Assignment 5

# Low-fi Prototyping & Pilot Usability Testing

*CS147 Winter 2021*
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## Introduction

**Value Proposition**
local made easy

**Mission Statement**
We want to empower people to shop locally with the confidence that their values are being met.

**Problem/Solution Overview**
People who want to shop locally have a hard time finding products that align with their values at nearby stores and connecting with local business owners. Local.ly provides a fun platform where users can search for nearby products and discover new businesses using value-centric filters, and local businesses can authentically communicate with users.

As users build their relationships with businesses, they can share those relationships with friends in the form of interactive business cards which help increase transparency and trust, giving new users a better sense of their friends' experiences.

## Sketches

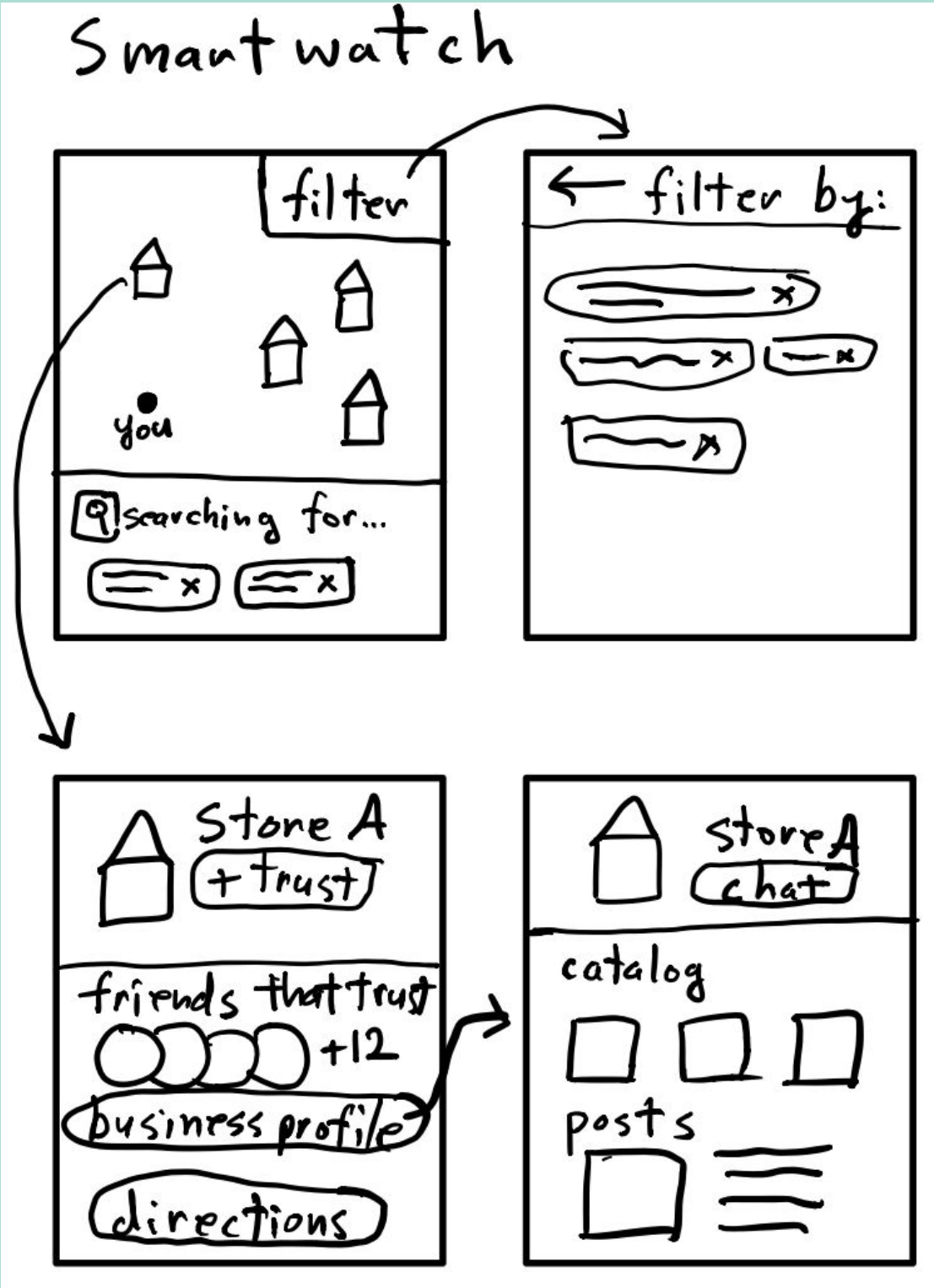



**Figure 1:** Basic smartwatch application with simplified features

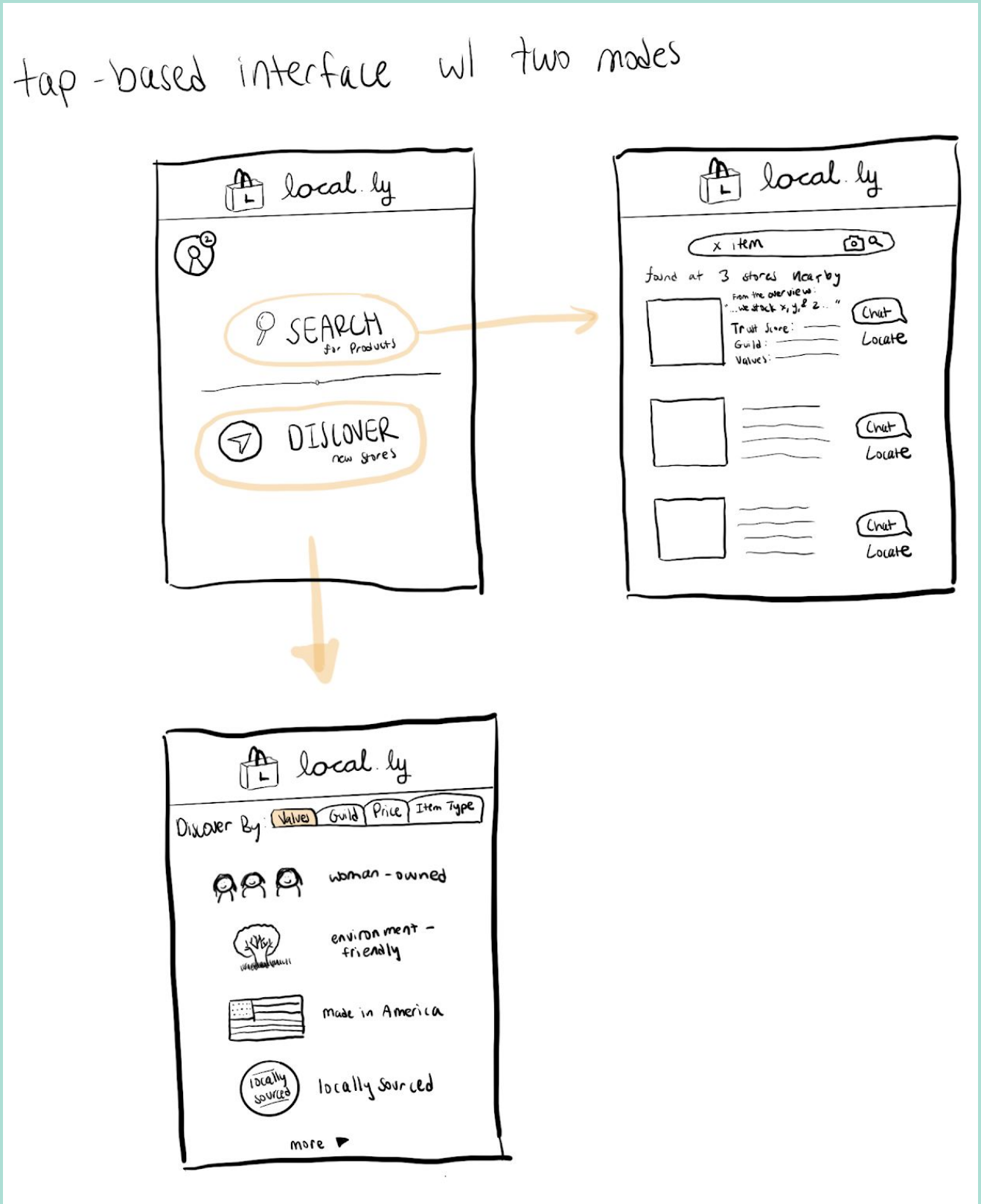



**Figure 2:** Two mode (search + discover) interface where navigation is mostly by taps

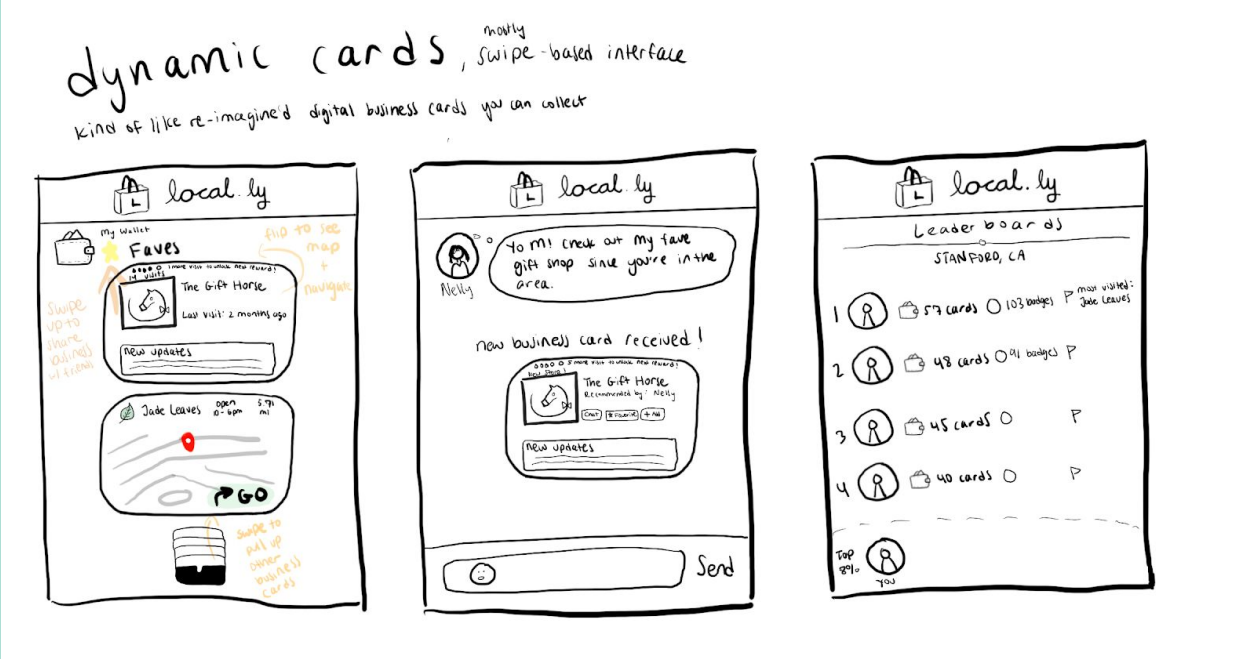



**Figure 3:** Dynamic digital business cards that can be personalized + shared

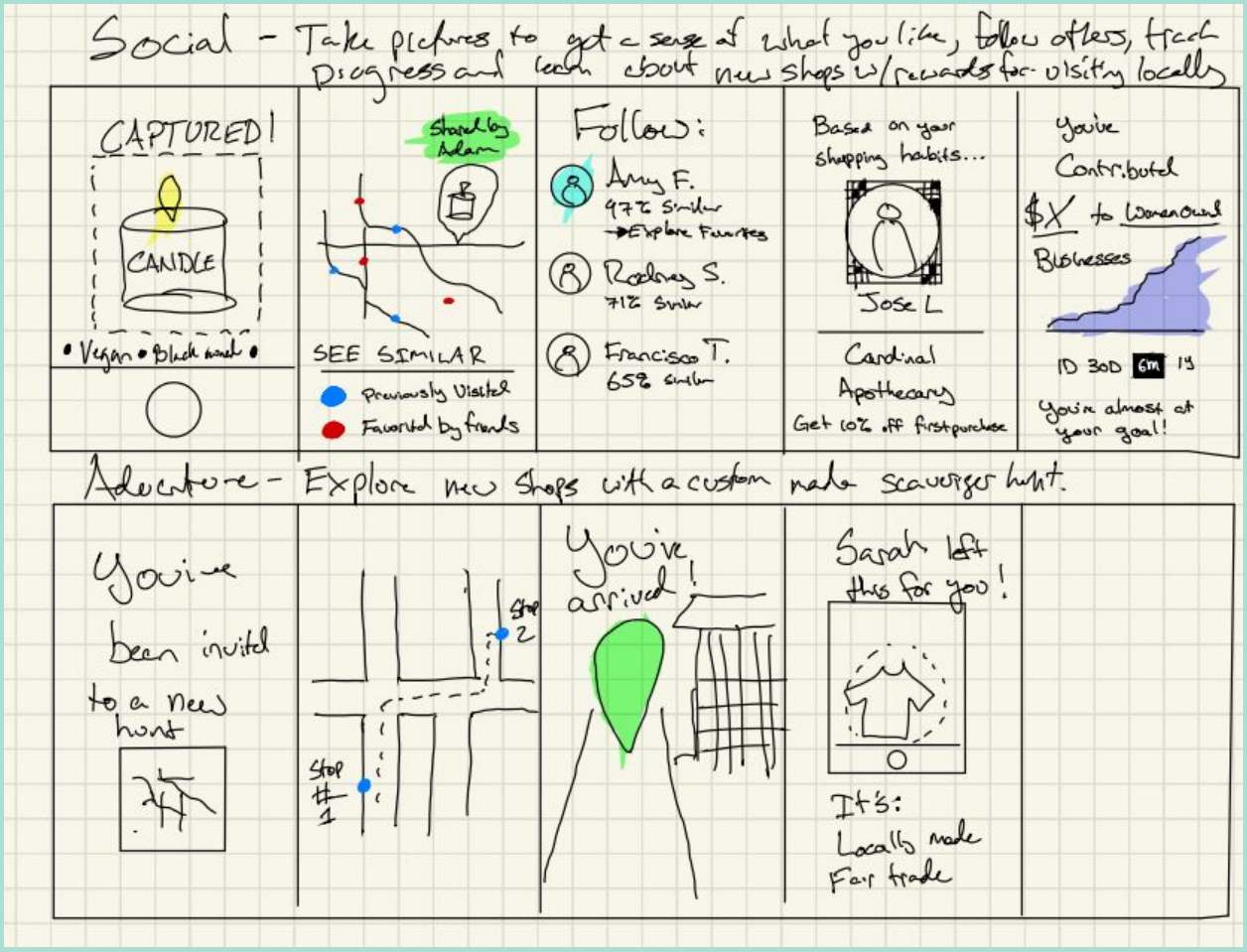



**Figure 4:** Top: Follow people with similar shopping habits based on your pictures + track contributions

Bottom: AR scavenger hunt game to discover new products & places

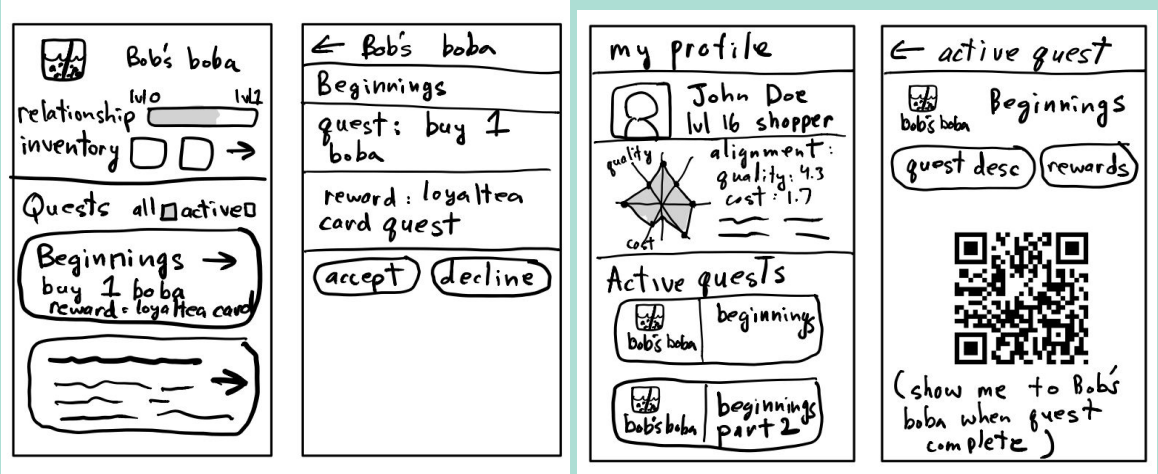



**Figure 5:** Gamified interface with quests, rewards, and relationship indicator

**Top 2 Designs:**

**1. Value-driven search**

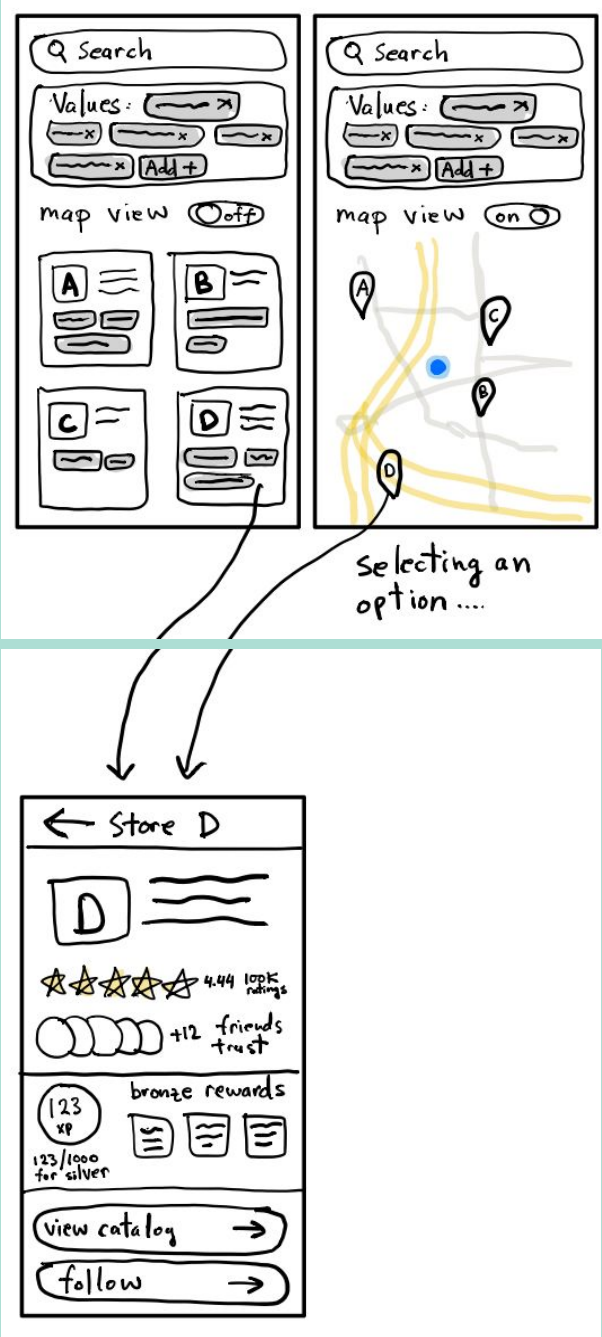



**Figure 6:** Our extension of the watch interface design from the sketches -- mobile interface with value-centric search, rewards, and a number of friends who trust feature

