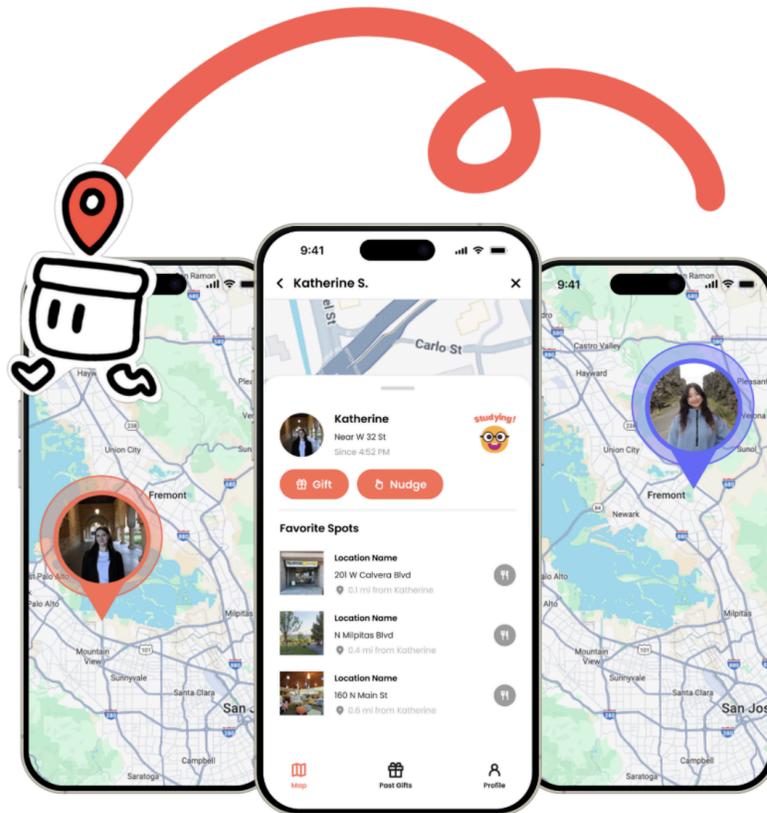


WAYN

Together, even when apart



Hallie Xu, Jillian Chang, Katherine Sullivan, Leo Sui

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Project Overview

Project Name & Value Proposition

WAYN: together, even when apart.

Team Members and Roles



Hallie Xu
Symbolic Systems
Product Manager



Jillian Chang
Symbolic Systems
Product Manager



Katherine Sullivan
Computer Science
Designer/UX
Researcher



Leo Sui
Design
Designer

Problem & Solution

Young adults experience social disconnection when they move from tight-knit school communities into independent adulthood. Friends scatter across cities, schedules don't align, and relationships are hard to maintain.

WAYN enables real-time connection asynchronously. It's a location-based social app where friends send each other heartfelt digital gifts tailored to the receiver's physical location.

Needfinding

Before we began the needfinding process, we wanted to narrow down on the domain that interested us. As students about to enter the real world and exploring possible careers, we all resonated with finding fulfillment and purpose. We understood that fulfillment is a core issue in early adulthood, shaping how we make and live out our career, social, and life decisions, yet it's under-addressed by existing tools and solutions. Precisely because it's so abstract, we felt there was a lot of room for creativity in how we approached it.

Round 1 – exploring fulfillment

For our first round of interviews, we sought to explore the obstacles young adults face as they pursue their goals and how career, personal interests, and relationships shape their overall sense of purpose. We wanted to see if there were any patterns when it came to a specific dimension of fulfillment, so we sought deep discussions and storytelling to uncover what dimension(s) were working and lacking. Since we hypothesized that people still finding their footing in career and life may struggle more in finding fulfillment than those further down in their life paths, we chose our target demographic to be fresh grads (ages ~22-29). We decided to conduct some of our interviews on the Caltrain to San Francisco, where passengers often have around 40 minutes of free time. We also sought out interviewees in cafes and parks in San Francisco, as they are more relaxed settings. In addition, we scheduled interviews with non-Stanford individuals referred to us by friends.

Our first round of interviews included:

1. Stephen, a software engineer who recently started his life in the Bay post grad
2. Jamie, an optic engineer from Germany
3. Moe, a recent aerospace engineer grad who is transitioning to a new company
4. Allie, an AI engineer and creative writer who quit her industry job to pursue her own project

Round 2: Narrowing to relationships

Following our first round of interviews, we noticed that the relationship dimension stood out as the most prominent and widespread thread among our interviewees. This, combined with our own interests in the subject, led us to decide to narrow down

our focus to strengthening relationships toward fulfillment. Because all four of our previous interviewees had an engineering background, for this second set of interviewees, we wanted to capture a more representative sample by finding adults either with a non-engineering background, or without a four year college degree. To do so, we looked in service-oriented spaces which commonly consist of young adults without an engineering or bachelors degree.

This led us to interview:

5. Sarah, a phd student in clinical psychology who recently moved across the country away from her college friends
6. Jenna, a nail technician

Interview Process

When we were recruiting participants, we mentioned we were Stanford students seeking to learn more about navigating friendships/fulfillment for a project, and asked if they had 30 minutes to chat about their experience. Once they agreed, we asked them to sign the consent form, and if they consented to audio recording, we set the recording up and began the conversation. We focused our follow up questions on feelings and stories. Finally, we concluded by thanking them for their time and offering free snacks as compensation.

Synthesis

To synthesize our interviews, we began by creating empathy maps for each participant, capturing their thoughts, feelings, behaviors, and statements related to fulfillment and relationships. These maps allowed us to visualize emotional patterns and identify the underlying tensions shaping their experiences.

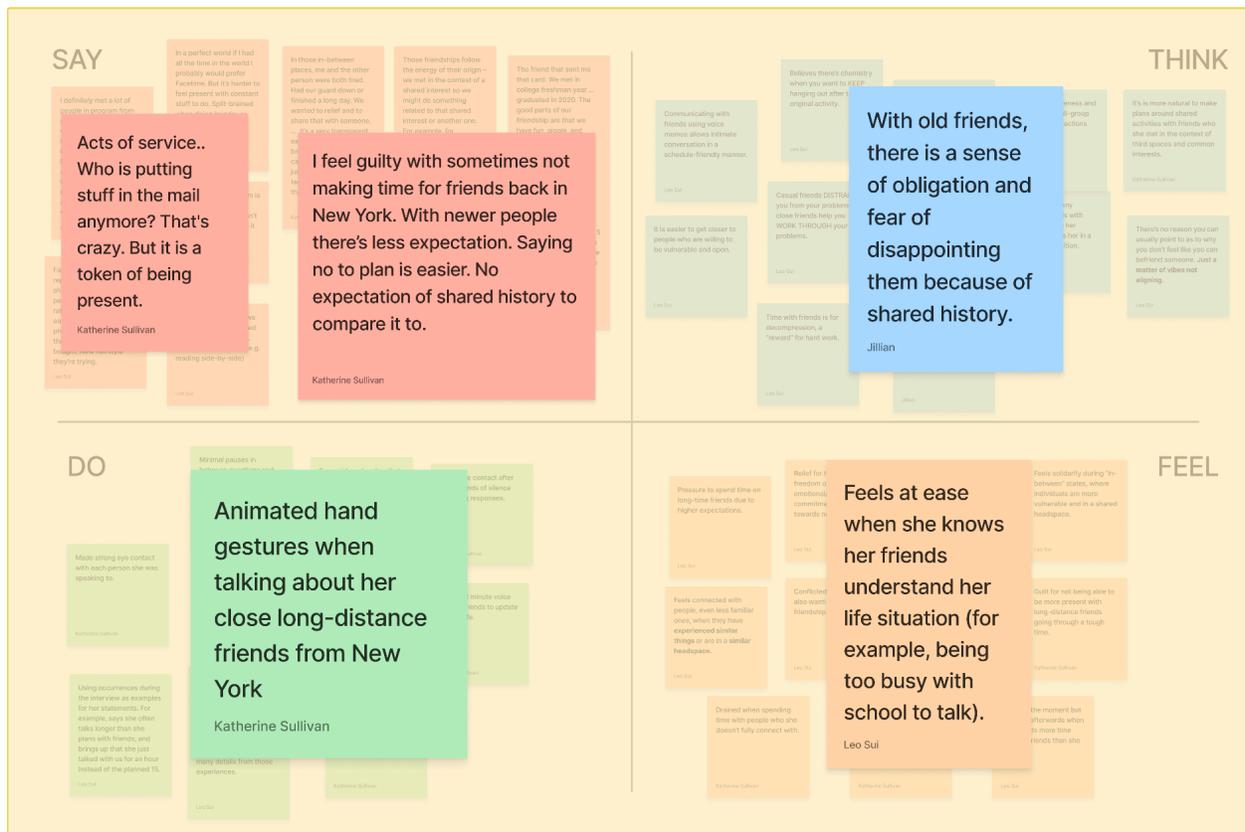


Fig 1. Empathy map example for interviewee Sarah

We then looked across empathy maps to identify contrasts between what participants said and what they felt, shared pain points that multiple interviewees experienced. Through this process, several themes emerged that shaped how we understood the problem space:

1. Fulfillment in early adulthood is tied to the quality of one's relationships.

While our first round of interviews explored fulfillment broadly, participants consistently returned to their relationships as a strong determinant of meaning. Even those who described themselves as reasonably content at work often attributed that stability to relationships outside of work (Stephen, Jamie, Allie), and some still experienced loneliness despite feeling satisfied with their jobs (Moe) This reinforced our decision to narrow our focus specifically to the relational dimension of fulfillment.

2. Adulthood often introduces physical distance that reshapes existing friendships.

Participants frequently described moving for work and living farther apart from

friends than before. These shifts made friendships feel more fragile and required more intentional effort to maintain.

3. Shared experiences drive meaningful connection, but time and logistics limit them.

Interviewees expressed that shared activities, like trying something new together, laughing in person, were the moments that deepened their relationships. However, mismatched schedules and physical distance often prevented these experiences from happening. Even when the desire for connection was strong, logistical barriers created drift.

4. People value intentional, tangible moments as proof of care.

Across all interviews, the gestures that meant the most were simple but deliberate: sending a thoughtful message, initiating a plan, showing up physically, giving a small gift, or recalling a personal detail. These actions acted as emotional signals that a relationship mattered. Yet participants admitted that expressing care consistently was difficult due to time.

POVs and HMWs

After our needfinding process, we revisited the empathy maps created for each interview and selected the three participants whose perspectives best aligned with our refined focus on fulfillment through relationships. We chose Sarah and Jenna from our second round of interviews, as these conversations were tailored to this focus, as well as from our first round Stephen, whose recent post-college transition and reflections on friendship and career uncertainty offered insights into relational fulfillment. For each of these interviewees, we generated a Point-of-View (POV) statement capturing who they are, a key tension we observed, the underlying need it revealed, and a potential opportunity space for brainstorming. From each POV, we created at least ten How Might We (HMW) statements that served as starting points for generating solutions to these identified needs.

Steven

POV

- We met: Stephen, a 26 year old software engineer who moved to the Bay Area a few years ago.
- We were surprised to notice: Despite having a life-long interest in

conservation, he's hesitant to pursue that because he would have to move away from his current social circle.

- We wonder if this means: Stephen is hesitant to move to pursue career aspirations for possibility of needing to start over with his social life
- It would be game changing if: Stephen could still feel comforted and supported by his existing friends, even while pursuing new life directions and investing in new social circles.

HMWs

- HMW allow Stephen to take his friends with him wherever he goes?
- HMW reduce the dizzying internal trepidation of entering new social settings?
- HMW give young adults opportunities to transition a situational friendship (coworker, classmate) into an emotional one?
- HMW leverage someone's existing social circle to find/build a new one?

Sarah

POV

- We met: Sarah, a 27 year old clinical psychology PhD who moved to the Bay Area this year from New York.
- We were surprised to notice: Despite being less close to her newer friends than old, she often feels less stressed with them because they don't carry shared history and expectations. However, she still feels most loved and supported by her long-time friends.
- We wonder if this means: Sarah's long-term friendships feel pressuring because she feels guilty about communicating evolving expectations that come with life and new priorities.
- It would be game changing if: Sarah and her friends could align their expectations regarding changing bandwidth and priorities, structuring their communication and frequency/mode of interaction accordingly.

HMWs

- HMW allow busy young adults share and receive meaningful life updates without adding to their mental load?
- HMW make digital communication feel as personal as sending a letter?
- HMW normalize being open, direct, and communicative when we have less capacity for friendships?

Jenna

POV

- We met: Jenna, a 23 year old nail and beauty tech from San Jose who maintains her social circle mostly through social media due to a lack of synced schedules.
- We were surprised to notice: Although she most enjoys the warmth of in-person connections, she uses social media as her primary way of keeping touch with old friends and deepening connections.
- We wonder if this means: Jenna turns to less ideal modes of connection, such as social media, because her strict work schedule makes in-person meet ups more difficult.
- It would be game changing if: Jenna could experience the same sense of fulfillment of in-person hangouts via digital and time-flexible modes of interaction.

HMWs

- HMW emulate the feeling of shared laughter despite physical separation?
- HMW design social media content that better conveys emotional states?
- HMW encourage keeping the conversation going after an initial interaction?

