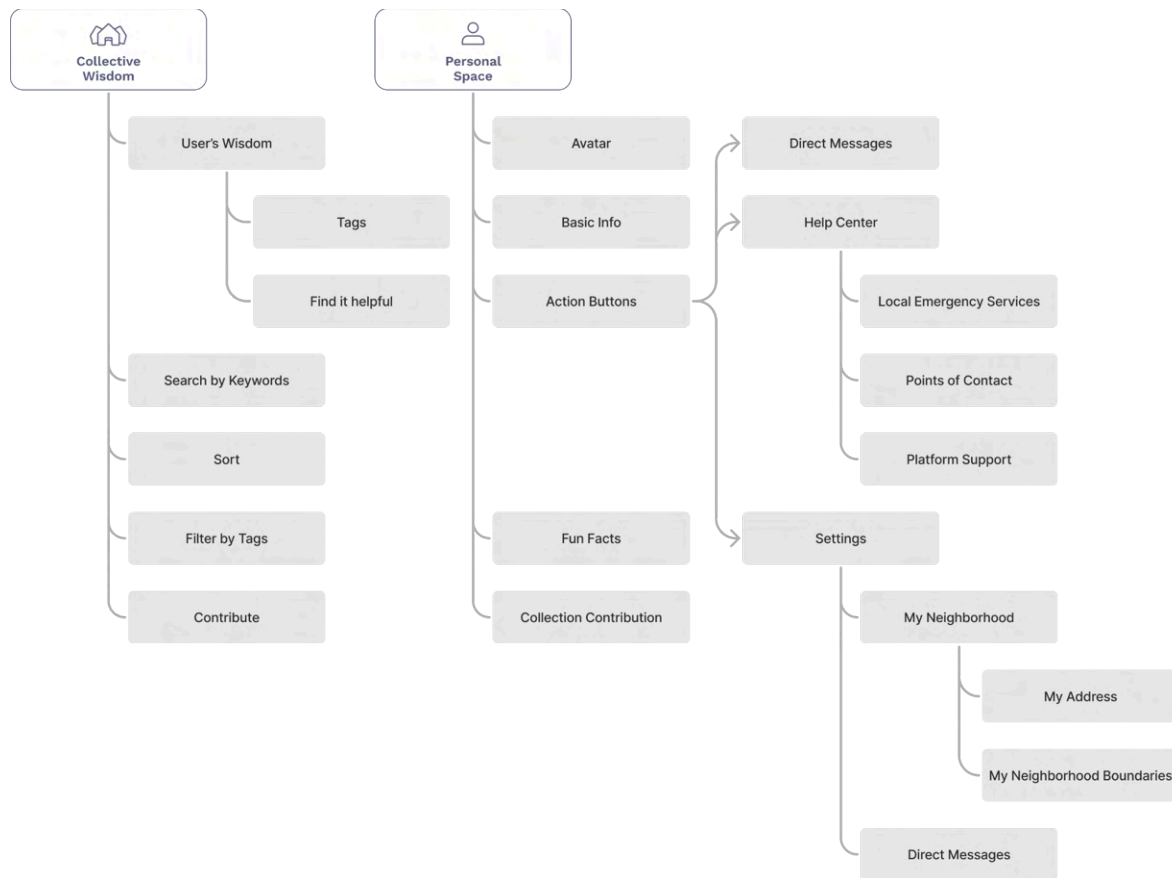
The **Collection** feature works as a way to help users build identity-based connections with their neighborhood. Users will be contributing to collections of several themes that encourage them to discover and share positive aspects of their neighborhood or other light-hearted topics, where they could also understand more about their neighbors as a person.



Information Architecture for Homepage and Collection

The **Collective Wisdom** feature works as a way to create need-based connections and provide practical information. Users can both post and search for tips and tricks about the neighborhood. These posts range from neighborhood logistics (parking and trash) to ways to connect as a community (social events and sharing fun finds). This feature allows users to connect with each other in a need-based way, and is a way to provide users value just by being on the app. This can be especially true for people new to the neighborhood, who would benefit from access to this information exchange.

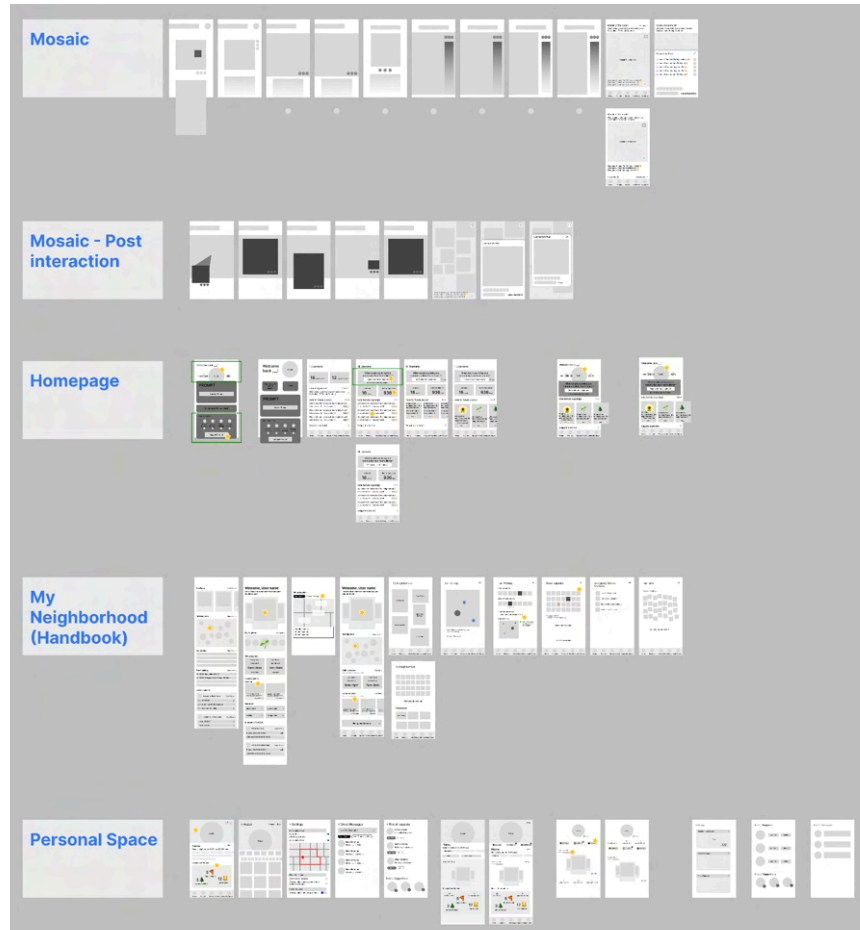
The **Personal Space** feature serves as a place for users to manage their personal information, messages, and settings, etc. Users will be able to set their preference for neighborhood boundaries, direct messaging, and how much information they'd like to reveal to other neighbors.



Information Architecture for Collective Wisdom and Personal Space

UX Design & Testing

After designing low-fidelity prototypes with data gathered from analysis of concept testing with participants, we created a product requirement document that laid out the features and affordances for our team to align with our product’s design and scope. We then gathered feedback around our low-fidelity prototypes through an informal critique. Below, we document our findings from this critique process and the actions we took to incorporate user feedback before continuing with the design process.