## 2. Dynamic Business Cards

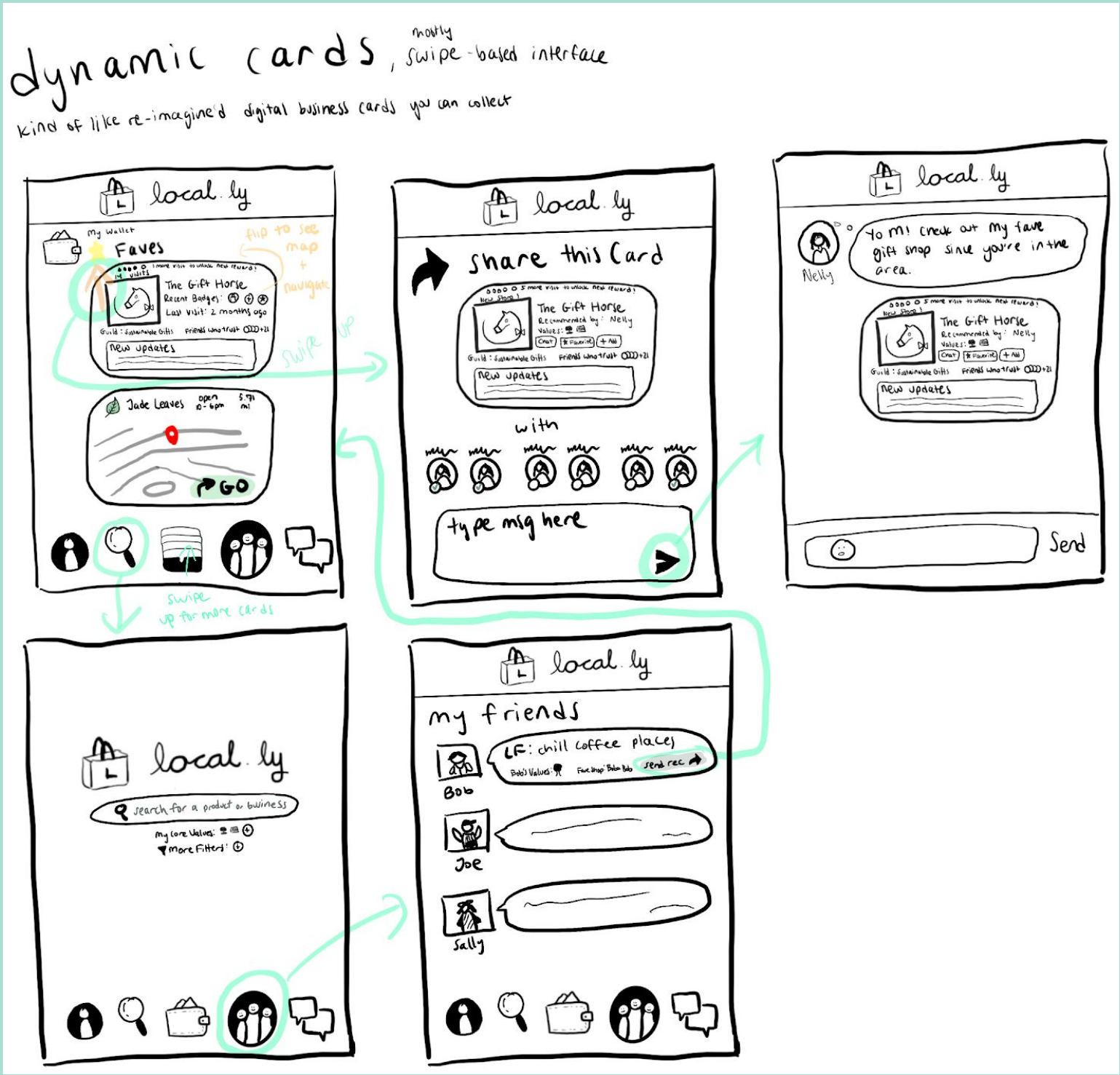



**Figure 7:** Users share "business cards" with their networks/friends which can contain:

1. Store data, affiliations, values/value badges, business updates/ announcements
2. A user's history w/ brands & businesses, loyalty/rewards campaigns & coupons

## Selected Interface Design: Dynamic/Collectible Business Cards!

**Rationale**

| Value Search Pros | Value Search Cons |
|---|---|
| • Advanced search enables simultaneous support of values, brands and businesses<br>• Easy creation of business lists (e.g. all minority-owned or women-owned businesses in my area, ranked by distance)<br>• Mechanisms to build trust (reviews/ratings, friends who trust, etc.) | • Analytic to a fault, feels impersonal<br>• Not fun, flashy or playful in the spirit of exploration<br>• Harder to share businesses with friends and build in social elements |

| Dynamic Business Cards Pros | Dynamic Business Cards Cons |
|---|---|
| • Fun, flashy, and unique<br>• Cards with personal histories build business/consumer relationships<br>• Easier for storytelling & spontaneity<br>• Can be easily combined with other features like value search | • Depends on participation of friends and businesses<br>• Pressure on businesses to establish rewards programs which they may not have resources for |

Dynamic business cards maximize desirable aspects of Local.ly from our user testing:

**Insights from Assignment 1:**

1. Users must feel **trustworthiness** from businesses in order to try new experiences.
2. Users search for a sense of **familiarity** from businesses and *especially* reviewers.
3. Users seek a balance of **efficiency** and **entertainment** from their time shopping.
4. Users vary widely in likes and dislikes, requiring **versatility** and **personalization**.