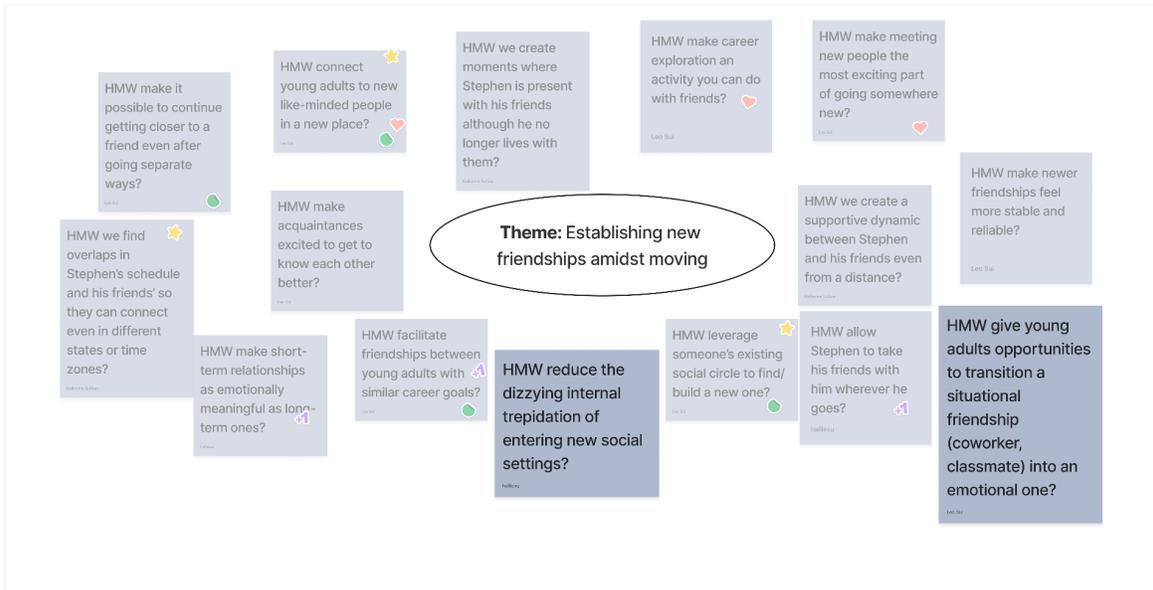


Fig 2: Example HMW brainstorming for Stephen's POV. We brainstormed 10+ HMWs based on the main theme we gathered from the POV



Fig 3: HMW brainstorming for Sarah POV

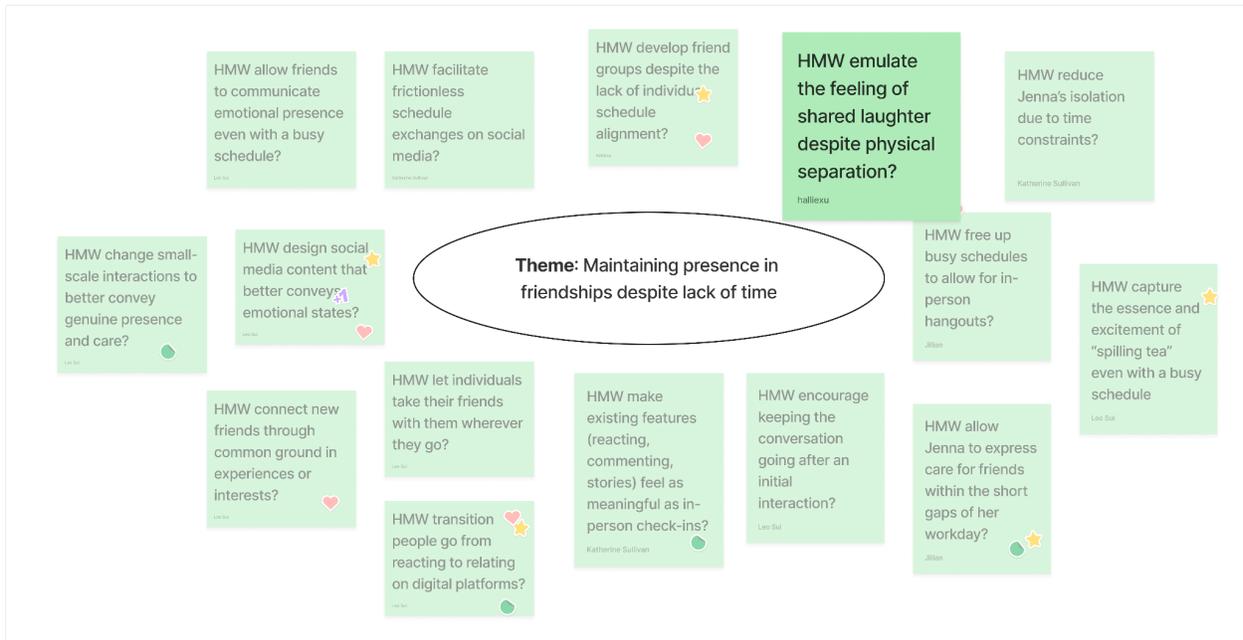


Fig 4: HMW brainstorming for Jenna POV

We then narrowed down all these HMWs into three that we felt we could generate the most creative solutions for.

Top 3 HMWs

1. HMW reduce the dizzying internal trepidation of entering new social settings?
2. HMW emulate the feeling of shared laughter and joy despite physical separation?
3. HMW allow young adults to transition a situational friendship into an emotional one?

Solutions and Experience Prototypes

After we had our final HMWs, we then began to brainstorm solutions to those problems by first each thinking of as many solutions as possible to each HMW. Then, we voted for all the solutions we liked, removing any that received no votes. From the remaining options, we used a heat-map voting technique to identify our top three solutions. After that, we grouped together similar ideas and discussed the solutions that had received the most votes to determine which ones we wanted to explore further.

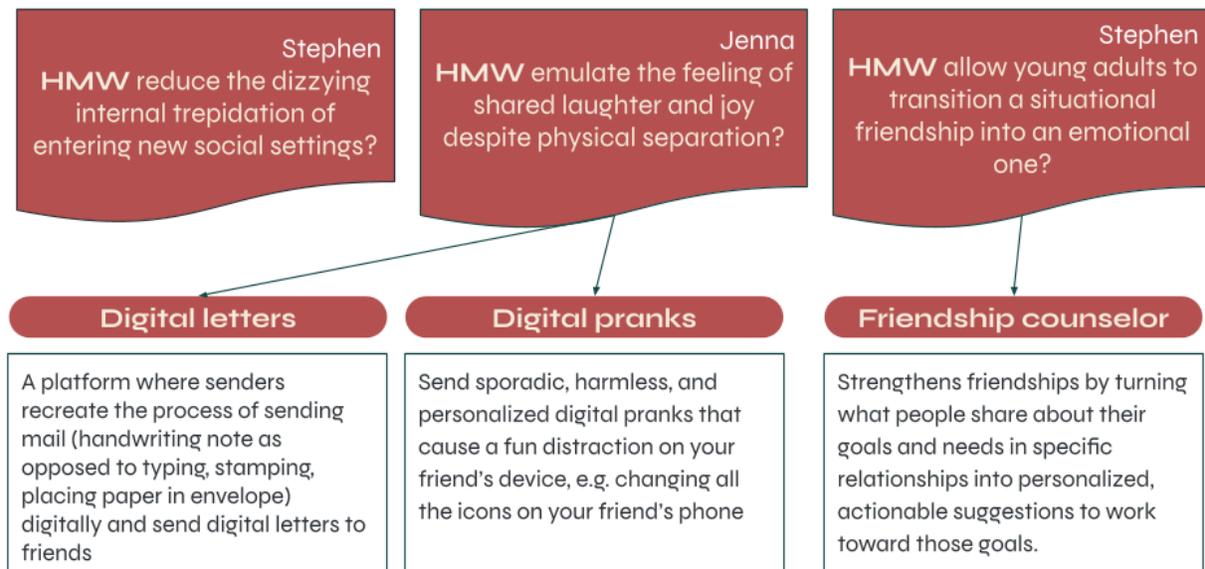


Fig 5: Our top 3 HMW statements and their corresponding chosen solution in a diagram

For our three chosen solutions, we went on to create experience prototypes to test critical assumptions needed for the solution to be viable.

Solution and Experience Prototype #1: Digital Letters

Our first solution is a platform for sending digital letters to friends, designed to recreate the emotional experience of receiving mail. This idea was inspired by Sarah, who lit up during our interview when describing how cared for she felt after receiving a handwritten letter from her long-distance friend. We wanted to capture that same sense of joy and translate the thoughtfulness of physical mail into a digital format.

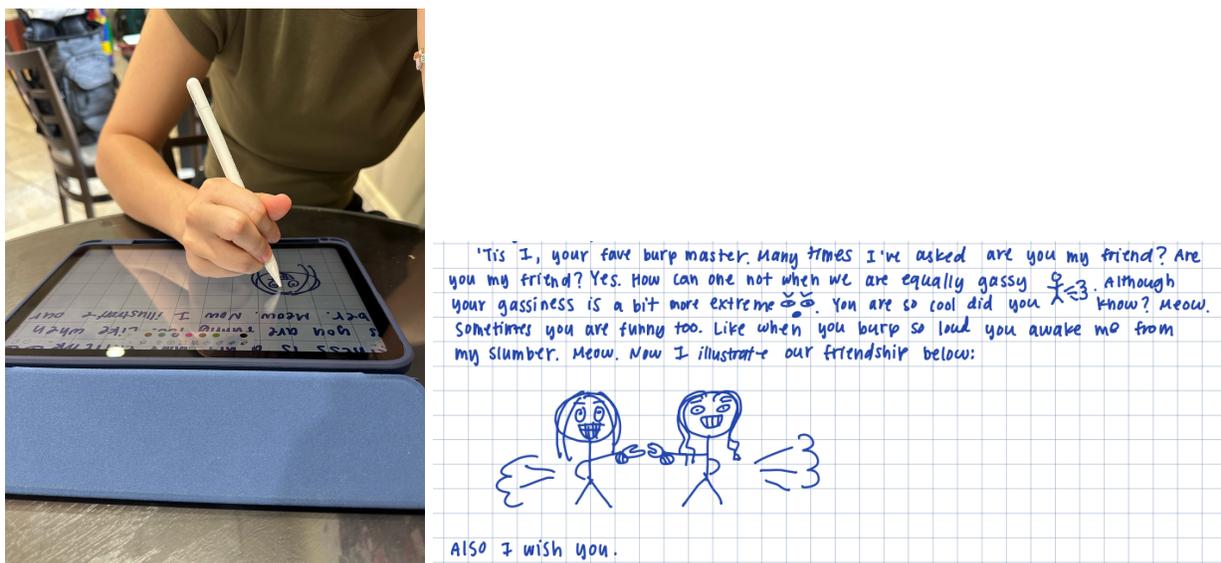
This concept addresses a common theme we heard, that people value meaningful communication and gestures but may lack the time to do so.

Key Assumption: Senders feel that taking the time to craft a digital letter encapsulates the care they feel towards friends. Recipients of digital letters perceive letters as substantially more special than communication via messages or email.

Process: Each testing round included two participants, a sender and receiver. We instructed the sender to spend 5 minutes handwriting a digital letter to a specific

friend, encouraging them to include any information or illustration they'd like to include. Then, we delivered the letter to their friend. Afterward, we debriefed with both the sender about the letter creation process and the receiver about feelings after receiving the letter.

We tested this prototype on two groups of friends: Angie, an MBA student and her MBA friend, and Bella, a SWE and her long distance friend. These two pairs represent key use cases: busy graduate students with limited time for connection and long-distance friends who struggle to maintain closeness.



"I'm honored that she took the time to hand write this for me. This message is very her." ~ Receiver

Fig 6: Test setup and process: sender writes the digital letter sent to a friend, and the friend then reports to us how the digital letter made them feel.

What worked:

- Senders felt the handwritten digital note fully communicated the care and heartfelt feeling to her friend ("Just typing feels mechanical. I can be more creative when handwriting")
- Recipients felt pleasantly surprised and moved by digital letter, even wanting to reciprocate it.

What didn't work: The act of handwriting note can become time consuming, discouraging senders from participating routinely

Our assumption was proven because senders and receivers of the letter felt that it encapsulated the care and thoughtfulness of an actual letter. We see that its strength lies in occasional, high-intention use rather than frequent communication. Additionally, the writing experience must feel rewarding enough to justify the time investment, potentially through creative prompts and tools that help users express themselves without feeling burdened.

Solution and Experience Prototype #2: Digital Pranks

Our second solution involves sending digital pranks to a friend's device, causing a fun but harmless distraction. This solution also tackles the common thread of young adults appreciating shared moments of joy, but having physical distance or time constraints stand in the way. We wanted to create a mechanism for which friends could share laughter when physically apart, and felt that pranks are a lighthearted way to do so. Digital pranks seemed like a unique format that could elicit surprise, and bring people together through humor.

Key Assumption: A disruptive and unexpected prank is not seen as annoying

Process: For this experience prototype, we used a physical book combined with a hidden prank element: a bunch of goblin stickers tucked between pages. The facilitator placed the prank somewhere in the middle of the book and then instructed the participant to begin reading. When the user reached the page with the goblin stickers, the facilitator observed and documented their reactions, including facial expressions and verbal responses. This setup allowed us to simulate the moment of playful interruption that a digital prank would create.

We tested this prototype with three participants we recruited from Palo Alto: Zoey (29), a life coach, whose work centers on emotions and behavioral responses; Roshen (29), a data scientist, whose analytical career offered contrast with spontaneous humor; and Vanessa (27), a marketing professional, representing young urban adults accustomed to digital interactions. These varied backgrounds allowed us to observe whether playful interruption resonates with a wide spectrum of user mindsets.

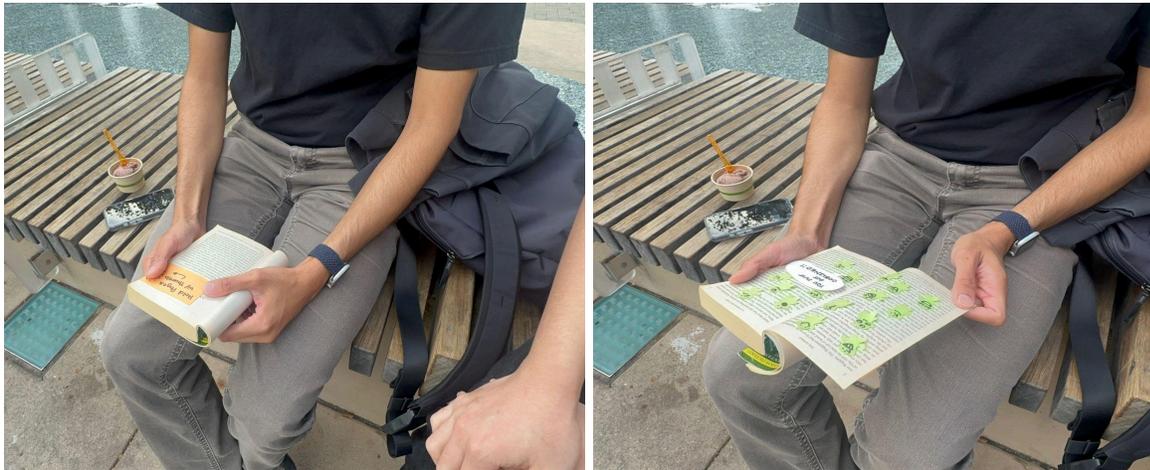


Fig 7: Test process: Participant is asked to read a book. Their reading flow is interrupted by a page of goblin stickers, mimicking the surprise of an unexpected prank.