Low-fidelity wireframes

Feedback Received:

- In order to represent the 'History' of past mosaics, iconography (e.g., a calendar icon) will assist users in gleaning the meaning and intention behind the feature
- Presenting users with the opportunity to post through a mosaic is "very interesting" and the focus on a collective action makes them feel like achieving a community-building goal
- Need for increased functionality in seeing personal post contributions and deleting or editing past contributions
- Option for a secondary or follow-up prompt can enable people to share more and may allow for text as a means for exchanging information

- Mosaic of the month can have more interesting interactions which can be created based on the size of the device it is viewed on (e.g., table of food: a round table that you can roll endlessly)
- Mosaic of the month can be grouped by themes to assist in user understanding and navigation of the feature
- Have a visualization of the prompt which can change each month to increase intrigue and creativity among users
- Users like using reactions to react to user posts
- Homepage can be iterated based on what to include (e.g., increase integration between prompt and mosaic features)
- Lack of clarity around what to do if a user doesn't like a prompt (i.e., Do they have to wait for the next prompt? Or will other prompt options be presented?)
- Lack of clarity around whether users will be able to edit their answers and whether they can send multiple responses
- Need more information on filtering system for moderating content
- Want more context around whether part of the mosaic will be presented on the homepage
- When voting for future prompts, what does '3 more needed mean'?
- The app is very comprehensive, however, the fun aspect of the mosaic and the logistics aspect are slightly detached, there appears to be too much functionality on the app
- How does the 'Fun Fact' polaroid work and what is its functionality?
- Is there any intentional grouping when viewing 'My Neighbors' and how would this happen? Relatedly, what happens when you click on the bubbles in this section?
- When looking at 'Utility Logistics': Why is a map necessary? What does the car parking text indicate? Is car parking a 'utility'? Trash pickup and disposal of resources are different and there appears to be a mismatch in expectations. Also, it would be helpful to also present the timings on the 'Utility Logistics' page

- For 'Social Logistics': Is there a way to quickly add an event to your neighborhood?, The calendar-grid view is helpful to users
- When looking at events: users would want to see how many people are coming or who is coming and if someone extra friendly in neighborhood is going - it may incentivize their participation
- For avatar profile: need more context around who in the neighborhood is considered as a 'friend'; messaging system may only be useful for a certain amount of time and users may move out of the app once they identify people they want to communicate with; are the fun facts here the same as other parts of the app?; would be interested to see what their specific contributions were (e.g., What cat-related posts did they make?)
- In 'Settings': Are there any mechanisms to enable users to explore other (or surrounding) neighborhoods? Can nudges be enabled in the system to have more transparency about who you can message and/or can message you?

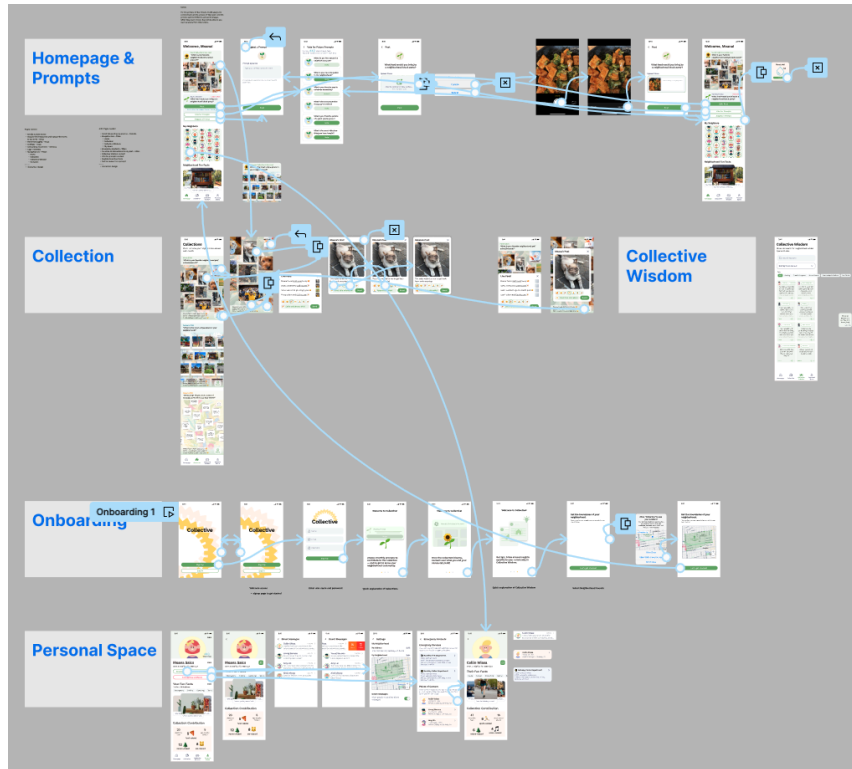
Actions Taken:

- Answering prompts:
 - Allow users to edit responses previously submitted and do not allow users to submit multiple answers to one prompt
 - Allow users to add captions to the photos
 - Future considerations: Provide users with a secondary prompt for them to provide additional information that's relevant to the initial prompt.
- Usability-related:
 - Reword and/or redesign communication around needing a certain number of votes to elect a prompt for the next month
 - Redesign means for communicating 'History' and past mosaics within defined neighborhood
 - Make all neighbor representations (i.e., avatars) the same size to minimize risk of confusion

- Navigation Bar:
 - Include the following options for users to easily navigate to: 'Mosaic', 'My Neighborhood', 'My Space'
- Handbook:
 - Reconsider structuring of the handbook and possibly minimizing existing structure to enable increased user flexibility
- My Neighborhood:
 - Continue to use "Prompt" + "Mosaic" to make the overall UX look similar to the Mosaic
 - Add interactions such as: verify, accurate, up-to-date, etc.; provide a surface for these answers
- Direct Messaging (DM) and Adding Friends
 - Remove functionality to add neighbors as friends as it doesn't appear to add unique value to the product design and doesn't adhere to the goals established by the platform
 - Allow users to request to DM neighbors and communicate with them via this tool

Usability Testing

Once we created high-fidelity prototypes for the narrowed scope of our product, we wanted to speak to potential users of the app to better understand design changes that would benefit their understanding of our product's goals, main functionality, and increase usability and understandability of the design. Below, we document the testing process, the main findings, and the actions taken.



Hi-fi prototyping for usability testing

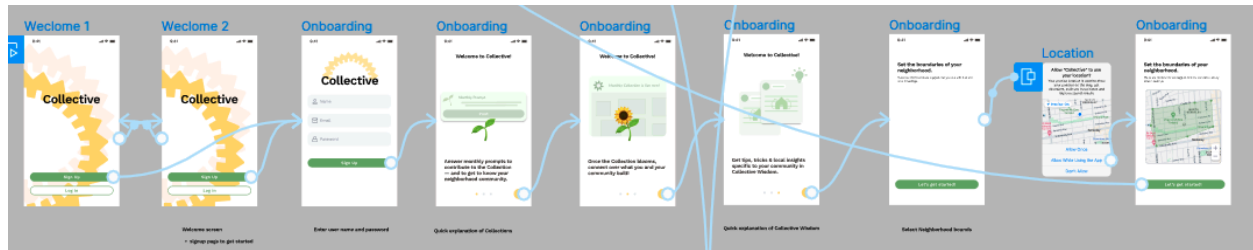
Methods

We conducted five 45-minute sessions with users who represented an array of demographics, backgrounds, familiarity with neighborhood/community-related apps, and housing experiences.

Main Findings

In this section, we will be covering the usability issues called out by participants and information around the action we took to remediate the issue or challenge faced by the participant(s).