**Insights from Assignment 2:**

1. Businesses need a better place to **communicate stories & values**.
2. Businesses need a better place to **be spontaneously discovered**.
3. Specialty/affinity/boutique brands need to be **easier to find & distribute locally**.

On these criteria, we decided that the searching system was too analytical, inaccessible, and similar to other products to be considered. Perhaps as a business-to-business (B2B)

solution, it could be viable. However, especially under current worldwide conditions, consumers are looking for more trust, less stress, and more fun when they shop.

## UI Task Flows


**Figure 8:** Task 1 - Buy value-driven product(s) locally


**Figure 9:** Task 2 - Build relationship with local business

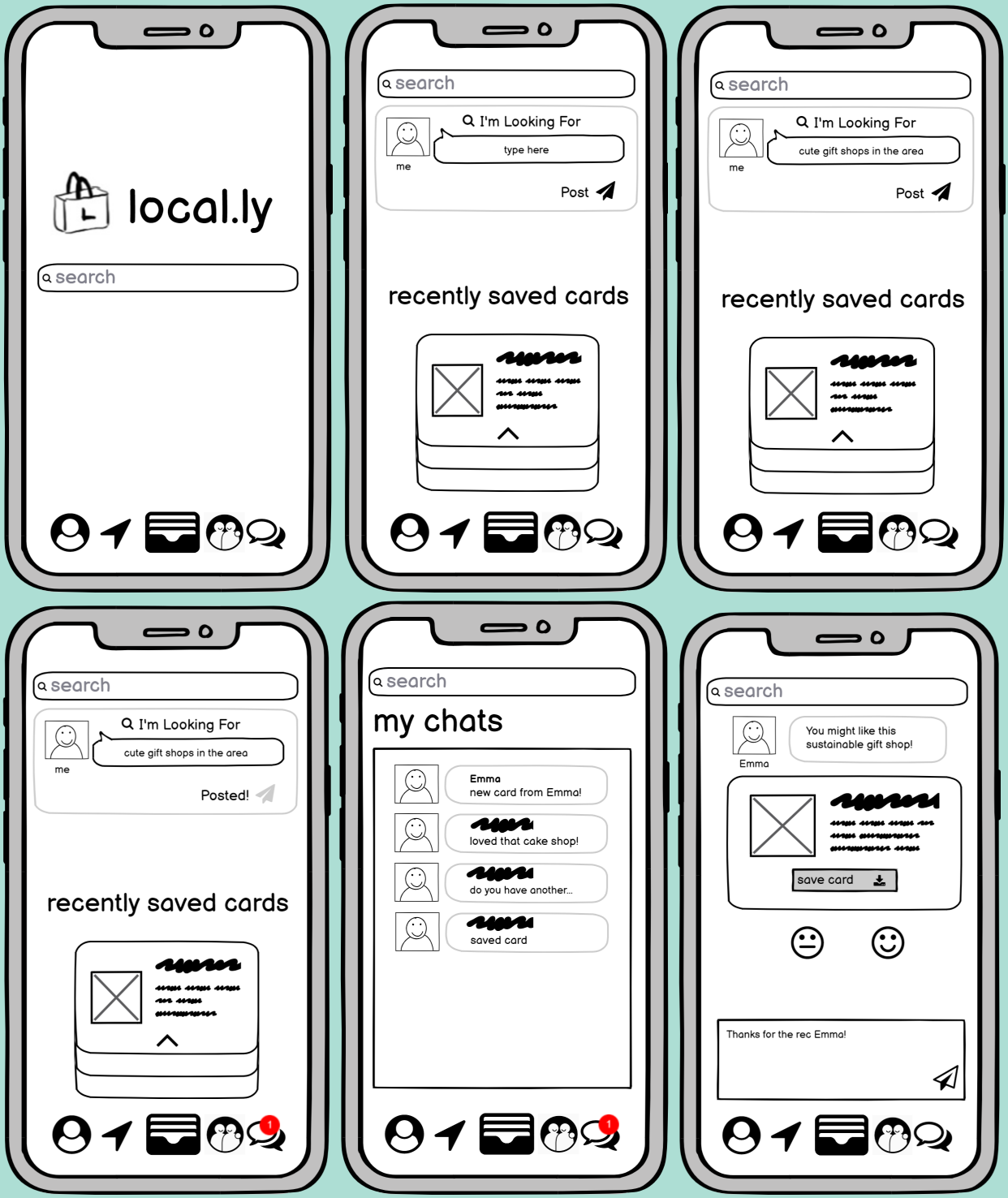



**Figure 10:** Task #3 - Discover new businesses w/ similar values

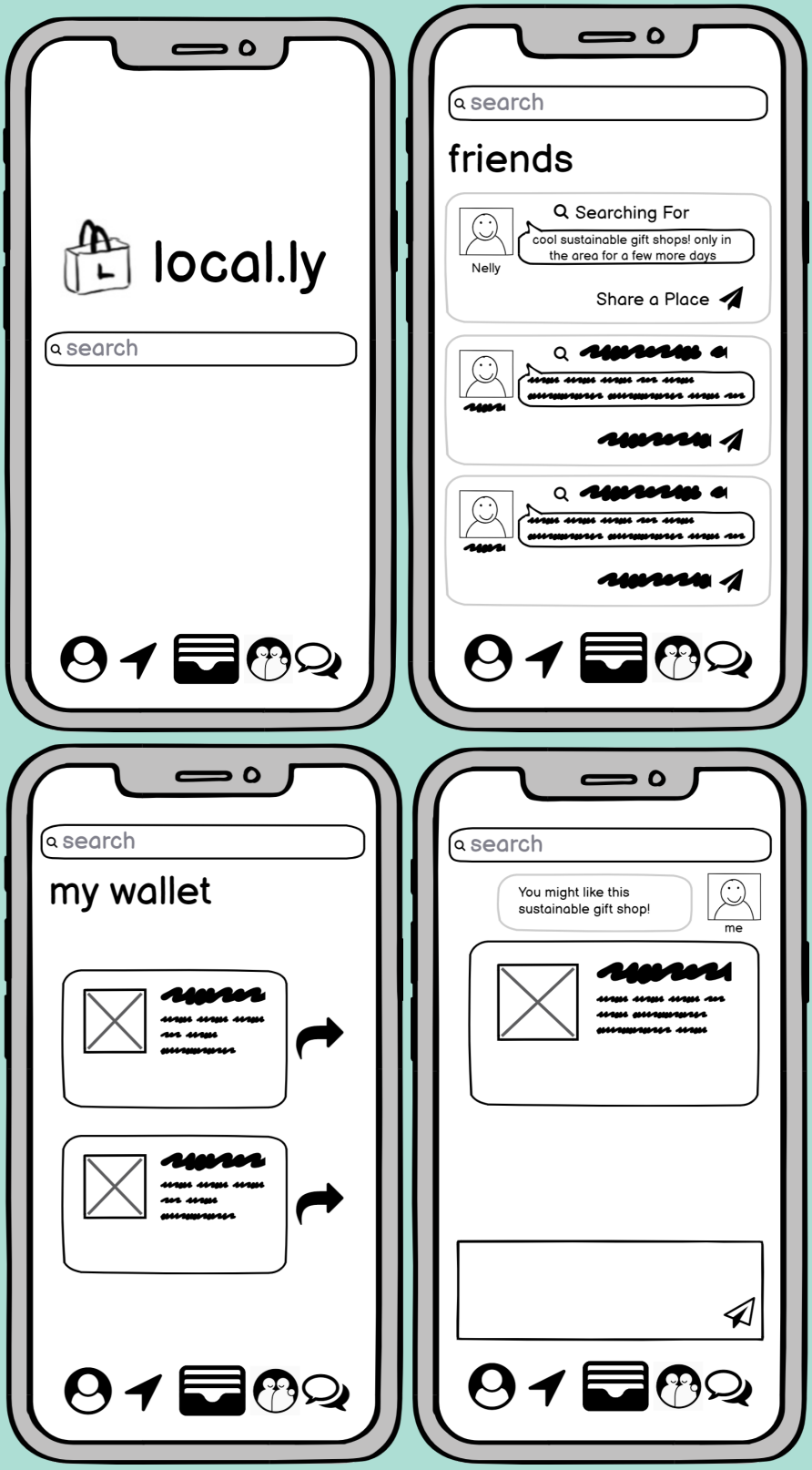



**Figure 11**: Task 3.5 - Share businesses with friends

## Low-fi Prototype

To retain the sketchy aesthetic of a low-fi prototype while still providing testers with a sense of usability and consistency, we created our screens in Balsamiq before wiring together the interactions in Figma.