What worked:

- Users chuckled when seeing the prank, finding it entertaining more than annoying
- Users expressed that the prank would strengthen their connection with friends in the same way banter would

What didn't work: Users were concerned that they would find the prank distracting if they were working on something urgent for high stakes

These findings suggest that adults value light-hearted pranks as moments of relief from their otherwise structured routines. Our assumption was validated in this case because participants consistently interpreted the surprise as amusing and one that could make them feel closer to their friend. However, this reaction was shaped by the low-stakes context of the prototype, that participants were not engaged in anything urgent. They indicated that if the task had been higher-stakes, the interruption could shift from delightful to annoying. Thus, a key fact is that the pranks have to be sensitive to context and timing.

Solution and Experience Prototype #3: Friendship Counselor

Our third solution is an app that lets users input their goals and needs in specific relationships and turns those into personalized, actionable suggestions to work toward those goals. This solution is geared toward helping users turn situational

friendships into stronger ones, or maintain strong friendships through obstacles. Following our needfinding encase, we saw a common thread was users felt fulfilled through having emotion.

Key Assumption: Friends will be receptive and actually act upon advice given by the tool

Process: This prototype starts out with a Friendship Reflection Sheet, with prompts that guide users to independently articulate their goals, needs, and current feelings about their relationship or friendship with someone. Two friends are instructed to fill out the sheet at the same time. After both sheets were completed, a facilitator reviewed the reflections and came up with two to three suggestions, such as conversation prompts, shared activities, or small gestures, to help the pair move toward their stated goals. The friends were then encouraged to try these suggestions in the following days. A follow-up check-in allowed the facilitator to assess their progress, gather feedback on what felt helpful or natural, and identify any adjustments needed to further support the relationship's growth.

We tested this prototype with two Stanford ex-roommates, which is relevant to the prototype because their relationship has the familiarity, comfort, and minor everyday tensions that can arise from living together.

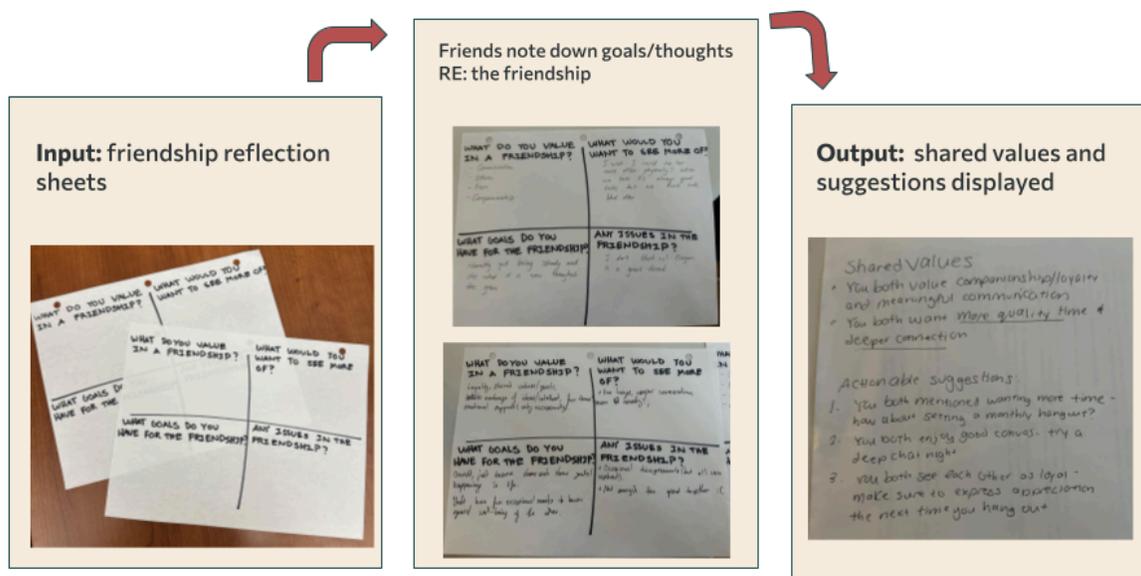


Fig 8: Test process for friendship counselor solution

What worked:

- Friends were very happy to see their own reflections also reciprocated through the “shared goals” section
- Friends followed through by scheduling an activity suggestion

What didn't work:

- Users felt that the process is not very organic
- Users did not feel a sense of urgency to act on the suggestions

Our assumption was proven because the friends did respond positively to the insights and even acted on one of the suggestions. However, the prototype also revealed important nuances. Their lack of urgency suggests that even when people want to improve a friendship, motivation varies unless the timing, context, or emotional need is strong. This indicates that a digital Friendship Counselor must offer lightweight prompts that feel intuitive in order for young adults to feel compelled to use it.

Design Evolution

Final Solution

WAYN: A location-based social app: friends see each others' locations and send gifts, audio, or notes that unlock when someone's in a specific place

Idea Refinement and Rationale:

Initially, we explored idea #2: digital letters deeply due to its novelty and delight potential, but upon further research, we discovered major technical barriers. For instance, iOS restrictions made the core functionality nearly impossible to build or test within the scope of the quarter.

We then began to consider idea #1: digital letters. Our lo-fi testing showed that users seemed to really value the personal and thoughtful nature of receiving a “letter,” saying that it made them feel cared for. However, the time and effort required to craft meaningful letters raised concerns about frequent engagement. Thus, we sought to explore a different direction that was more novel and ideally higher usage.

Looking back at our user interviews and prototype testing, we saw two common patterns:

- 1) Young adults want to stay in touch with friends, but busy schedules and physical distance make real-time communication difficult.
- 2) Young adults appreciate surprise interactions that communicate care without needing too much effort

These findings led us to rethink how to maintain closeness in a way that fits into everyday life. We focused on interactions that feel personal, but are spontaneous and easy to send. From these insights, we landed our final idea: a location-based app where users can view friends on a map and send multimodal surprises to friends tied to their current locations.

We wanted to take it a step further from apps that show where people are on a map by turning location into a catalyst for interaction. Users can see where a friend is and send a gesture that's relevant at that moment; for example, when you see that a friend is studying at a café, you might send them a coffee gift card or a "focus playlist" surprise.. These gestures help friends feel present for each other in real time, but asynchronously.

Tasks

Simple

Task: View friends' location on an app and nudge them

Why it's important: Seeing friends on a map provides a sense of presence, reminding users that their relationships continue even when they can't actively engage. Nudges create lightweight touchpoints to say "I'm thinking of you" without needing to schedule time for a conversation. This helps maintain friendships through small acts of acknowledgment and turns everyday locations into opportunities for interaction, reducing the feelings of drifting apart when life gets busy.

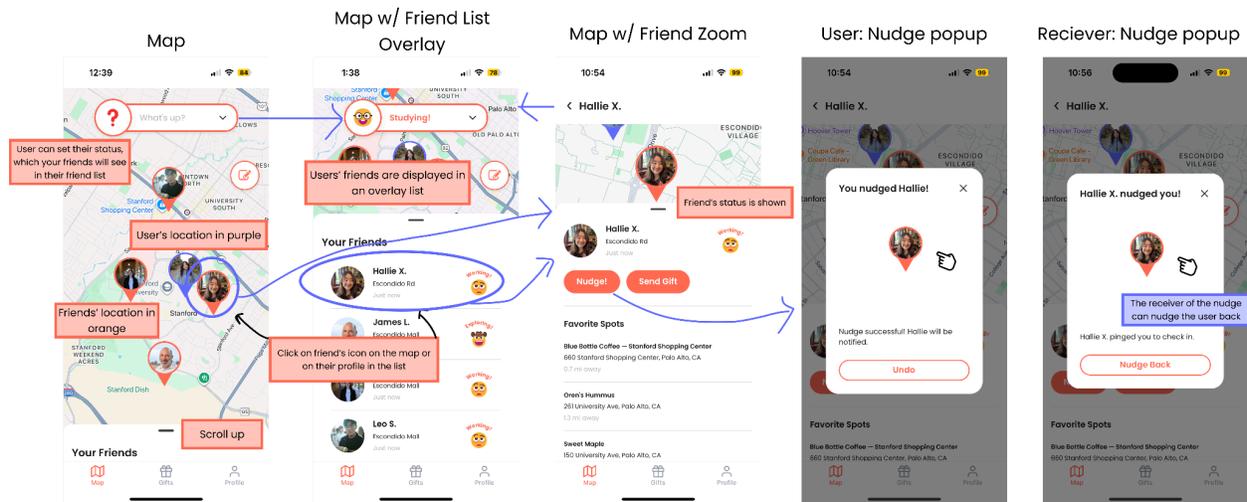


Fig 9: Final interface of simple task

Medium

Task: Sending multimodal gifts tailored to friends' locations

Why it's important: Sending a personalized gift based on someone's current location transforms passive location-sharing into an active gesture. Whether it's a digital letter, playlist, or coffee gift card, these gestures deliver the intention of real life gift-giving in a convenient way. They resonate with young adults who want to show care and connection but lack the time. By making each interaction relevant to what the friend is doing at the moment, this task keeps friendships feeling supported and alive even from afar.

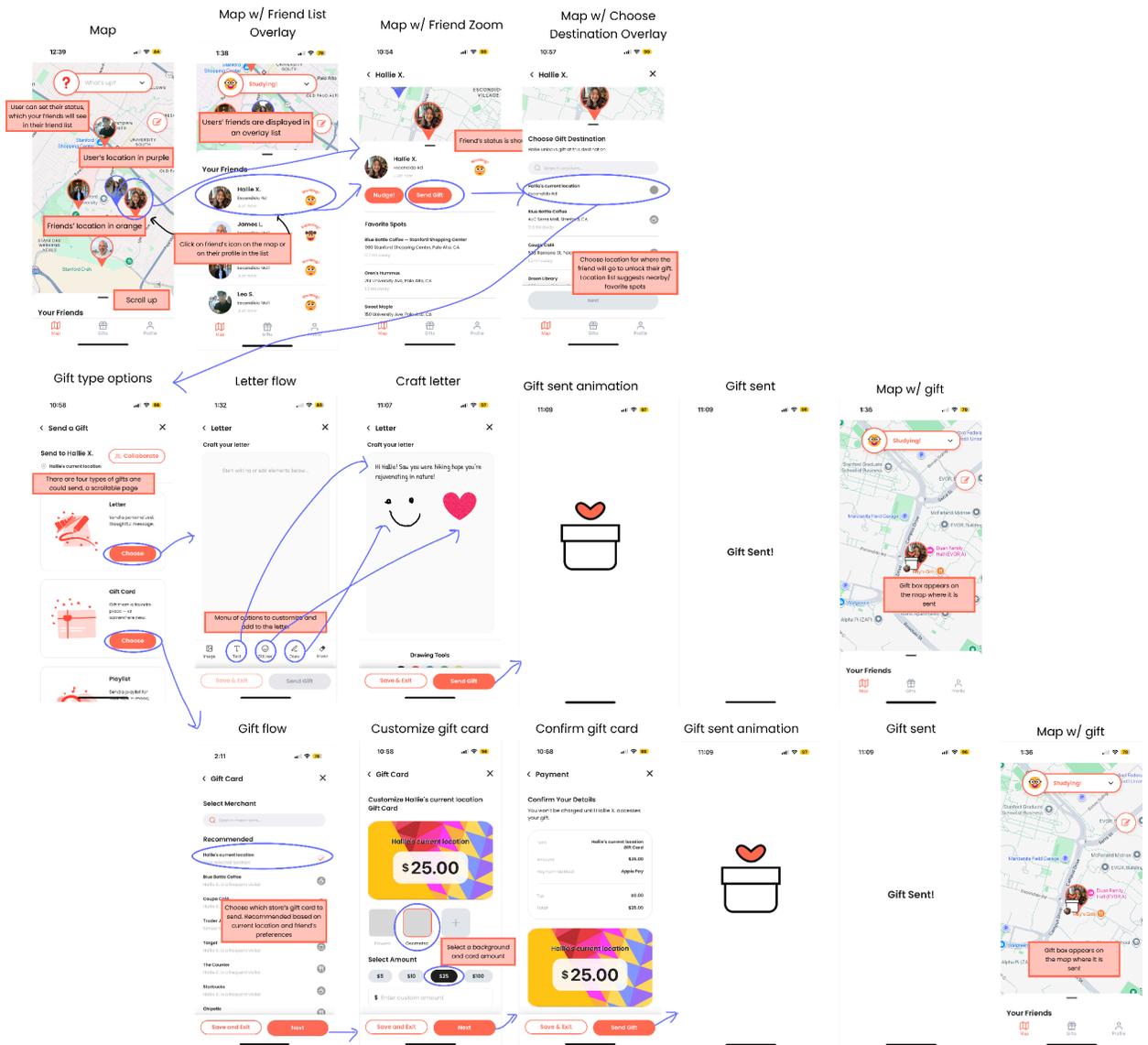


Fig 10: Final interface of medium task (letter and gift flows)

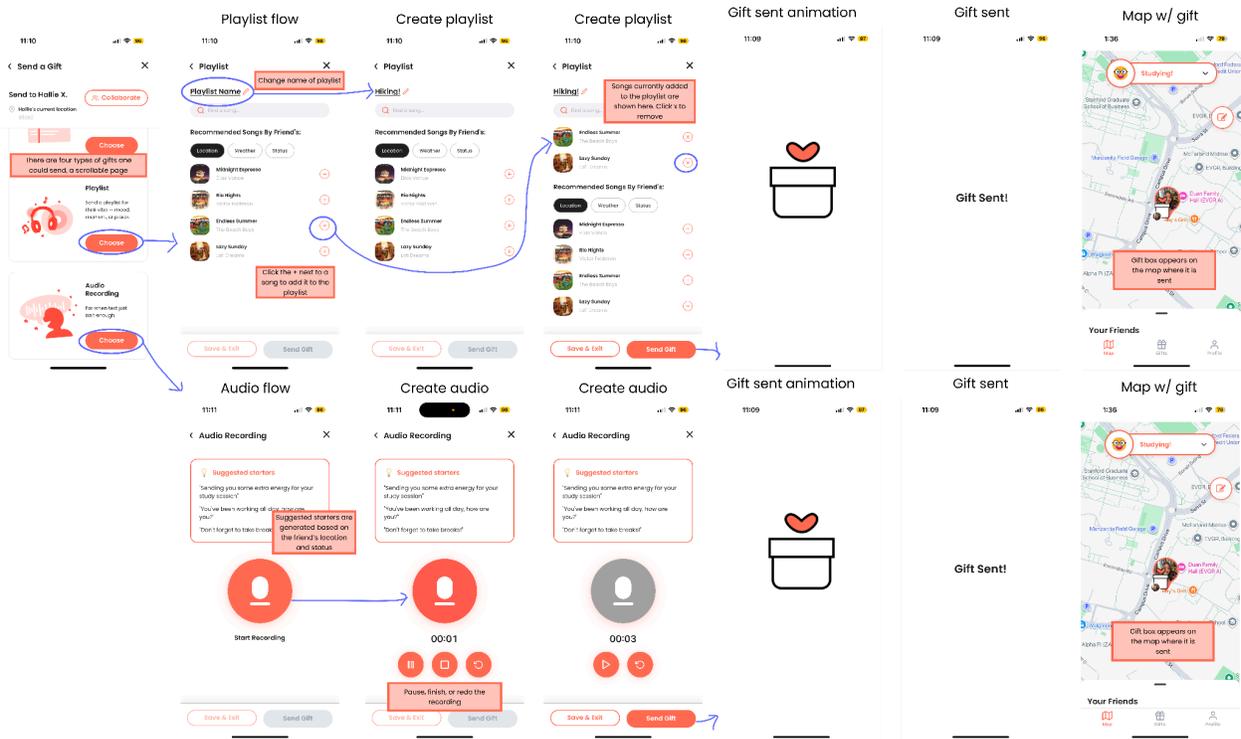


Fig 11: Final interface of medium task (playlist and audio flows)

Complex

Task: Collaborating on a gift with friends

Why it's important: The ability to co-create and send a shared gift taps into the social nature of friendship, strengthening not only 1:1 relationships but the broader network that supports the user's wellbeing. Group gifting turns digital interactions into shared celebrations, e.g. encouraging a friend after a long week or honoring a milestone from far away. For young adults navigating independent adulthood, collaborative gifts rebuild the sense of community they often miss after leaving school.