Flow 1: Onboarding



Hi-fi prototyping for the user flow of onboarding

Welcome and Login Page

- Participants stated that having a means to log-in through an existing email account (e.g., Google, Outlook) would allow them an easier and more effective path to sign up for or log into an existing account
 - We added a way for them to log in through an existing account
- Participants also stated that there was no way to just log in to their account- there was only a sign-in option. While this was because our flow was specifically for new users, we recognized the confusion around logging in
 - We added a “Login” button for them to input existing credentials

Second Onboarding Screen: Collection

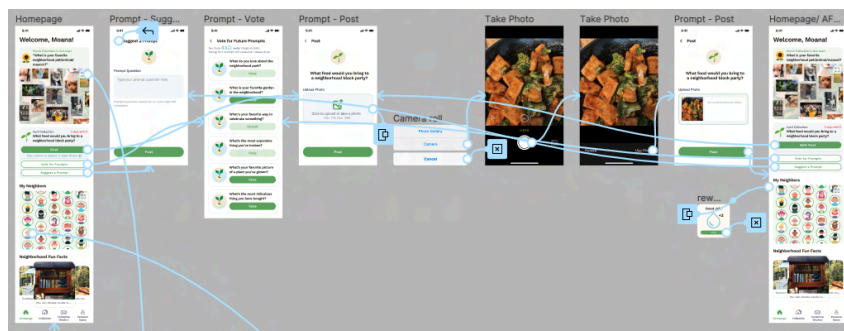
- Participants stated that there was no way for them to navigate backwards in the case that there were onboarding materials that they missed or wanted to re-visit
 - We added arrows in order to create a clearer means of going back and forth between the onboarding steps

Setting Neighborhood Boundaries

- Participants were unsure of what the default boundaries indicated as they worked to establish their neighborhood boundaries. They wanted more detail on how these were set and who helped in making this decision.
 - We had a caption that indicated more information about this - but we added extra emphasis to this section by increasing the font size and adding more context

- Users wanted a quantitative way of approaching establishing their boundaries (e.g., inputting that 1 mile around their housing was their neighborhood)
 - We provided them with a way to input the number of miles in each direction they wanted to categorize by
- Users stated that because of the differing nature of each section within the existing design (i.e., Collection, Collective Wisdom) - they wanted to be able to define their neighborhood differently based on the needs of the section
 - While we recognized the differing environments established by each of these categories, there were limited means by which we would be able to add different standards for neighborhoods while still creating and maintaining a holistic sense of trust and security

Flow 2: Homepage



Hi-fi prototyping for the user flow of homepage and relevant features

First Impressions

- Participants felt that the homepage was overwhelming - the large amount of new information they were seeing seemed to provide cognitive overload
 - We decided to keep collection-related information to the 'Collection' section and not introduce the same information here as well
 - We also decided to include a brief statement to indicate that a collection is live, without presenting the entire collection and all of its details

Prompts

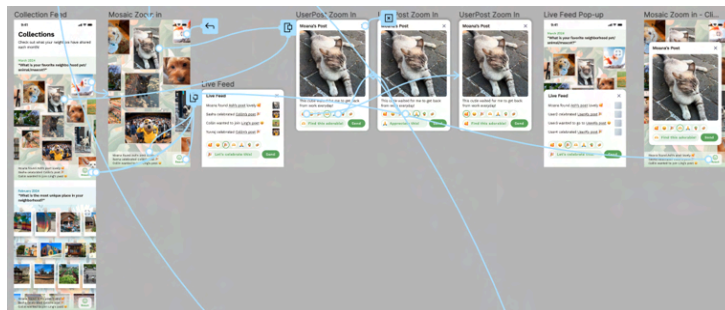
- When answering a prompt, users were confused about whether they were to input a text response, image response, or either. They also stated that mandating an image upload would decrease the chance of them actually responding as they were less likely to take the time to take or find an image to upload
 - We provided a way for users to clearly be informed of whether they will be uploading text or image content
 - We also provided a way for them to upload an image without having to take or search for it themselves. To do this, users will be presented with a Google search field in which they can search for a sample image they would want to upload (e.g., dog) and then use an image that appears in the result as their entry
- Users were confused about why voting and answering the next month's prompt were grouped together
 - We included separate tiles for each of these categories to help denote them as two separate processes
- Participants were confused about the meaning of the Waterdrop and wanted more context around what they symbolized
 - We added another screen to the Onboarding flow to add awareness to what the Waterdrops are and what they do in our product's design

My Neighbors

- Participants struggled to find the balance between creating trust when avatars are cartoon-like and not recognizable as a specific person and feeling secure without giving away too many details about their physical appearance
 - We created a system where users are able to upload their pictures, but only if they chose to do so
 - Avatars (i.e., the cartoon representations) will be mandatory but uploading a picture of themselves will be the participant's choice

- Users also expressed concerns around transparency in the system as to how their neighbors have been vetted to be a part of their online community. Fear of identity theft, bots online, and not being able to recognize people left users afraid of people they may see as a part of their community
 - To reduce the risk of fear in the identification system, we created a verification system:
 - After 1 month of joining the platform (i.e., 4 prompt-cycles), users must verify their identity by submitting a proof of residence (e.g., water or electricity bill) which is within their defined neighborhood
 - In order to maintain transparency around this system, all users will be labeled as 'New' for their first month and this tag will be removed following this period
 - If the user does not pass the verification system, they will no longer be able to be a member of the neighborhood. In other words, all users, unless labeled 'New', will have gone through our verification process

Flow 3: Collection



Hi-fi prototyping for the user flow of Collection

First Impressions

- Participants wanted to be able to see the user's post without having to zoom in on the Collection and then re-click on the picture.

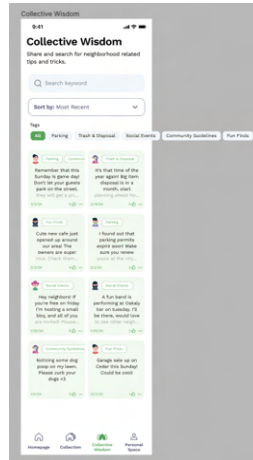
- We created a way for users to simply click on the post, prior to zooming in, to view the entire post
- Users were unsure of why they are seeing the same Collection in both the Homepage and the Collection areas.
 - We remediated this by only including the entire Collection in the Collection section and only including a short description in the Homepage
- Participants wanted to know who they could directly message if they wanted to begin a conversation about a post - they were unable to assess how they could find more information around that person
 - We included an avatar icon for each post for them to be able to click into the person's public profile and directly message them
- Users reported that monthly prompts were not enough to establish and maintain engagement in their community
 - We updated the design such that users are presented with a new prompt each week rather than each month
 - Users will be told which collection was released per week along with the relevant date

Reactions/Live Feed

- Participants were unsure about whether they had the functionality to react to the entire Collection, one post, or both
 - We created the design such that participants can both react to the entire prompt or click on a specific post and add a reaction
- Users were unsure of how to open the live feed and what it would lead to
 - We included a "view more" label near the live feed to indicate that participants can click on that area to expand the feed of reactions
- Users were unsure what engagement would look like within their community and how they work around creating and maintaining the motivation to post in response to prompts

- We added a step to the prompts system where the responses are not visible to users until they also contribute
- If they chose not to contribute and would still like to view that month's posts, they can spend 4 Waterdrops to view the Collection

Flow 4: Collective Wisdom

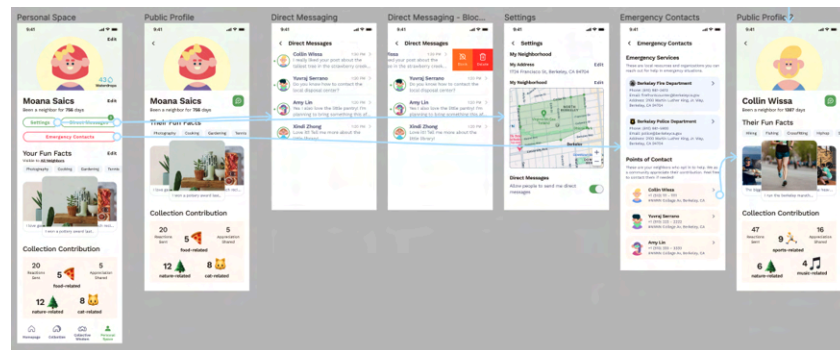


Hi-fi prototyping for the user flow of Collective Wisdom

Overall Impressions

- Participants wanted more clarity around how tags were organized and why they were prioritized in a specific way
 - We decided to prioritize the tags based on needs and urgency (e.g., the “parking” tag is assigned higher priority than “social events”)
 - We also refined our design such that all the tags are visible rather than having to scroll

Flow 5: Personal Space & Public Profile



Hi-fi prototyping for the user flow of Personal Space & Public Profile

Overall Impressions

- Participants were confused about what Emergency Contacts meant. Many of them interpreted this as a section where they could input their own emergency contacts to be visible in case other neighbors need to assist them in the event of an emergency
 - Because our goal around this was to provide users with the functionality to easily and efficiently gain access to local emergency services, we re-named the label accordingly to reduce confusion