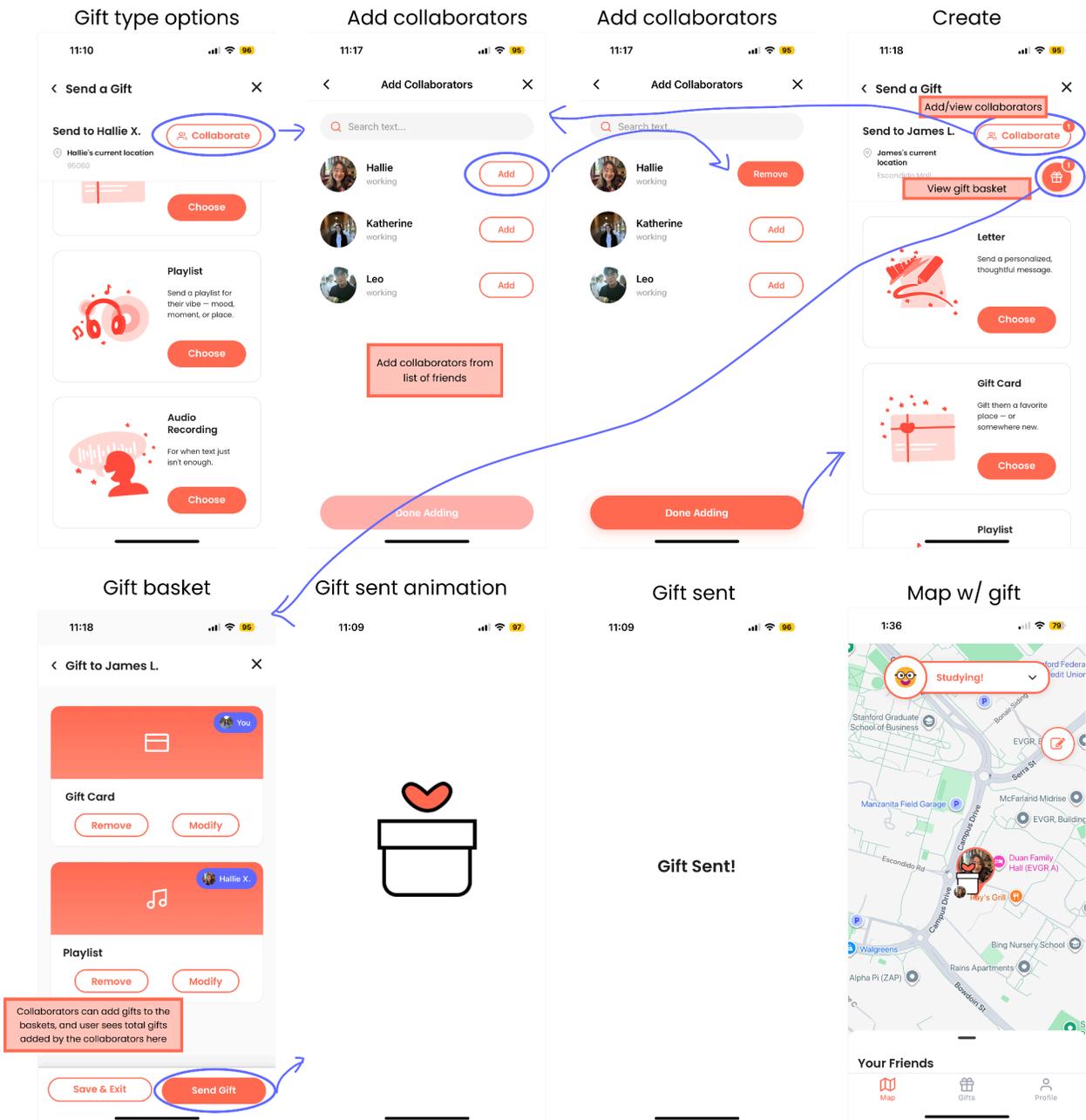


Fig 12: Final interface of complex task

Design evolution visualizations

Initial Sketches

After settling on the idea of location-based digital interactions, we used concept sketches to explore different realizations of this idea. In particular, an app realization and wearable ring realizations had the strongest potential.

The ring would allow for hands-free, screen-free interaction, using tactile indicators like vibrations to indicate proximity to gift location. However, our analysis showed that the high upfront cost of purchasing the ring would make the product much less accessible, and the limited options for conveying information could present design challenges.

Therefore, we ended up proceeding with the app realization. Being a social app, we had to consider the network effect, that the app would be more valuable the larger the user base was. Because an app realization makes the product accessible to the most number of people, it was the clear direction for our team to proceed in.

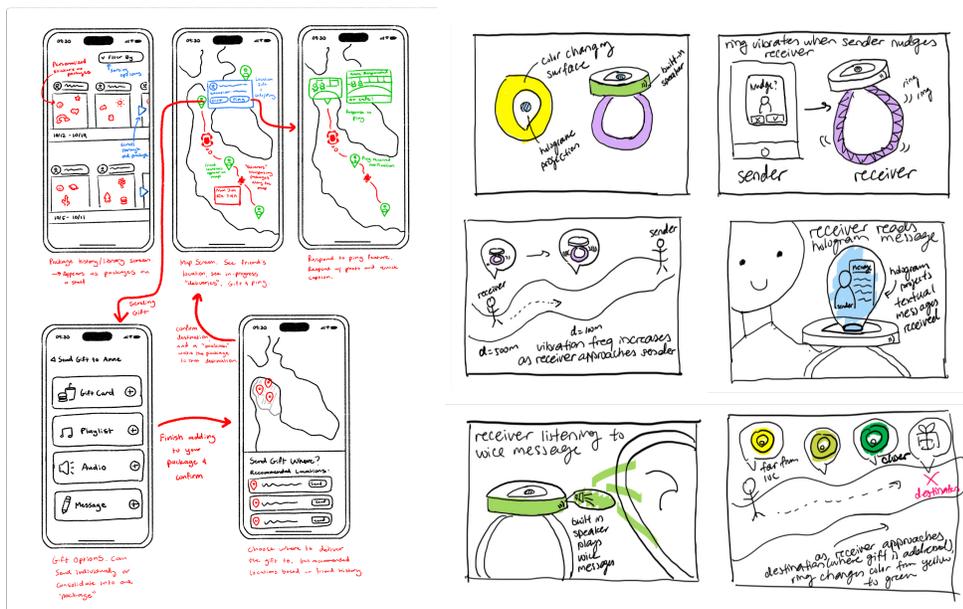


Fig 13: Early concept sketches of app realization (left) and wearable ring realization (right)

Low-Fi Prototype

After settling on our three primary task flows, we constructed an interactive, low-fidelity prototype made from cardstock.

We had several reasons for choosing a paper prototype over a digital one at this stage. Research shows that due to the rougher nature of paper prototypes, users feel more comfortable giving honest and critical feedback. Additionally, we designed the paper prototype to be modular, with loose moving parts we could easily swap out as needed in between testing sessions. Without needing to rewire prototypes or

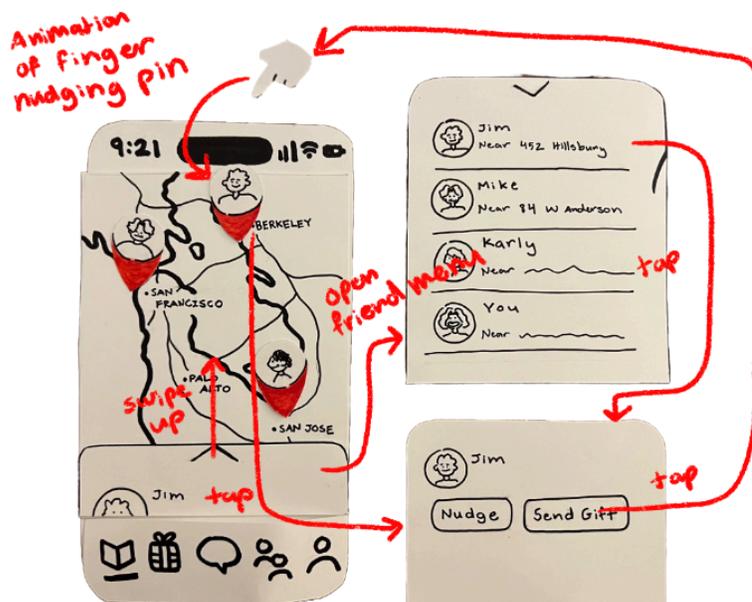
reupload whole screens every time we wanted to make a change, we were able to iterate with far greater speed and efficiency.

We primarily tested for two usability criteria: effectiveness and efficiency.

Since location-based digital gift sending is not a feature of any other app, we chose our goal of effectiveness in order to find out whether a new user could understand what purpose each step of the gift sending process accomplished. For this criteria, we tracked the **number of misclicks** and the **number of help requests**.

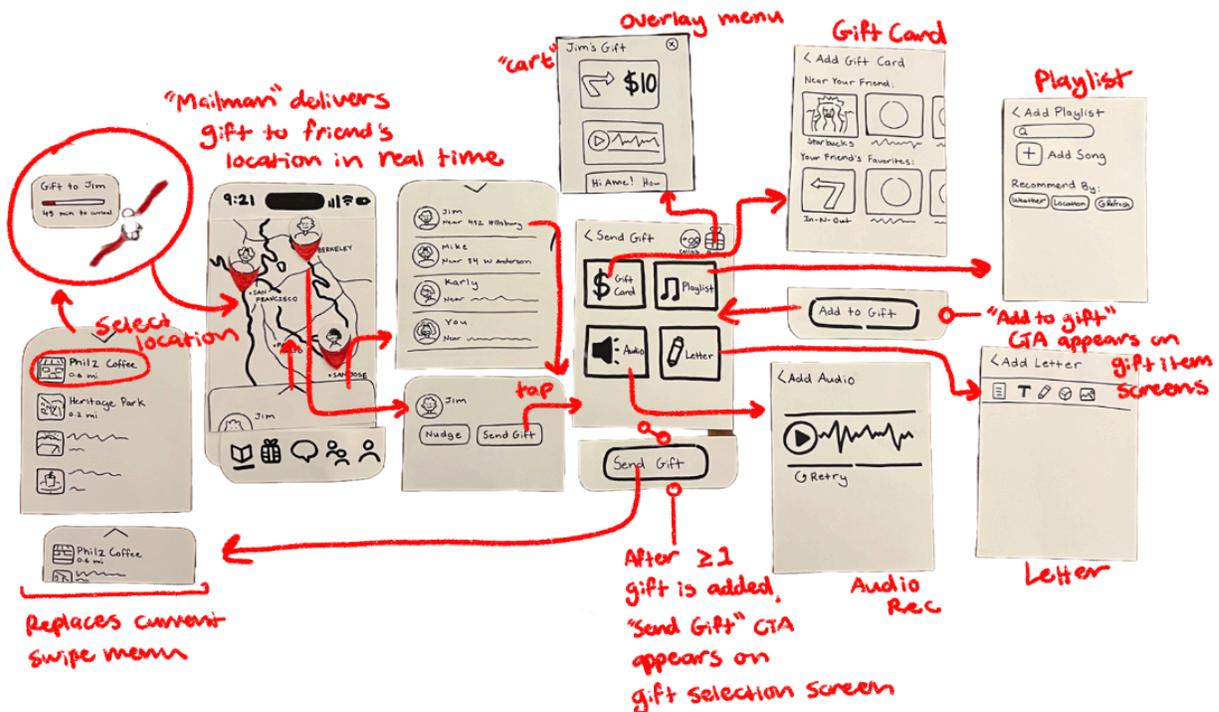
Since another goal of this app is to make emotionally meaningful communication more lightweight, we chose efficiency as an additional criteria to gauge how much time and effort our gift-giving flows required. For this, we tracked both the average amount of time spent accomplishing each task and the number of clicks needed to complete each task.

This low fidelity prototype was tested on 4 young adults of varying occupations in the downtown Palo Alto area. We had one member act as the facilitator, providing background information and instructions to the user, another member operating the prototype, and a third member recording data for our key metrics.



Simple Task: Testing for the simple task was fairly successful. On average, the task was completed in 44 seconds, meeting our goal of 45 seconds. The task took 3.5 clicks on average to complete, which was acceptable for a brand new user considering this task takes either 2 or 3 clicks to complete with no errors. There was

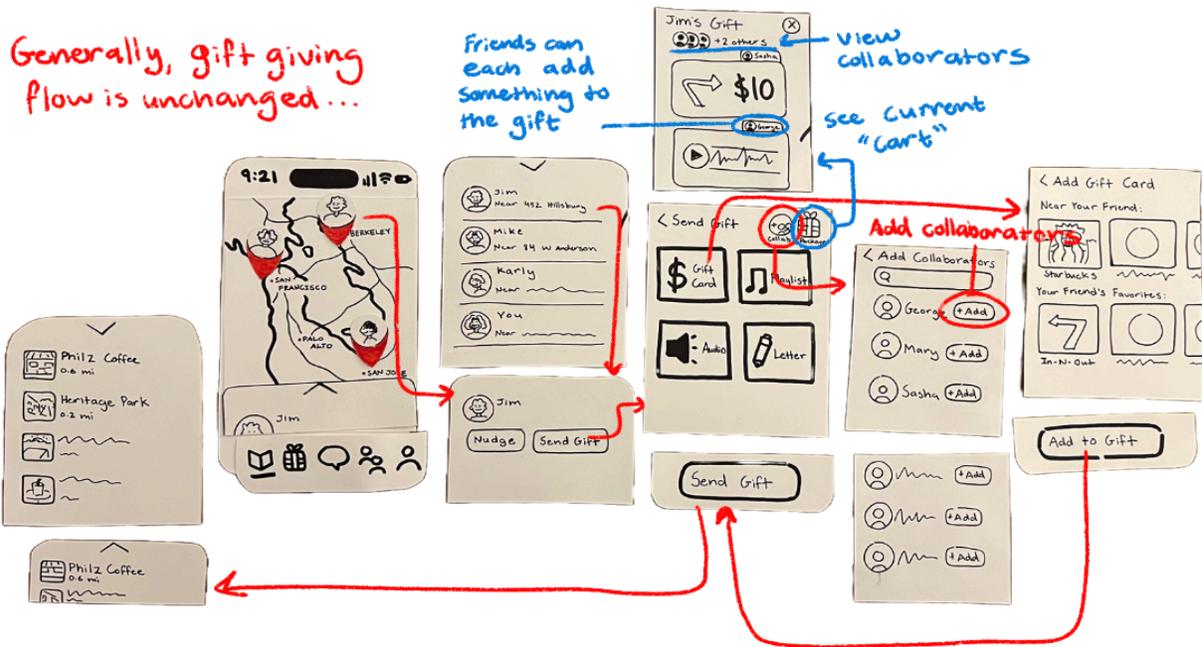
an average of 1 misclick per user, and just 1 help request among all 4 users. Most instances of error and confusion arose from non-interactable navbar, rather than the nudge flow itself.



Medium Task: Our gift sending task created the most confusion among our users. The first point of confusion was the location selection for the gift. Many users assumed the gift was physical, and they were choosing the address for it to be shipped. When they realized the gifts were digital, they questioned the purpose of choosing a "delivery location" if the gift wasn't sent to a physical location.

Users were also confused about whether or not their gift was actually sent, due to confusing CTA buttons (i.e. "Send Gift" takes you to location selection, rather than sending the gift), and a lack of confirmation messaging.

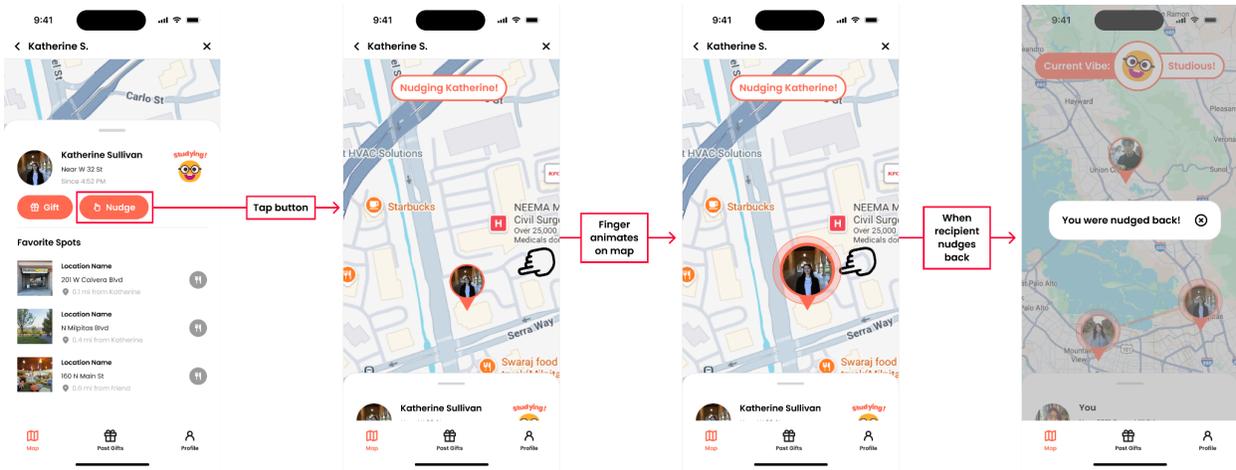
Thus, this task took on average a lengthy 3 minutes 45 seconds, requiring an average of 10.75 clicks, 3.5 help requests, and 1.25 misclicks.



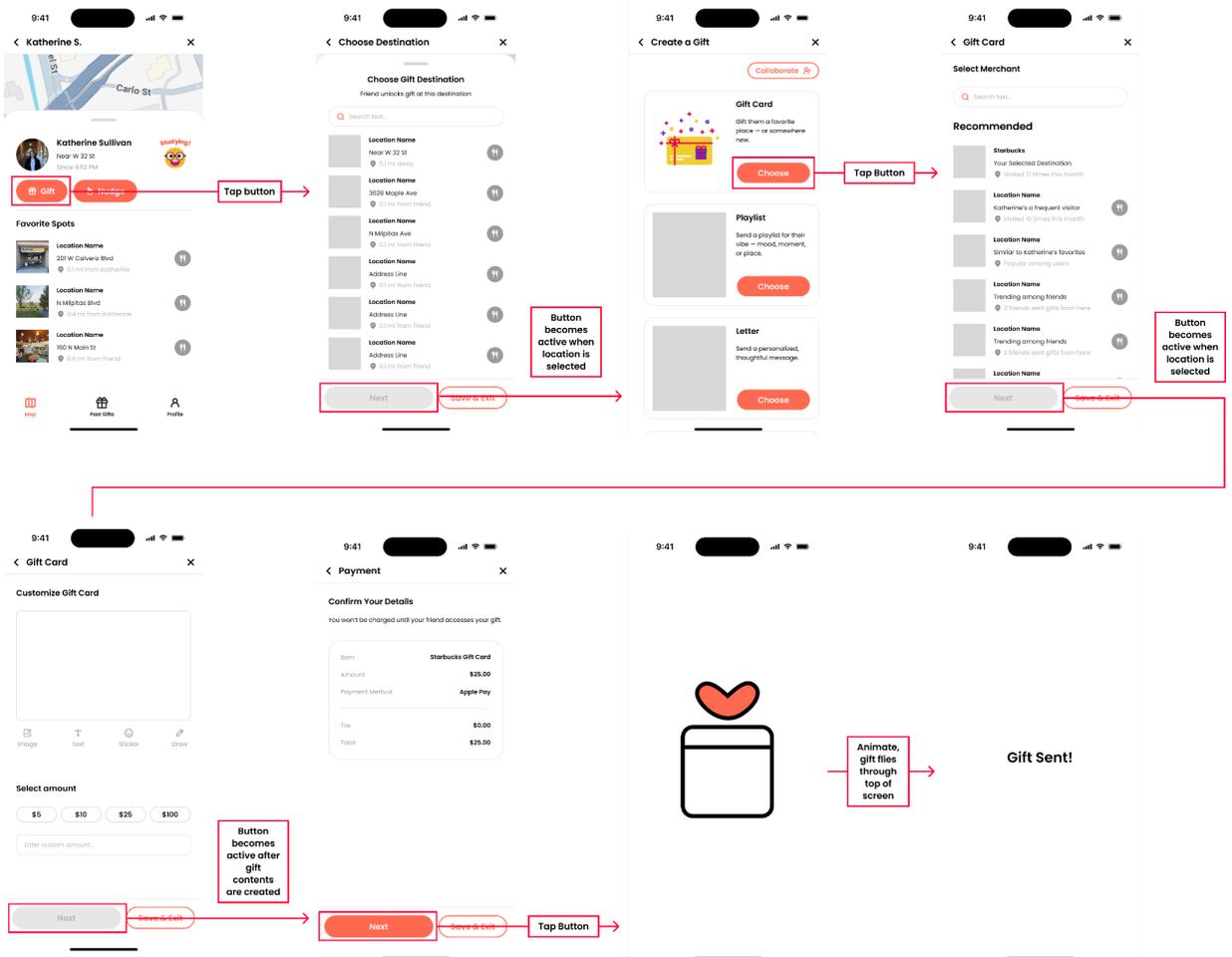
Complex Task: The collaborative gift sending flow had minimal points of confusion beyond those outlined in the individual gift sending flow. Most confusion stemmed from the added users and gifts not aligning with those selected by the user, which was a limitation of the prototype medium rather than a problem with the flow. The task took on average 3 minutes 9 second+, required 14.75 clicks per task, and averaged 1.5 help requests and 1.25 misclicks per user.

Med-Fi Prototype

Using the insights from our testing, we transitioned to Figma to create our medium-fi prototype. At this stage, we began refining the way users would interact with our interface and building the design language we would use for the app.



Our nudge flow remained largely unchanged. Icons were added to the buttons in case users are unfamiliar with the term “nudge.”



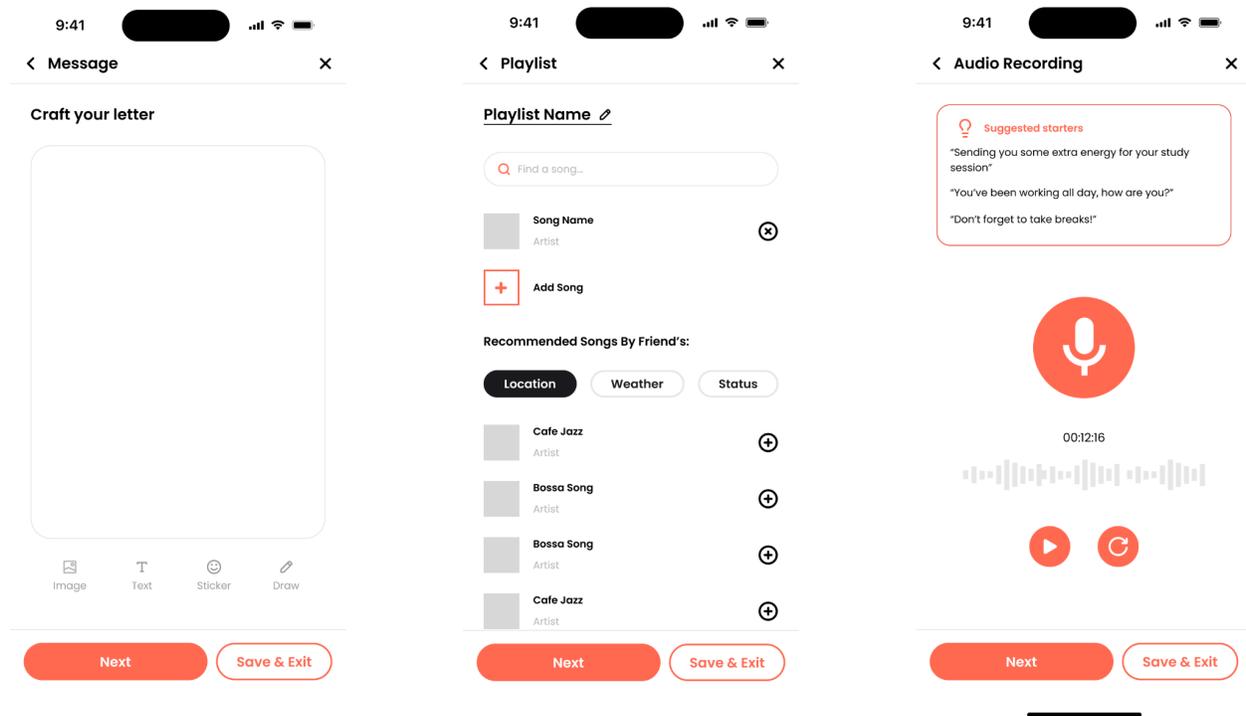
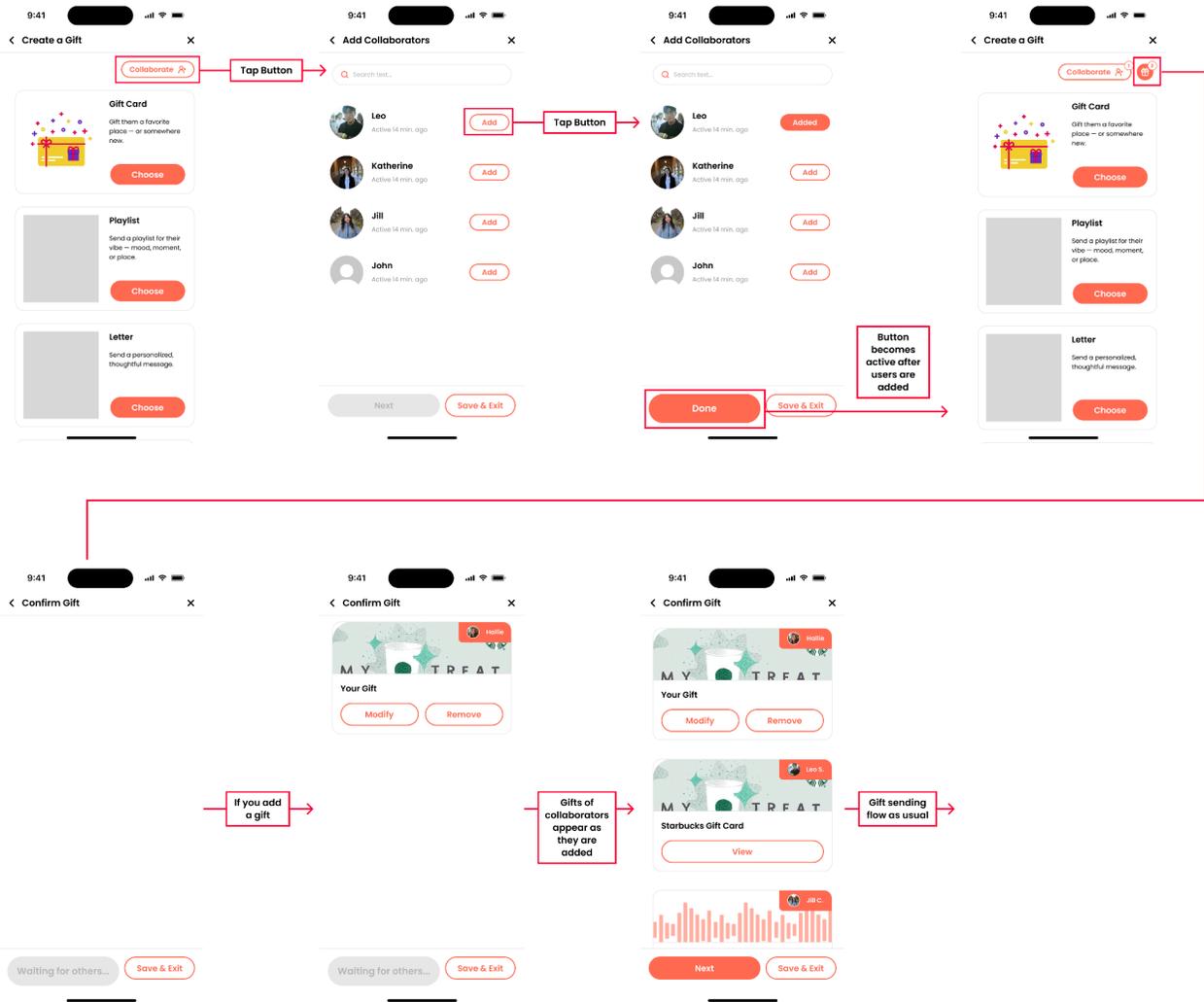


Fig: Other gift sending modalities. From left to right: letters, playlists, and audio recordings

The most substantial change with the gift sending flow was having users select the gift location before the gift creation process, rather than after. This had the effect of:

1. Clearing up the confusion of **whether the gift is sent**. Users expect finishing the gift as the last step, not a location selection tacked on.
2. Making it clear to a new user that the gift should be **tailored to their selected location**. Selecting a location first means they are guaranteed to have a location in mind *before* creating the gift.
3. On the back end, knowing the location of the gift before the creation process allows us to **dynamically provide recommendations** during the gift creation process based on the given location.