Overall Feedback

- Finally, users wanted to gain more context around what the next steps of engagement with their community would be after using this product - Would they be meeting them in-person? How would they stay in contact? What gaps did the design bridge?
 - Many of our changes mentioned in prior sections work to address this question:
 - Including the option to upload a picture allows transparency in creating a flow of communication if neighbors meet each other in-person

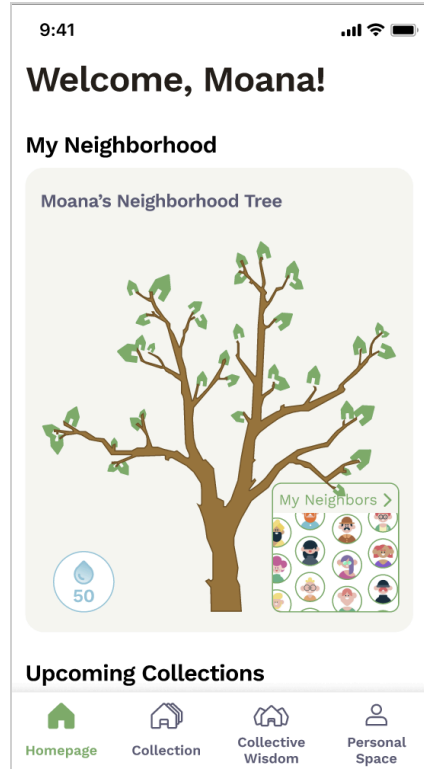
- Including a verification system helps them gain trust in the process and be confident that they are interacting with people in their community
- The reward-based Waterdrop system allows for the creation of active engagement and collaboration amongst all neighbors

Final Design

Based on all the feedback from usability testing, we finalized our design. Please check out our [prototype](#) for an in-depth look into the screens and interactions.

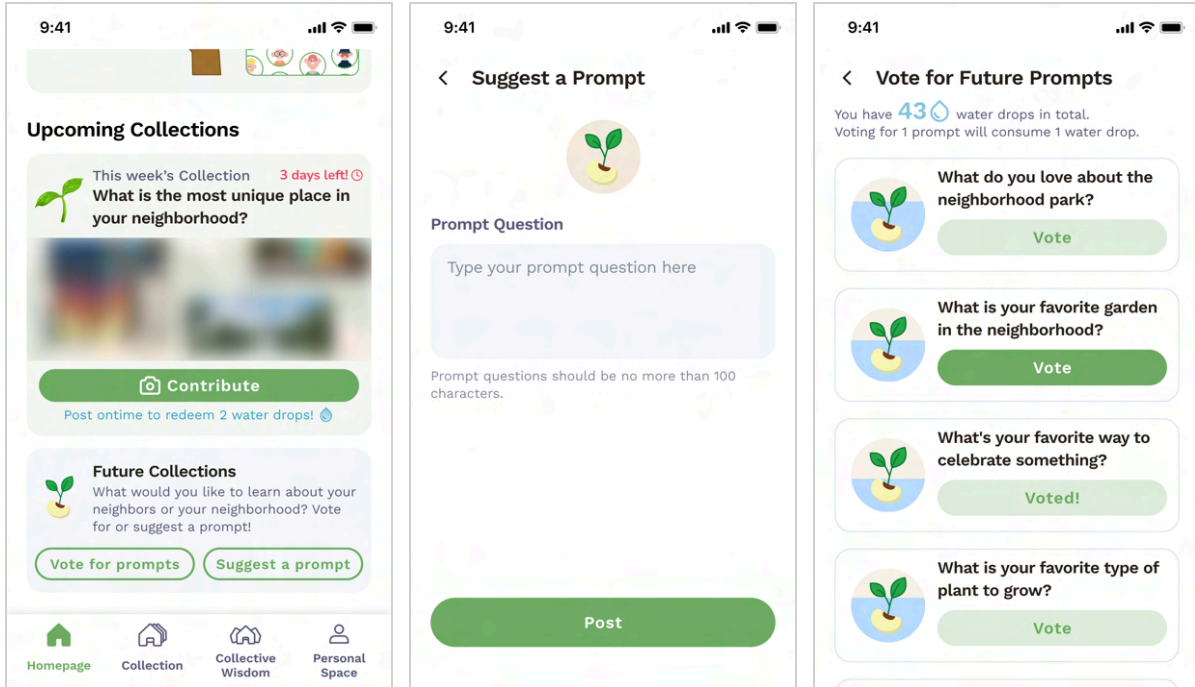
Homepage

The homepage seeks to give the user a welcome into the app and an organized view of different entry points to engage with. The homepage first displays the user's Neighborhood Tree, and provides an entry point to access a directory of all of the neighbors by clicking on 'My Neighbors'. The Neighborhood tree connects to the reward system in the app, and grows when the user (and their neighbors) contribute to Collections and Collective Wisdom. This tree was designed to provide a visual symbol of growing within the community and a sense of contributing to something larger than themselves. Every time a Waterdrop is added to the user's tree, it will also add to each of their neighbor's trees. Similarly, each user's tree will also grow from their neighbor's contributions to the app. The Waterdrop counter on the side shows users how many Waterdrop points have gone into the tree's growth, and is a way to quantify the contributions made on the platform.



Homepage tree and My Neighbors entrypoint

Next on the homepage is the entry point for Collections. The user here can contribute to the ongoing Collection and see when the next Collection will be ready to view. A blurred preview of the upcoming Collection will be displayed here to attract the users to contribute, with a countdown showing how much time is left for them to do so. Below the ongoing prompt, the user can contribute to shaping future Collections by voting for prompts and suggesting prompts. This allows users to create topics and neighborhood-specific content that they find interested in. One Waterdrop will be used for each vote, which is a reward and motivation for users who contribute to the Collections.



User interfaces for contributing to Collections and suggesting and voting for prompts

The final thing on the homepage is the Neighborhood Fun Facts where users can look at prewritten facts about the neighborhood they live in. This section is supposed to give new users a quick look into their neighborhood in a positive and light-hearted way. The cards are designed to visually prioritize the photograph and provide a caption below—similar to a polaroid image.

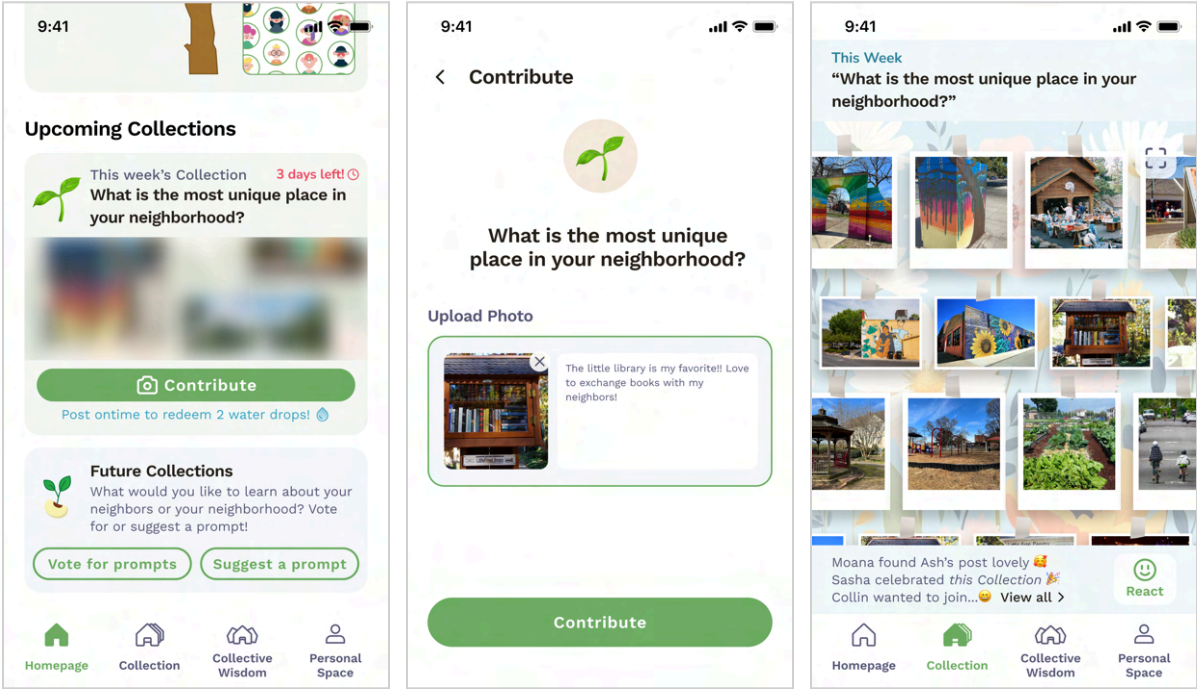


A collection of Neighborhood Fun Facts

Collection

The entire Collection feature and user flow works as a way to engage users to discover and recognize the positive aspects of their neighborhood, share and visualize their diverse yet similar lived experiences, and create a collective archive of symbols, meanings, and memories of the community.