Beyond this, we added a simple gift sending animation and message after the gift is sent to make it definitively clear when the task has been completed.



The collaborative gift sending flow remained largely unchanged. However, we did realize that we had to put a check in place to make sure the host didn't send the gift before everyone was done adding. Thus, the "Send" button is grayed out with the text "Waiting for Others..." until all collaborators have added their gift.

HE Violation & Med-to-High-Fi Improvements

Overview

Before proceeding to our high-fidelity prototype, our medium-fi prototype was evaluated for heuristic violations by other students in the course.

There were 48 violations in total, 26 of which were of high to critical severity. We addressed 26 violations in total. Those that were not addressed were either errors or limitations of Figma, did not have the impact to warrant the time required to address them, or did not align with the type of experience we wanted to design.

Severity	Addressed	Unaddressed	Figma Errors/Limitations	Not Incorporated
3-4	16	0	5	5
0-2	13	5	2	2
Total	29	5	7	7

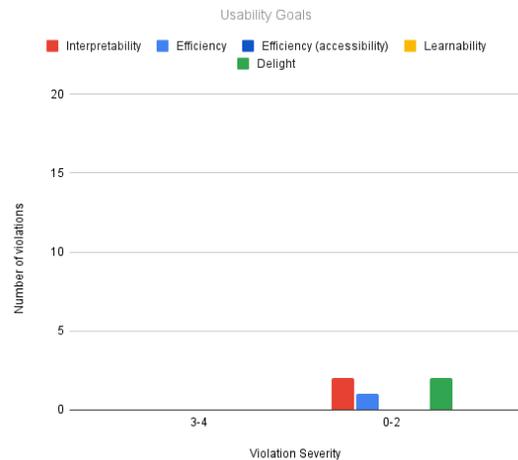
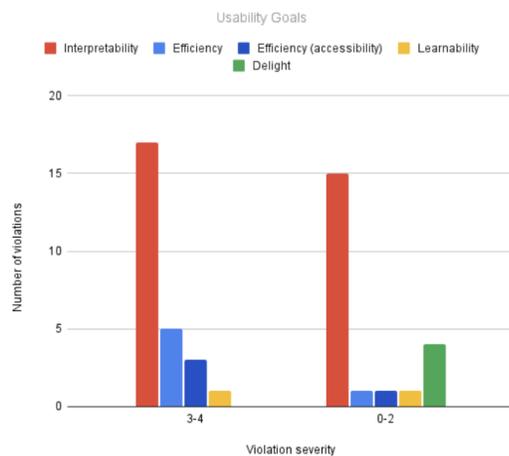
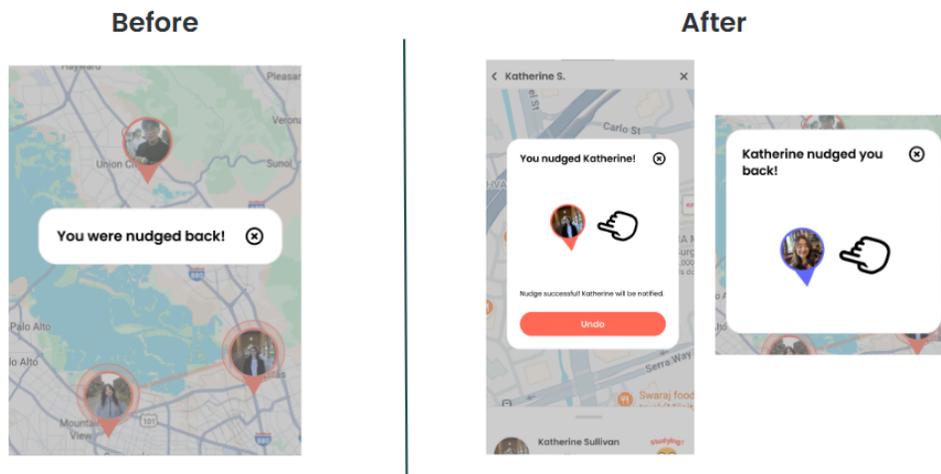


Fig: Number of heuristic errors before (left) and after (right) prototype revisions

Simple Task Revisions

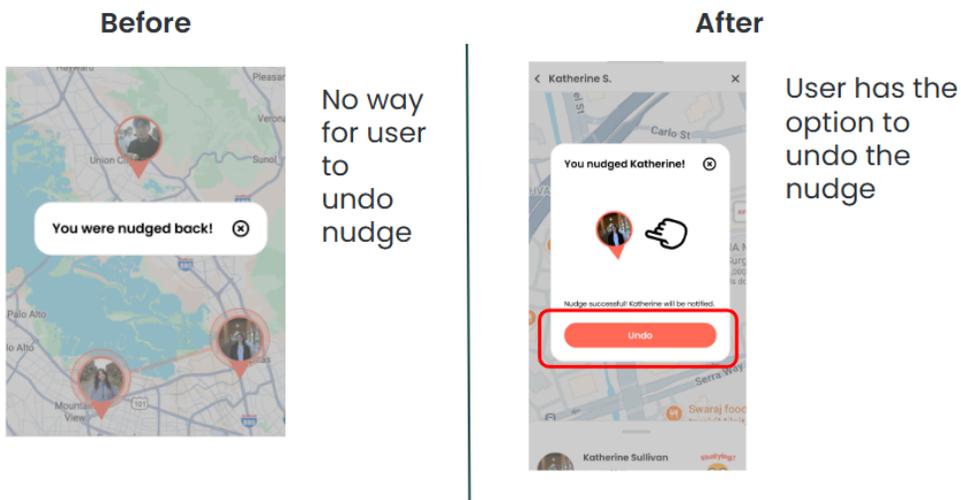
Violation 6: nudge back notification immediately shows up after sending nudge, unsure what app state is before user is nudged back.



Rationale: original design obscures app state after sending a nudge. Now, WAYN explicitly surfaces success message and routes the user to resume using the app normally. When nudged back, WAYN surfaces a separate popup message indicating who nudged user back (recognition over recall).

Progress towards usability goals: improves *interpretability* by clearly communicating app state after nudge; this in turn enhances *learnability* by making the nudge flow more intuitive.

Violation 10: user cannot undo a nudge

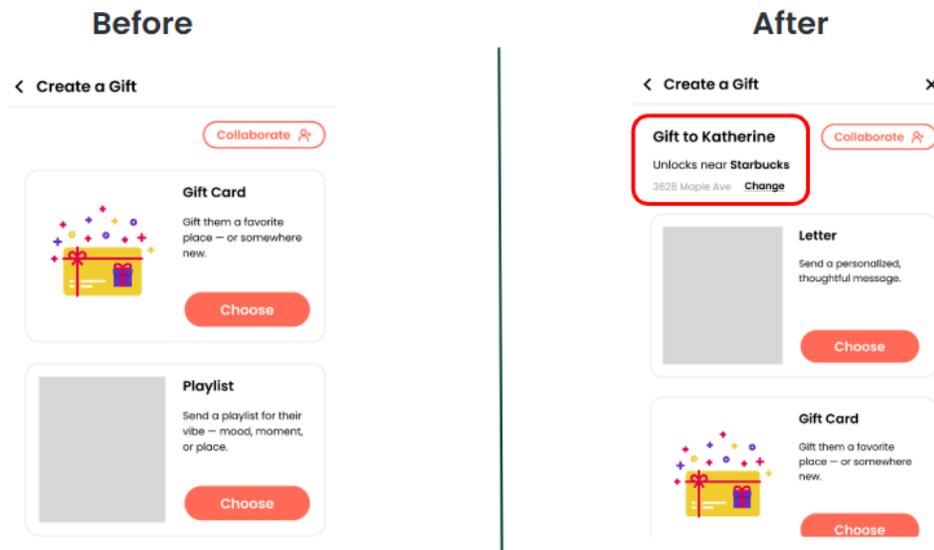


Rationale: not being able to undo a nudge limits user freedom and error correction; new change gives user an opportunity to recover from an unintentional action. Even though this introduces more tracking on the backend for us, we believe it's a necessary change to improve user freedom and error recovery.

Progress towards usability goals: improves *efficiency* by enabling error correction, which in turn makes the app more *delightful*.

Moderate Task Revisions

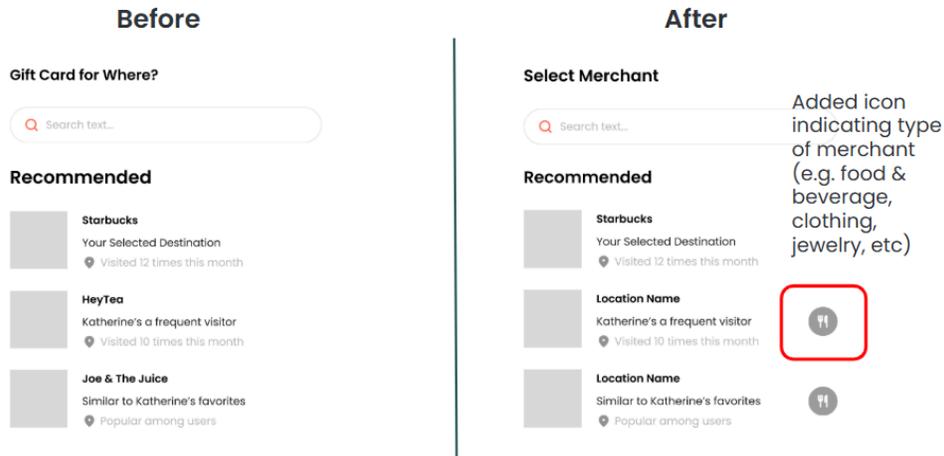
Violation 28: address and recipient's name is not surfaced; requires sender to recall these information



Rationale: Information on the selected location and friend is critical for personalized, location-centered gifts. Therefore, we included the recipients name as the header of the gift selection page and the location as the subheader, with a button to change the location without restarting the flow. This change would have drastic improvement in usability, while just requiring a minor change to the UI.

Progress towards usability goals: improves *interpretability* by reminding user who and where they are sending gift to, improves *efficiency* by making it convenient to change location (i.e. reducing the number of clicks a user would need to make)

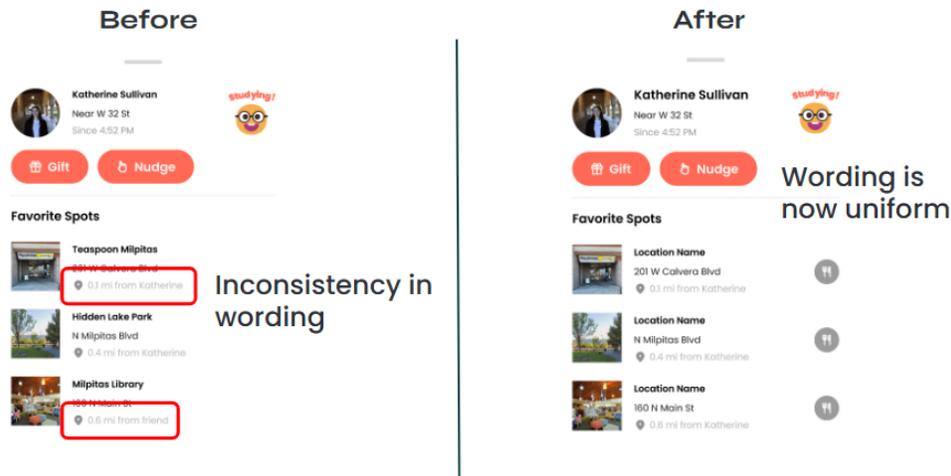
Violation 7: gift card vendors' store offerings not explicitly explained



Rationale: we needed to balance the tradeoff between providing helpful information about merchants and not overwhelming the page with too much information (since the multimodal gift selection options already brings significant mental load). We chose to surface merchant information via iconography system that succinctly communicates the *kind* of items a merchant sells, which also maps nicely to users' existing experience navigating mall maps / street signs using icons.

Progress towards usability goals: improves *interpretability* by providing info about recommended merchants a user may be unfamiliar with while preserving *efficiency* by not overwhelming the screen with loads of information.

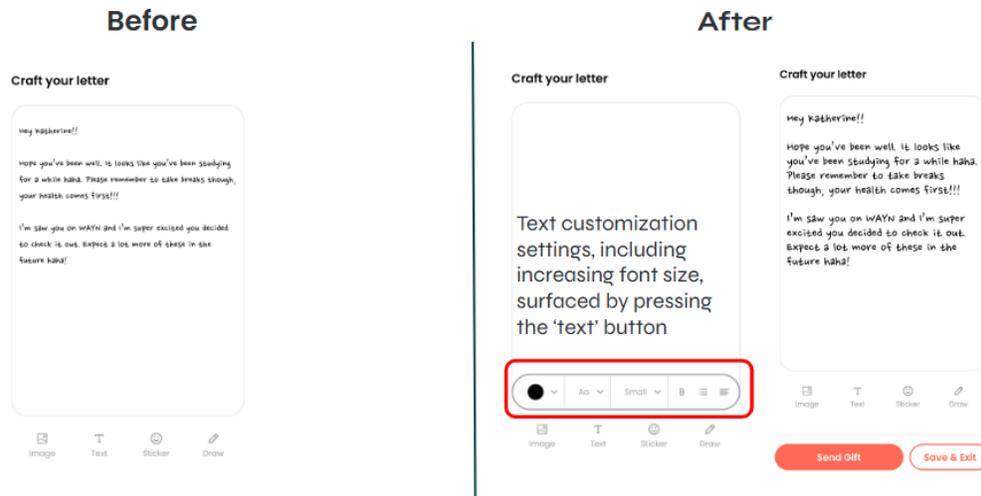
Violation 23: inconsistent wording on friend's favorite spots page



Rationale: this inconsistency confuses users; it also only requires a copy fix.

Progress towards usability goals: improves *interpretability* by clarifying what the distance information for each location refers to (i.e. distance from the selected friend).

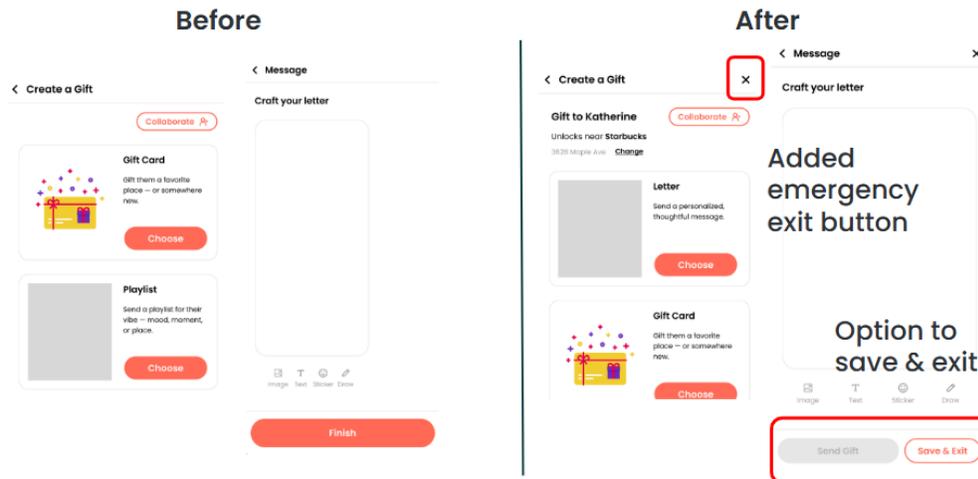
Violation 49: small font size makes message hard to read when crafting a letter



Rationale: Letters should be personalizable but also accessible. Therefore, we added a text customization bar that allows font size and styling changes. Text styles and font sizes are limited to a few pre-set options that are distinct yet readable to allow customization while sacrificing accessibility. Even though this change requires implementing new functionalities and UI changes, we deemed it necessary.

Progress towards usability goals: improves *efficiency* by making our app more usable for users of all capability levels.

Violation 8: there is no emergency exit out of a gift creation flow, must press back button multiple times to cancel

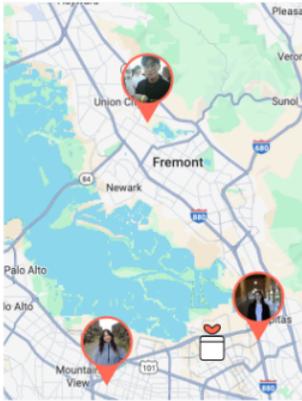


Rationale: Because the gift sending flow is lengthy, we felt having an easy exit back to the map screen was crucial. We added a "Save and Exit" button to the bottom bar as well as an "x" button at the top to close without saving. Saved gift drafts now appear in a drafts page that can be accessed through a button on the map.

Progress towards usability goals: improves *efficiency* by making it easier to exit a gift flow; also gives user the option to preserve prior gifts they want to return to, instead of forcing them to always create and send a gift from start to finish

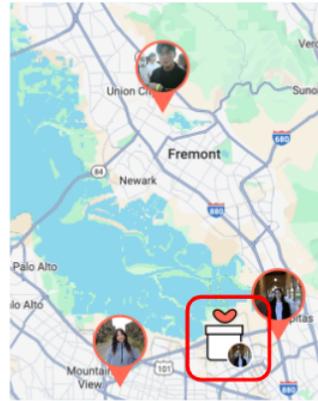
Violation 29: sent-gift icon on map has no indicator who receiver is

Before



Gift sent to Katherine has no indicator on map; requires user to recall who they sent that gift to.

After

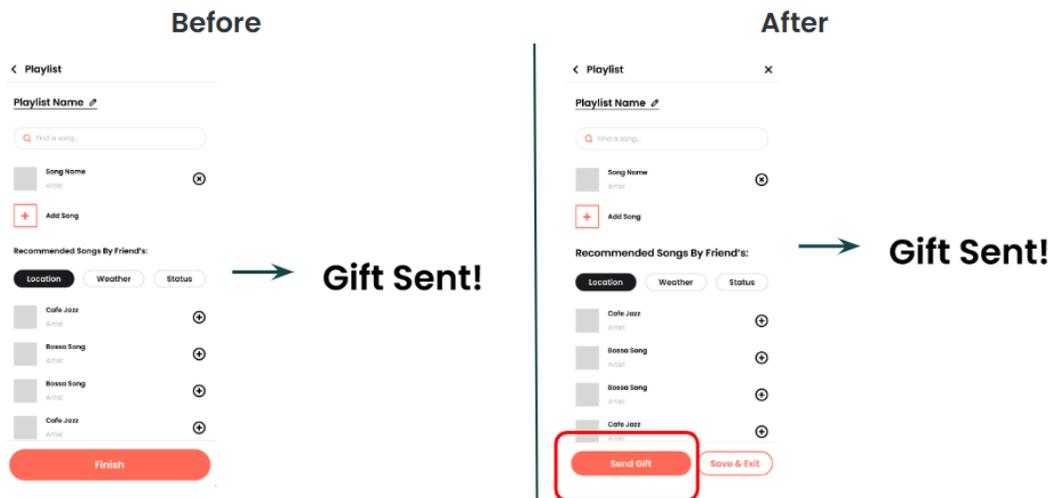


Gift icon has profile photo of recipient

Rationale: We want to balance between allowing users to keep track of who they've sent gifts to with minimalist, efficient design. Instead of implementing a way to search for sent gifts on the map for simplicity, we undecided to leverage gift icons on map to surface who user has sent gifts to. Adding this visual profile of recipient to the gift icon helps user to recognize rather than recall. Tapping on the gift icon also opens a slide up menu with additional information on gift type, location, and send date, as well as the option to unsend / change gift location.

Progress towards usability goals: improves *interpretability* by helping users recognize who they sent gifts to, as well as additional information about the contents of the gift.

Violation 25: send gift button labeled as “finish” cause user to misinterpret there’s additional screens after

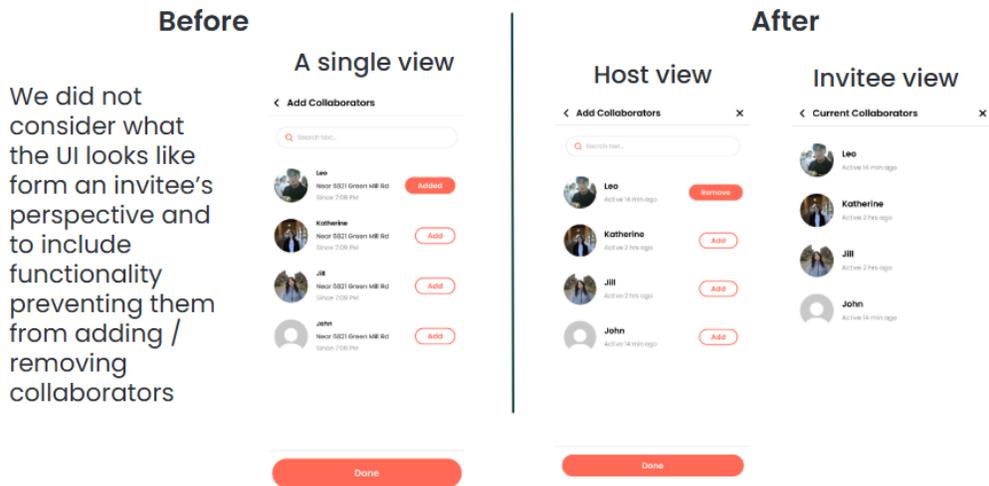


Rationale: We recognized that the button should better reflect the action; users should be able to predict what the next screen will be. “Finish” inaccurately indicates that there may be further confirmation steps after, and users are jumpscared by the gift sending immediately after. We changed the button to “Send Gift” since the gift sends immediately upon completion. This is also only a copy change that improves UX significantly.

Progress towards usability goals: improves *interpretability* by indicating to user that gift sends immediately after; this boost in interpretability also leads to increased *delight* and trust as users feel like they have more control over WAYN.

Complex Task Revisions

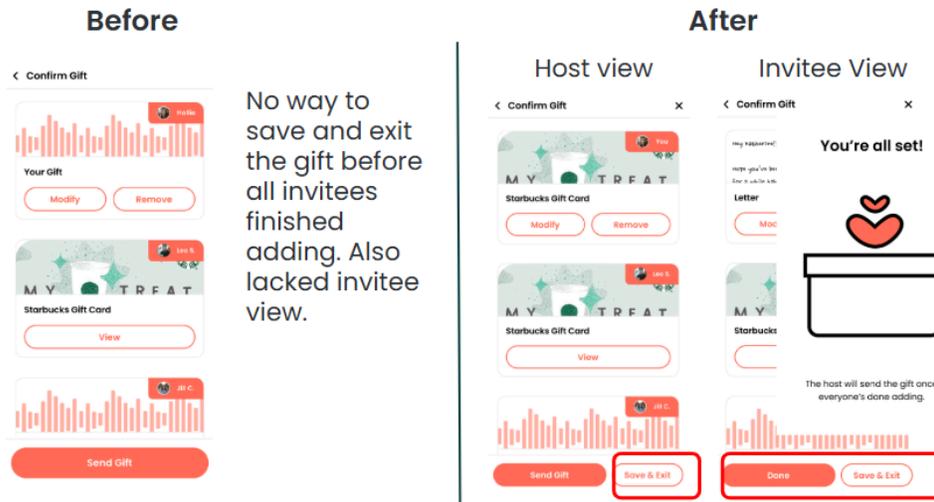
Violation 27: invitees SHOULD NOT be able to add / remove collaborators



Rationale: even though this was a major change, we deemed it necessary to consider both host and invitee views in order to preserve functionality and order. By explicitly indicating that invitees cannot modify the list of collaborators, we avoid unintended behaviors, such as invitees accidentally removing or adding unwanted collaborators.

Progress towards usability goals: improves *interpretability* by explicitly surfacing to invitees that they cannot modify collaborators, and improves *delight* for hosts by avoiding intended modifications to the collaborator lists.

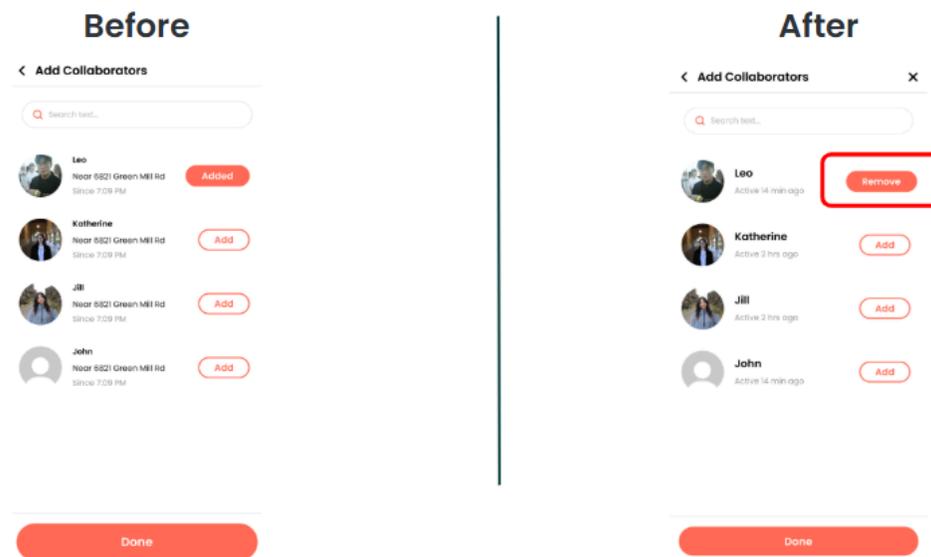
Violation 11: host must wait for invitees to finish adding gifts in order to send gift, for send was the only exit



Rationale: it's unrealistic to hope that collaborators would coordinate a time to work on the gift, so enabling users to exit the gift and come back to it was a critical fix. Both hosts and invitees have the ability to save and exit out of the gift-making process, and resume their progress through a drafts page that can be accessed from the map. We also implemented an invitee view that once an invitee has signaled they're done adding gifts, WAYN shows a success notification explaining that the host will send the gift later.

Progress towards usability goals: improves *interpretability* by explicitly surfacing system status and enhances *efficiency* by allowing users to save and come back to collaborative gifts.

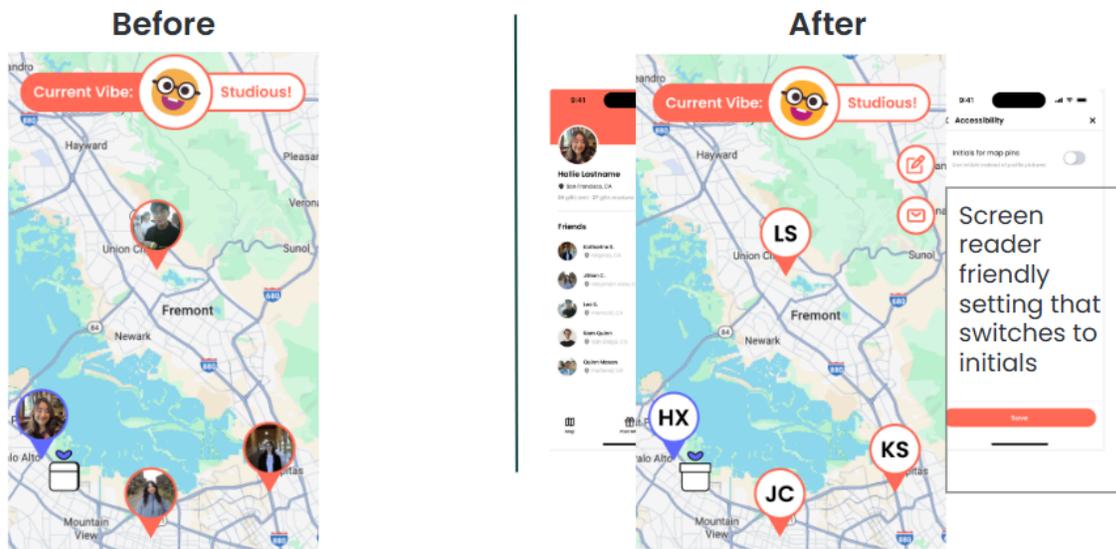
Violation 9: Host cannot remove invitee once added



Rationale: even though this change introduces additional complexity in backend implementation, we believe it was a necessary flexibility to offer to the user; this way, they can easily recover from misclicking a friend or not wanting to allow a friend to collaborate.