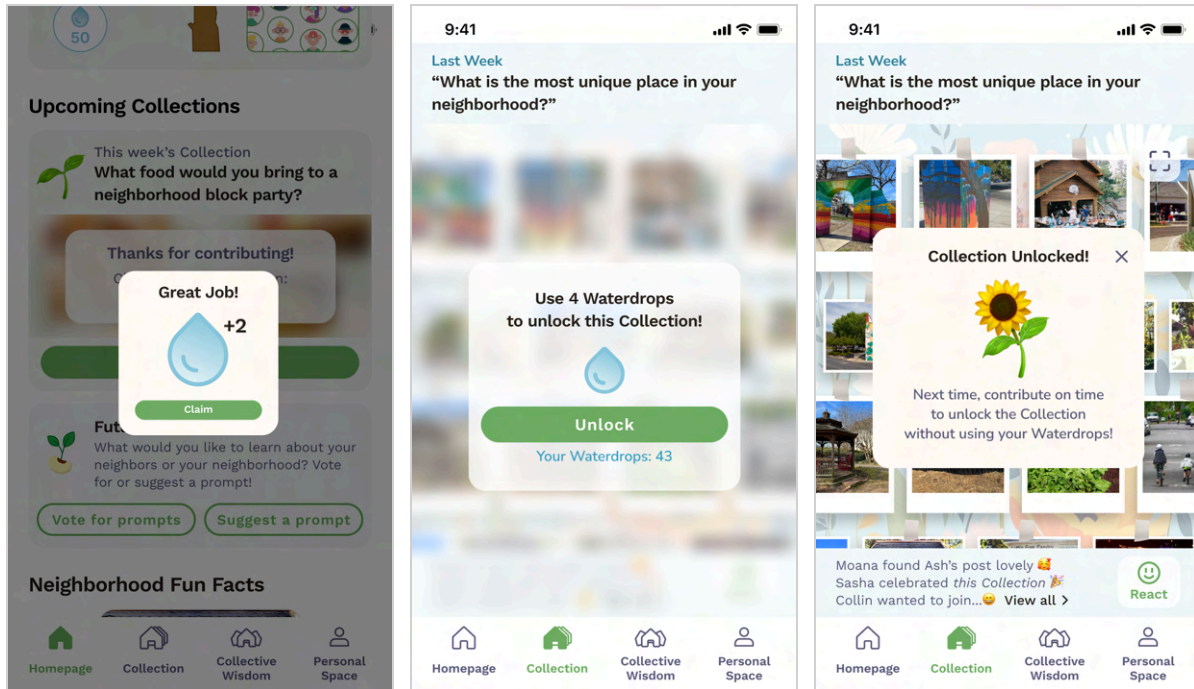
Each week, the user will receive a prompt asking a question about their perception or experiences in their neighborhood, or about other light-hearted topics. Each neighbor can contribute their thoughts to the collection within the time frame. Then, everyone who has contributed can see the collection of the neighborhood in the following week. When users contribute to the Collection in time, they will receive 2 Waterdrops as a reward which they could use to unlock Collections or contribute to their neighborhood trees.



User flow of contributing and unlocking a Collection

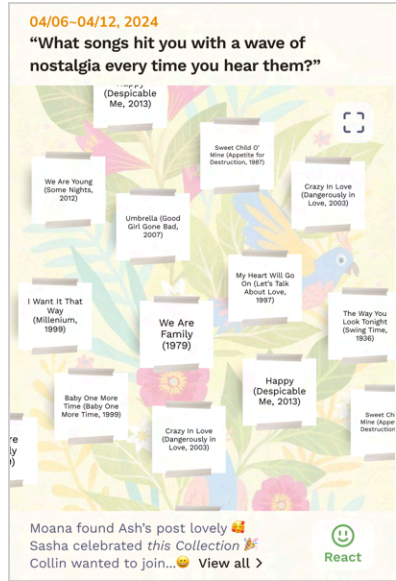
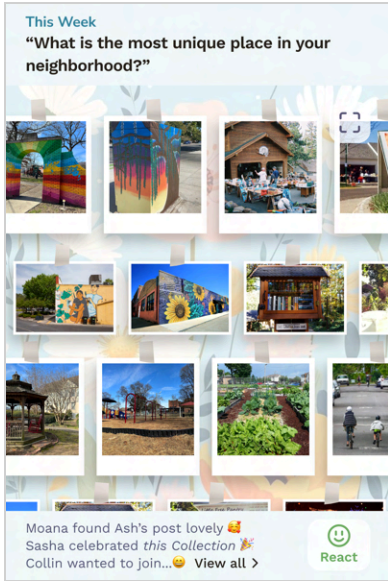
The Collection of each week is only visible to those who have contributed. However, users could use their Waterdrops to unlock a past Collection that they haven't contributed

to yet. This mechanism is intended to motivate users to contribute while still providing them a way to engage with the content and the community.



User flow of receiving Waterdrops and unlocking a Collection

By asking these questions—such as the unique place or favorite animal in the neighborhood—and collecting and then visualizing people’s thoughts, we can create a collection of the shared symbols in the neighborhood. Each collection is a symbolic representation of this community. This also provides a channel for people to share their interests and diversities, without leading to confrontation or competition.



Examples of Collections

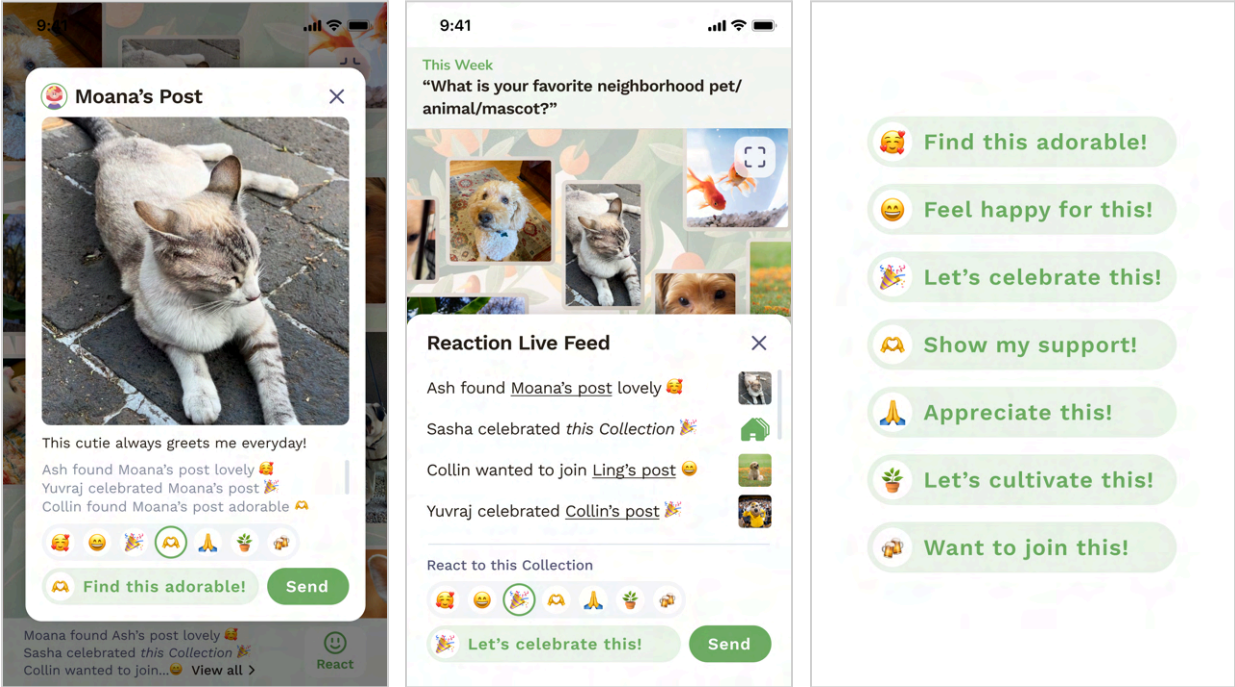
To support this concept, we decided to adopt a semi-moderation strategy. As mentioned in the Concept Identification section, privacy and safety concerns are critical in the scenarios of creating neighborhood communities online. Rather than having people talk about any random topics or even publish aggressive speeches, we designed the content for these weekly prompts, to encourage people to find positive aspects of their neighborhood and also receive positive messages from their neighbors as well.

<p>Content Design</p> <p>Prompt Ideas:</p> <p>Community-related:</p> <ul style="list-style-type: none"> - What makes your neighborhood a great place to live, work and play in? - What do you love about your neighborhood (e.g. history, culture, physical/natural environment, people, facilities)? - What would make your neighborhood even better place to live? - If together we could take action on one thing to strengthen this place/community, what would be most important to you? - What's one word you would use to describe your neighborhood? - What is the most unique place in your neighborhood? <p>Food-related:</p> <ul style="list-style-type: none"> - What is your favorite food to cook? - What is your comfort meal on a bad day? - If you could eat one food for the rest of your life, what would it be? - What's the one food that you can't go wrong with? - What food should everyone try at least once in their lives? - What's the most overrated food ingredient in your opinion? - What strange food pairings do you love that no one else understands? - If you could have an unlimited supply of one food or drink, what would it be? - What is your favorite spice? - What is the spiciest food that you've ever eaten? - What food should everyone try at least once in their lives? - What is the most exotic or unusual dish you have ever tried? - What's the best meal that you have ever had, and where? - In what country did you try the best meal you ever had? - What food did you think you would love but end up loving? - What food combo sounds weird but is actually amazing? - What food should never be eaten together? - What's your go-to dish when family or friends come over? - If you were a restaurant owner, what would be the name of the restaurant? - What's an item on your food bucket list? - If you were a competitive eater, what would your nickname be? - If you could only eat the same breakfast, lunch, and dinner for one year, what would you eat? - If you were a dish, what dish would you be? 	<ul style="list-style-type: none"> - If you could only eat one kind of fruit/vegetable for the rest of your life, what would it be? - If you could eat at any restaurant for free, which restaurant would it be? - If you could have a meal with anyone in the world, who would it be? - What food is delicious but a pain to eat? - What food would you bring to a neighborhood New Year's dinner? <p>Plant-related:</p> <ul style="list-style-type: none"> - What is your favorite type of plant to grow? - What is the most unexpected plant or tree in your neighborhood? - What is your favorite plant or tree in the neighborhood? - What's a flower that is unexpectedly difficult to grow? - What's a fruit that you thought you would like but didn't end up enjoying? - What's your favorite stage of plant growth? - If you could be a plant, what plant would you be? - What's your favorite picture of a plant you've grown? - What's the most unique-looking plant you have grown? <p>Animals/Pets:</p> <ul style="list-style-type: none"> - What animal did you not expect to like but have grown to like? - What is your favorite neighborhood pet/animal/mascot? (note: possibly no competitive?) - What's the funniest picture of your pet? - What's the funniest thing your pet has done? - What's the first picture you have of your pet? - What's the cutest animal photo you've taken? - If you could be an animal, what animal would you be? <p>Books/Movies/Music/Theater:</p> <ul style="list-style-type: none"> - Which protagonist from a book or movie would make the worst roommate? - What songs hit you with a wave of nostalgia every time you hear them? - What was the last song you sang along to? - What's the funniest comedy skit you've seen? - What is your favorite book of all time? - Which fictional character do you feel the deepest connection with? - What was your favorite book to read as a child? - If you could travel to one place you've read about in a book or seen in a movie, what place would you visit?
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Content Design for Collection Prompts

Based on the types of prompts, users will be able to contribute to image-based or text-based Collections. They can zoom in and move around to check for more information. They can also click on a specific user post and send reactions.

To utilize the collection as a potential channel for interpersonal communication, we provided the reaction feature, where users can react to the entire collection or one user's content specifically. Due to a similar concern for safety and aggressive interaction, we designed a set of pro-social reactions, such as finding something adorable, showing support, appreciation, or excitement. To avoid competition and anxiety from status marks, we decided not to show the number of reactions each user received, but a live feed where users can see all the reactions to all the posts without being measured by numbers.

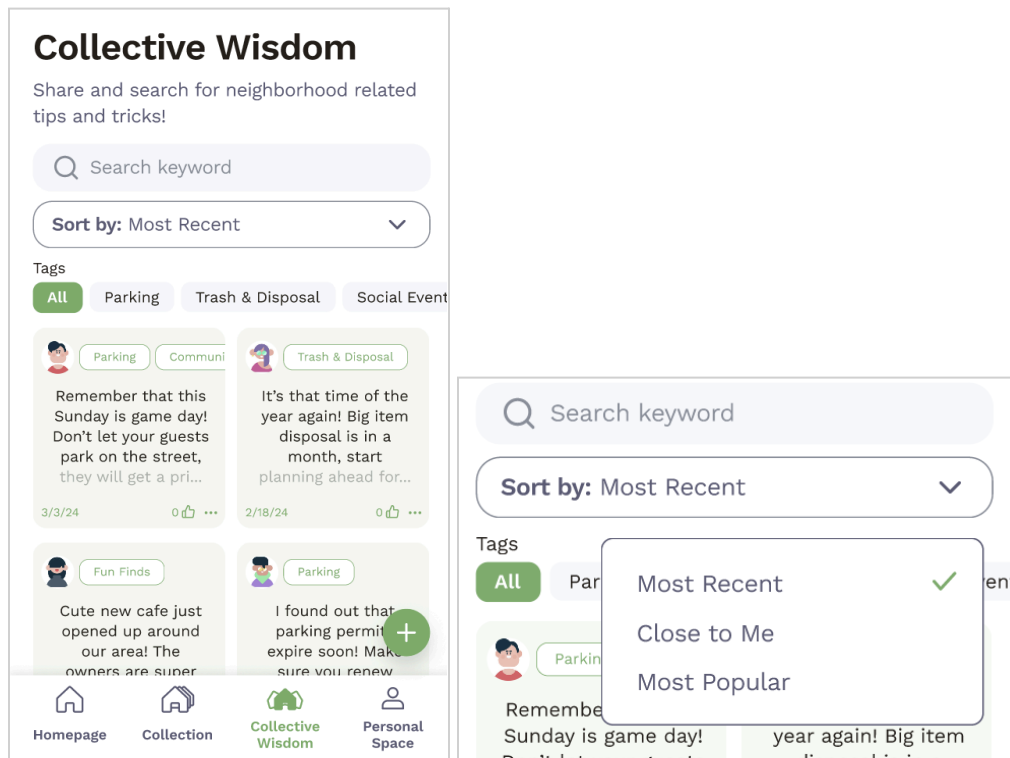


Relevant UIs for Collection posts, Live Feed, and Reactions

Collective Wisdom

The Collective Wisdom page is a space to share information amongst neighbors. This page was designed to serve as a symbol of a neighborhood community in its very

nature, since it is a way for neighbors to directly help each other. Users can search for and filter through different posts, both by keyword or by aspects of the post such as 'most recent.' The tags are pre-determined and are not user-chosen, which is done in a way that encourages users to post about the topics in the tags. The tags range from logistic topics and social topics.