Progress towards usability goals: improves *efficiency* by enabling users to easily remove collaborators, instead of being forced to restart a collaboration just because they want to modify collaborators.

Violation 46: friend icons on map are purely visual, not accessible to visually impaired users / screen readers

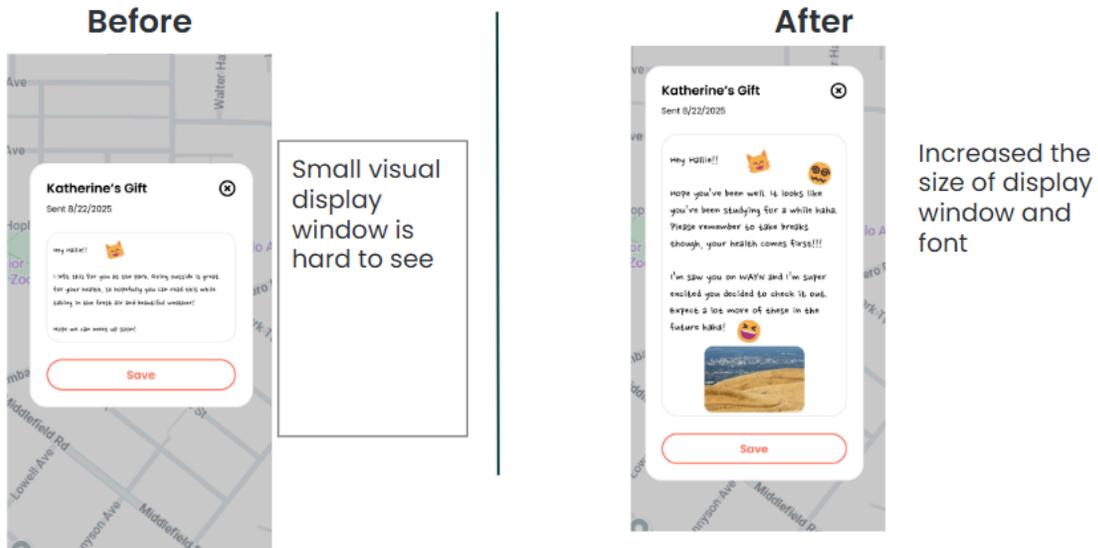


Rationale: Since every task starts with tapping on a friends map icon, it is critical that finding an icon on the map is accessible for all ability levels. We added a settings section to the profile page that allows users to toggle initials instead of profile pictures on the map icons.

Progress towards usability goals: improves *efficiency* by making the map page more accessible for users with low vision and use screen readers

Other Revisions

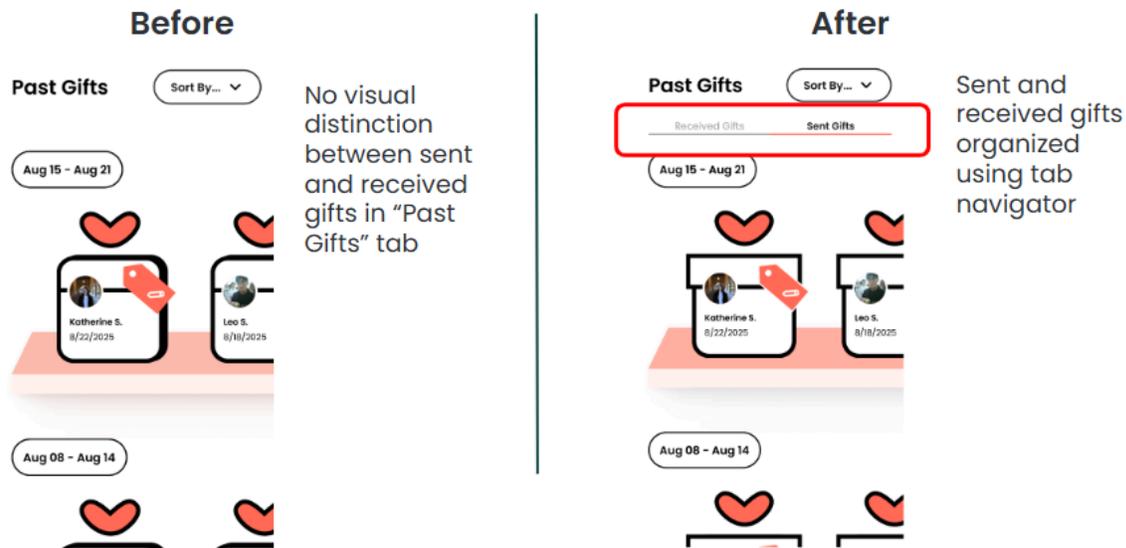
Violation 47: text is too small when user accesses gift they received (letter)



Rationale: The current font size of 12 does not meet visibility standards. We increased the font size of the letter to 18 to ensure readability.

Progress towards usability goals: improves *efficiency* by making received letter window more readable for all users

Violation 42: no distinction between sent and received gifts



Rationale: Past sent gifts likely also hold sentimental value and memories, so they are also important for the user to access alongside past received gifts. Therefore, we added a tab navigator at the top of the past gifts page that allows the user to toggle between seeing sent and received gifts.

Progress towards usability goals: this better organizes the list of gifts relevant to the user, increasing efficiency by reducing the work required to search for a specific gift. This in turn increases *delight* in using WAYN.

Values in Design

When developing WAYN, we focused on five primary values: emotional presence, spontaneity, effortless integration, personalization, and safety & privacy.

Emotional Presence

The core value of our app is emotional presence. Early in our user research, we consistently saw users expressing the tension of wanting to show up for their friends but being unable to do so meaningfully when separated by busy schedules or physical distance. This insight shaped our design direction: we built WAYN for users who aimed to maintain deep, meaningful friendships while engaging in independent routines and living far from one another.

This value was universally embedded within our app, but it was especially reflected in our main gift-giving experience. We structured gift-giving in a multimodal format, allowing users to capture the feeling of presence through diverse formats — letters, images, drawings, audio, playlists, and more. Location was a central component of this process, as we allowed users to tailor gifts to their friends' physical whereabouts. By constructing each gift to feel anchored in a place, we created the sentiment that our users wanted to convey: "I'm here and I'm thinking of you, even if we're apart." We also supported emotional presence through collaborative gift-giving, enabling groups of friends to co-create a shared message of surprise for someone they cared about. This recreated the feeling of showing up together as a group, even when physically apart.

By designing the content and timing of the interactions around the users' locations, activities, and social circles, WAYN recreates a sense of being there that they would typically feel when living in the same city or sharing regular in-person experiences.

Spontaneity

Our next value emerged as we learned that our users wanted to be "in-the-moment" friends — creating shared memories while maintaining the flexibility and surprise of asynchronous communication. Leaning into their desire of being there in real-time without the hassle of real-time coordination, we incorporated spontaneity into various interactions within the app. Spontaneity enabled moments of surprise and delight for the recipient, as well as moments of creativity and impulsive gifting for the sender. Users could craft a gift whenever inspiration struck, even with a few minutes on their calendar, and trust that it would land as a meaningful, unexpected moment of joy for the recipient.

This value was also central to our location features, where senders could select locations based on their friends' interests, pick a random spot their friend was at that day, or even send them to "unlock" a gift once they had reached a specific destination. We also incorporated spontaneity into the diversity of options in our letter flow, which supported both quick, lightweight gestures and more intricate gifts, allowing users to vary their communication and keep interactions fresh, unique, and fun.

Effortless Integration

To support our heart-centered values of emotional presence and spontaneity, we prioritized effortless integration — ensuring that meaningful connection never came with added friction or cognitive load in our user experience. Because WAYN contained many moving parts, we were intentional about connecting features to users’ existing workflows and systems. For example, we integrated with familiar platforms, allowing users to connect gift cards to Apple Wallet, save playlist songs to their Spotify, and upload photos from their camera roll. We also reduced the barrier to entry through high-impact, low-effort features, including “Nudges” that allowed users to receive a simple notification that they had been nudged. Additionally, location-based recommendations helped users generate ideas for a gift without starting from scratch, reducing the mental load of creating a meaningful experience. Together, our flows allowed users to communicate thoughtfulness while avoiding imposing a significant time burden, which was crucial in developing WAYN to effortlessly integrate into their daily lives.

Personalization

Another key way that we supported our core value emotional presence was through personalization, which strengthened the intentionality between friends’ interactions on WAYN. Every feature in our letter flow was fully customizable: not just to the users’ locations, but also to the subtle details of their individual preferences and relationships. Our letter gift allowed users to develop cards from scratch, showing a deep level of care and thoughtfulness for the recipient and their personal preferences through audio, visuals, and images. Similarly, our gift card, playlist, and audio gifts were designed to reflect the recipient’s tastes, interests, and shared memories through location-based recommendations, curated music, and intimate voice memos shared between friends. These features formed an ecosystem of care that made every gesture feel intentionally crafted for one specific person — recreating the warmth, presence, and intimacy often lost in digital communication.

Safety and Privacy

To ensure that these emotionally meaningful interactions occurred on a secure foundation, we embedded safety and privacy as a core consideration of our product. Users maintained full control over their experience: choosing who could view their location and send them messages, as well as when to grant or revoke permission for collaboration or connection.

Value Tensions

Connection vs. Autonomy

WAYN was designed to bring friends closer together through authentic connection and emotional presence, yet this occasionally came into conflict with safety and privacy due to the location-based nature of our app. To address this, we implemented location settings, prompting users to provide location only when needed and choose precisely when their location settings were enabled. At any point, users could turn their location sharing off if they wanted a moment of privacy. They could also select specific users to share or hide their location with, tailoring their privacy settings to their level of comfort in specific relationships. These feature additions ensured that while users experienced the benefits of location-based connection, they always felt safe, respected, and in control of their personal information.

Personalization vs. Effortless Integration

Personalization allowed users to convey a sense of thoughtfulness and intentionality in their interactions with friends, which posed challenges for effortless integration into users' typical routines. We repeatedly considered how our application could communicate depth and intentionality while reducing friction, making the app accessible to users with busy routines. Introducing different types of gifts, various levels of complexity within each, and including personalized recommendations allowed users to select gestures that matched their available time and energy levels. Quick, lightweight gifts allowed users to engage spontaneously, while more intricate gifts supported deeper gestures of care. This flexibility allowed users to customize gifts based on their personal preferences and relationships while maintaining their capacity for regular, frictionless gift-giving.

Final Prototype Implementation

Tools Used

We designed the UI layout using Figma and implemented the mobile app using React Native. We used Supabase as our backend database, to and from which we inserted and fetched user data. We also used 3rd party libraries and APIs, namely

- Google Maps: for fetching user location, tracking gift address location, and displaying map

- Expo-Audio: for audio recording and audio playback
- TODO: add more

Wizard-Of-Oz Techniques

Playlists: the app doesn't integrate any music platform API and thus does not create and send a real playlist.

Gift Cards: gift cards have no monetary value, and the merchants we display are not actually onboarded onto our platform. Adding a received gift card doesn't actually save it to your device. The checkout flow for the sender is also not actually transactional.

Gift Collaboration: even though invited collaborators receive the invite notification, they are unable to actually add gifts. Instead, we implement a feature where the inviter sees randomly generated gift entries added by invitees when they visit the gift basket, which fully simulates the experience of building a collaborative gift.

Saving to Device: received gifts are not actually saved to device files.

Hard-Coded Techniques

Locations & Merchant: the list of addresses when choosing a gift destination, the list of merchants when sending a gift card, and each user's favorite locations are all hard-coded lists.

Playlist: the song recommendations are hard-coded. The search bar only works for songs within the hard-coded list.

Users and Authentication: to simplify backend data structure and friend networks, the list of users on the app are fetched from a pre-build database. Prototype testers can choose one of 5 pre-set users to try the app as, and the remaining 4 show up as your friends within the app.

AI Tools

We used generative AI tools like Gemini, Claude, and ChatGPT. We use these tools to generate a baseline for UI layout that we build on top of, which alleviates burdensome work of creating UI layout while not completely outsourcing the work to AI, for we ultimately revise generated code to ensure our UI follows good practices and avoids violations. We also use these tools to rapidly familiarize ourselves with how to integrate external libraries and APIs, which accelerates our development

speed, especially given the time crunch. Finally, we leveraged the AI tools to help with debugging, which was sometimes necessary when we cannot diagnose the issue in our complex codebase.

Reflection & Next Steps

What we learned

It was such a challenging but rewarding experience sprinting through the entire design process in the past 10 weeks, from ideation to creation. Here are some of the insights we gained:

- We naturally communicate with others via synthesis and summaries, so in order to really uncover the gaps in a user's workflow during needfinding, we must dive deep and understand the exact step by step procedure of a user's current workflow.
- It's good practice to first implement the reused components (e.g. buttons, headers) of an app so that team members don't duplicate implementation work.

Future Work

In the short term, we would like to focus on making the app more functional and robust. Leo and Hallie and in CS 147L and will spend one extra week building out some of the hard-coded features, such as implementing real-time merchant recommendations and a speech-to-text transcript feature for audio recording.

In the long term, we would be interested in exploring ways to expand WAYN, both in terms of hardware and user base. Integrating the nudges as vibrations/color changes on smart rings and watches can make the app more integrated into daily life and communicate connections in ways the users can tangibly see/feel. WAYN is currently targeting young adults, who are already comfortable sharing location with friends and are generally open to trying novel ideas. We wonder if the core value of WAYN – enabling real-time connection asynchronous – can be expanded to older and younger age groups. This would require additional user interviews to understand the unique social connection patterns of these demographics, what the biggest gaps are, and what unique concerns they have (e.g. parents may be concerned about privacy for their children).