Collective Wisdom page and sort feature close-up

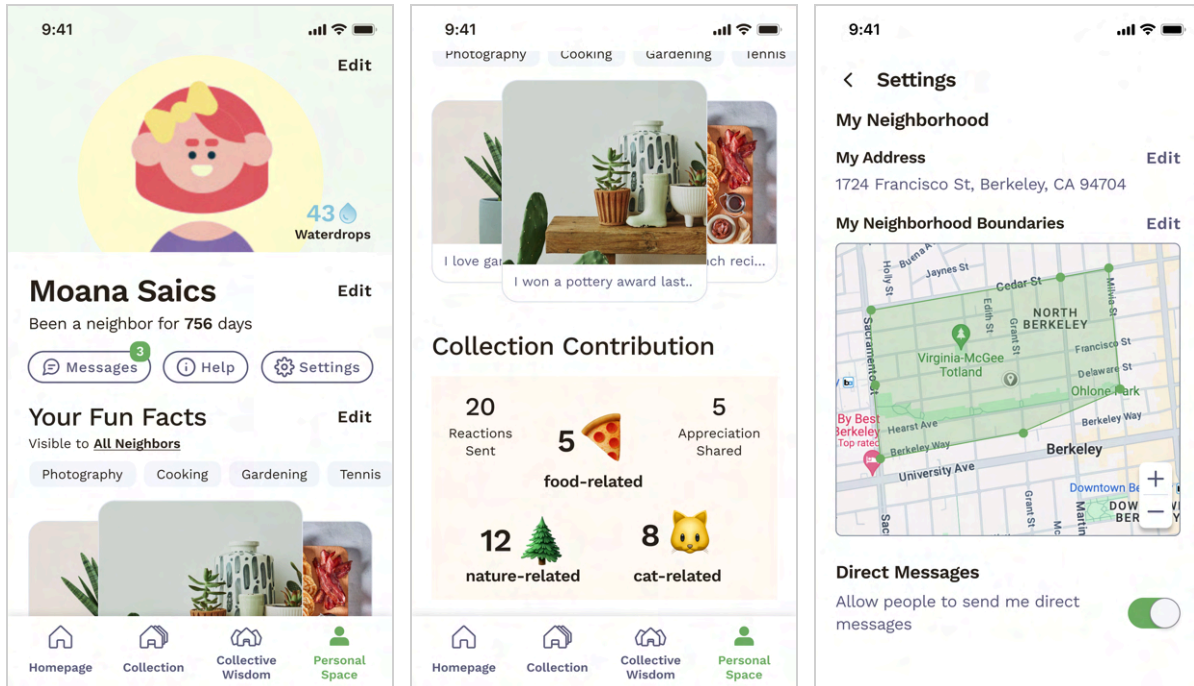
Users can post their own collective wisdom to the page by clicking on the '+' floating action button in the bottom right corner. This is designed as a floating action button to provide easy access to the action, since it is a key action on this page. The user can tag their post when they post to their neighborhood page.

Each post appears as a card and the card expands to a larger post when clicked on. The tags appear on the card at the top next to the user's avatar. The bottom of the card allows users to up-vote any piece of wisdom; this upvoting system is used to filter by 'Most Popular.' The '...' icon leads users to report any posts that do not belong in the Collective Wisdom space or that violate any Collective community guidelines.

Personal Space & Public Profile

The Personal Space and relevant features allow users to manage their information and preferences, get to know each other, and initiate interpersonal communication. Users will be able to edit their avatars from a set of various elements that could represent themselves in a way to each other while protecting their privacy and making them feel comfortable on this platform. The platform will also allow users to upload their own photos, which will be displayed in a flash animation when other users visit their public profile. However, given the time frame and priorities of this capstone project, we didn't go through the actual design of each avatar. The key value here is the concept of allowing people to reveal certain traits of themselves while protecting privacy.

Due to the same concern for privacy and safety, the Personal Space (and Public Profile) will only reveal high-level information and interest traits of the users, including their name, how long they've been a neighbor, their fun facts, and their Collection Contribution. We specifically discussed whether one user's actual content (images, text, etc.) contributed to each collection should be displayed in the gallery in their public profile. However, since a lot of the Collection involves themes around the neighborhood environment, we decided to only reveal the high-level statistics such as how many food, nature, animal, music, sports, etc. related Collections they have contributed to. This allows users to understand each other's general interests and activities, without leaking too much detailed personal information.



Personal Space and Settings¹

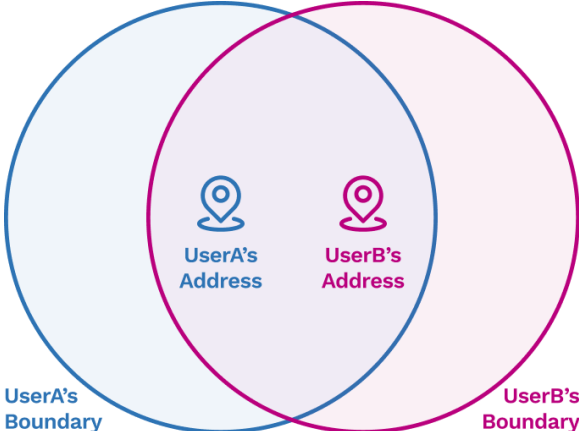
The major difference between one's Personal Space and Public Profile is that the action buttons below one's basic information in the Personal Space are not shown on the Public Profile, with a button to start direct messages instead. The action buttons include three features, direct messages, help center, and settings.

In settings, users will be able to edit their home address, neighborhood boundaries, and whether to allow others to send direct messages to them. From research, we discovered that people have very different understandings and concepts about the boundaries of their neighborhoods, depending on the type of buildings and blocks they live in, their preferences for security and sociality, and some landmarks and special activities of the environment, etc. The feeling of being in a scope of neighborhood that they each feel comfortable in is crucial to their willingness to share and exchange information on the

¹ While the Avatar system works as a helpful supporting feature to create trust and identity on the platform, we didn't go deep into creating the relevant visuals ourselves due to the time frame of this project and because we wanted to prioritize other main features. The original designs for those avatars used in the prototype could be found here: <https://www.behance.net/gallery/114355839/Flat-Design-Avatar-Portraits-Digital-Art-Characters/modules/653035417>

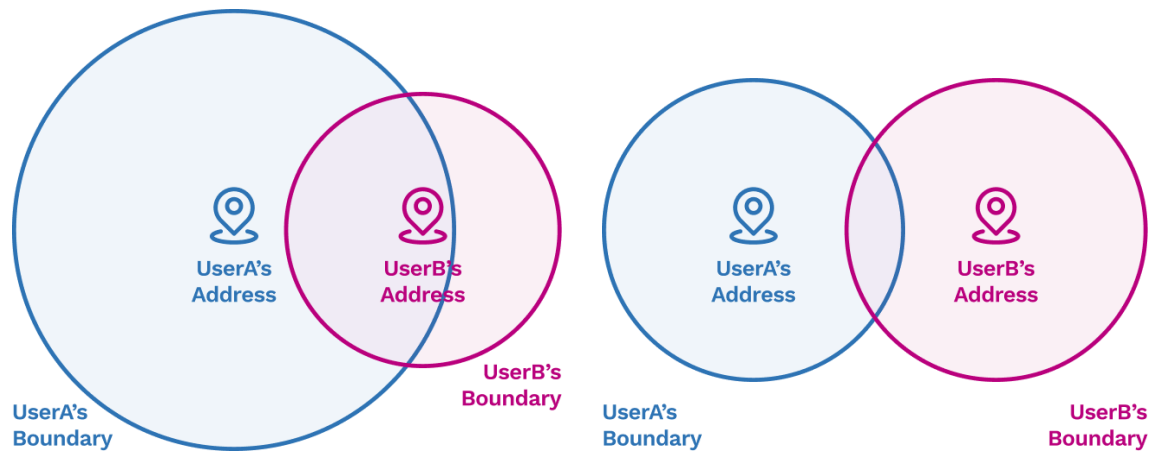
platform. So we decided that rather than using one standard (such as the zip code) to group people, it's more appropriate to allow users to determine their own boundaries. With that being said, we will also generate a recommended boundary based on their home address. Users can edit this information at any time.

The boundaries will further determine what other users will fall into the same neighborhood as the user's own. Only when one user's address falls into the other user's boundary while the other user's address falls into the first user's boundary will they be visible to each other. The scope of people one user can see is the same scope of people to whom the user's own platform activities will be revealed to.



The overlap that allows two users to be included in each other's neighborhood

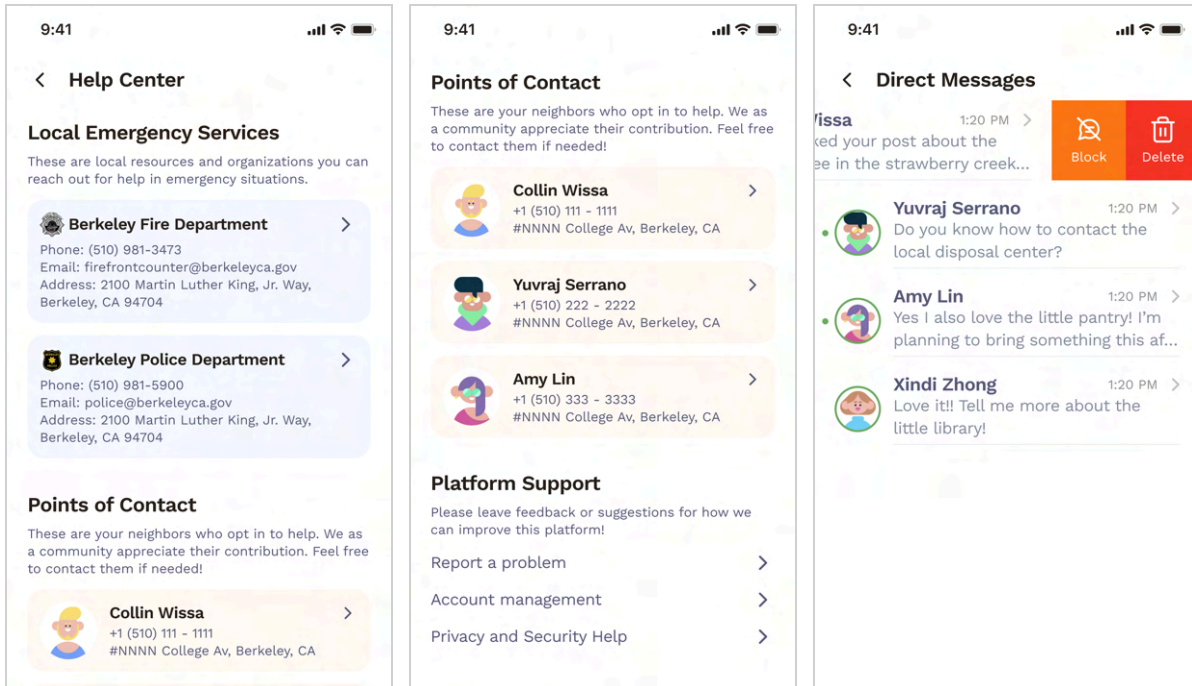
The following two diagrams illustrate two scenarios where two users' addresses and boundaries don't qualify for being in each other's neighborhood.



Examples of unqualified overlaps– these two users won't be included in each other's neighborhood

We designed this system because of the following two findings we discovered from the research: 1) People have very different understandings and concepts of the boundaries of neighborhoods, and the scope of neighborhoods that they're comfortable sharing their information with also varies a lot. 2) People are more interested in getting to know others and even from a larger scope. However, they're more reluctant to reveal information about themselves.

So we decided to allow people to determine the boundaries that they identify with while also using the matching boundaries to encourage people to be more open and willing to contribute–if you're interested in discovering more, you should also contribute to the community in a reciprocal way.

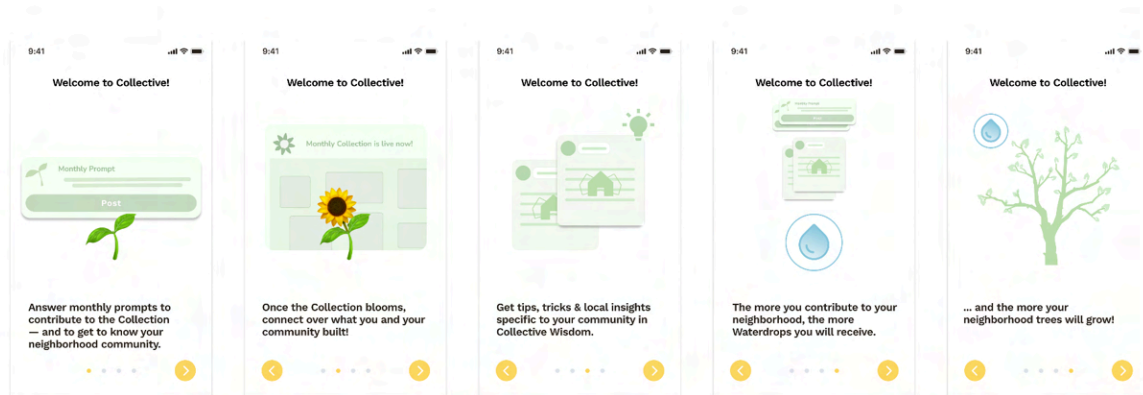


Help Center and Direct Messaging

Users can also navigate to the Help Center by clicking the “Help” button, where they can find information about the local emergency services, points of contact who are neighbors that opt-in to help others in case of emergency or other needs, and support information from the platform. Users can either call their neighbor points of contact with the numbers provided in the list, or start a conversation with them through direct messages. To protect their privacy and safety, users can also block another user in the list of direct messages.

Onboarding

The onboarding flow consists of a welcome screen, sign-in screen, onboarding information, and neighborhood boundary setup. Our original onboarding flow before user testing consisted of 3 onboarding screens: introducing prompts, introducing Collections, and introducing Collective Wisdom. After user testing, we expanded onboarding to 5 screens.



5 Screen Onboarding Flow

Two screens were added to introduce the Waterdrop point system and its connection to the user's Neighborhood Tree on the homepage. With our onboarding flow, we aimed to provide a concise introduction to the unique terminology used in our app without overdoing the number of screens used. We included animations throughout the onboarding flow to add aspects of delight and engage the user's attention. The animations also help illustrate the concepts of our app, such as the Prompt sapling turning into a Collection sunflower.

Reflections and Next Steps

Through the creation of Collective, our group was able to walk through an end-to-end journey of ideating, creating, and testing a product that we believe has critical social value and strives to enhance positivity in local communities. This process highlighted how difficult it is to create a user-centered design with embedded social values and pushed us to address questions our participants had along the way - What is the best way to create the boundaries of your neighborhood? How can you create trust within your community without risking safety? What conversations will spark the most excitement and joy?. While there are still many questions left to be answered, this process shed light on how important user perspectives are to creating products and detailed the steps we need to

take to demonstrate the principles we learned through many of our classes in the School of Information. We hope that our design inspires positive change within local communities and illustrates the need for communication and connection within neighborhoods.

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Appendix

- Product Design
 - [Prototype](#)
 - [Product Requirement Documents](#)
- Research
 - [Concept testing slides](#)
 - [Concept testing research guide](#)
- Usability Testing
 - [Usability Testing Plan](#)