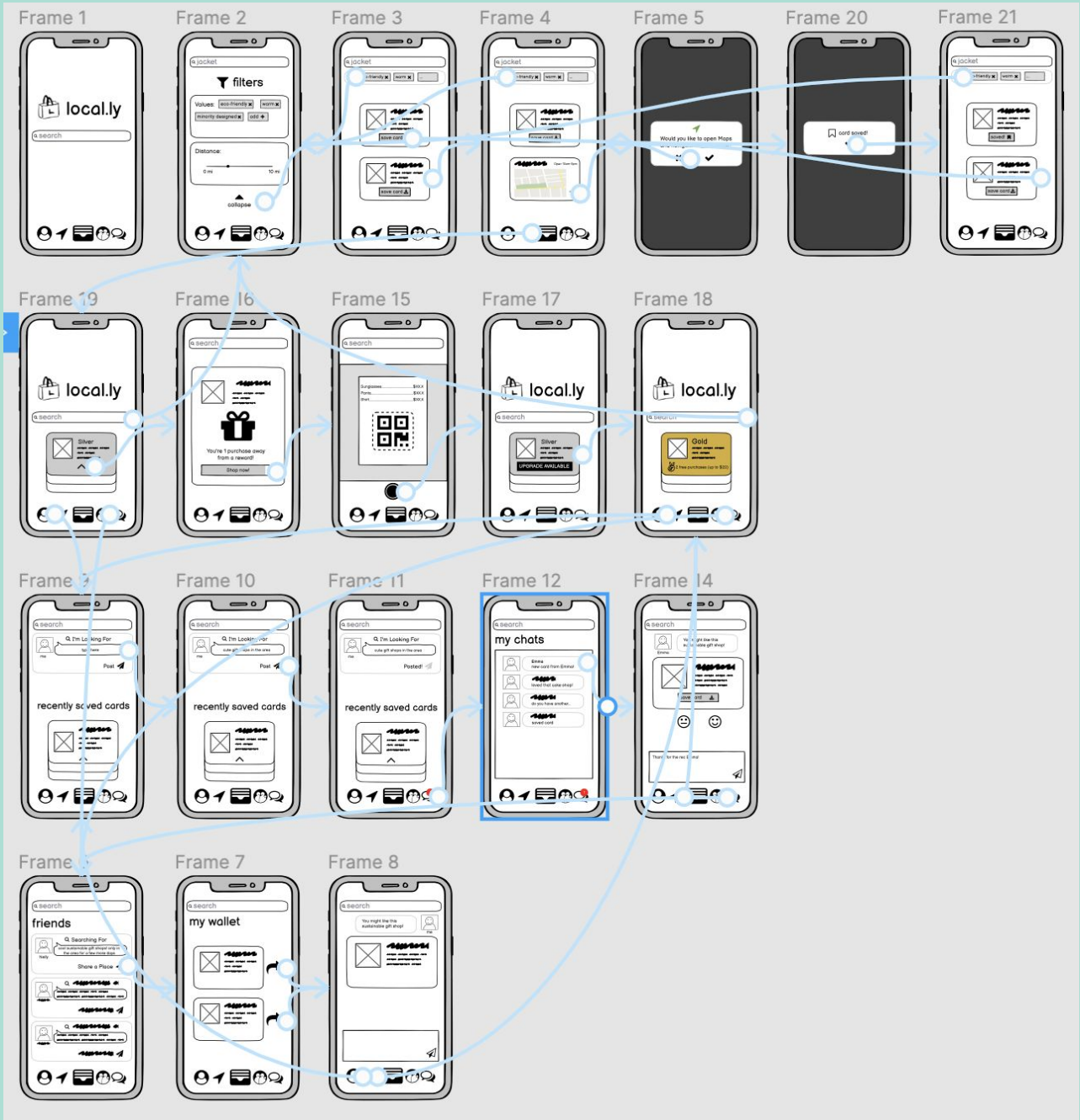



**Figure 12**: Each task flow visible in the Balsamiq/Figma low-fi wireframe

# Testing Methodology

## Participants & Environment

For participant recruiting, we targeted tech-savvy young adults because we felt they were most likely to download an app for 'social shopping' and have the disposable income available for supporting value-driven businesses.

We were able to find 3 participants who fit our criteria through mutual friend relationships.

Our participant profiles are as follows:

1. Master's Student in Public Administration at Harvard Kennedy School
1. Government Contracts Management Specialist at Boeing
2. New-grad Software Engineer At Google

We conducted all of our testing remotely through Zoom, with our participants sharing their Figma screen with us.

## Tasks

Simple: Find a local vendor to buy a value-driven product.

Moderate: Build up your relationship with a local business.

Complex: Discover a new business with similar values.

Complex: Share a business with a friend.

## Procedure

Our greeter/facilitator eased the participant in and followed our interview script. We sent the participant a link to our Figma prototype and the consent form. The interview script, Figma prototype link, and consent form can all be found in our appendix below.

We asked participants to talk aloud and voice their positive feedback as well as confusion and frustrations as they stepped through each of our tasks in the Figma wireframe. If they had a long period of interaction with little talking, our facilitator would prompt them to talk about what their thoughts were on the interaction they just clicked through.

While the participant spoke, two other members of the team served as observers and took notes. After the participant made it through our tasks, we debriefed them on the exercise, asked some general questions we had about our prototype that they hadn't mentioned during testing, and gave them a chance to ask us questions about the project.

## Test Measures

- Success:
    - User was able to complete a desired task without outside help or with minimal friction
    - The interface is intuitive, familiar and functions as expected
- Error:
    - User needed to ask us a question or seek help to complete the task
    - User became lost or took an incorrect path on the way to completion
    - Interface was familiar to unpleasant user experiences

## Team Member Roles

We rotated roles (facilitator/greeter and observer) between each interview, with one team member  greeting and facilitating and two others taking notes. We did not need a “computer” since our prototype was available on Figma.

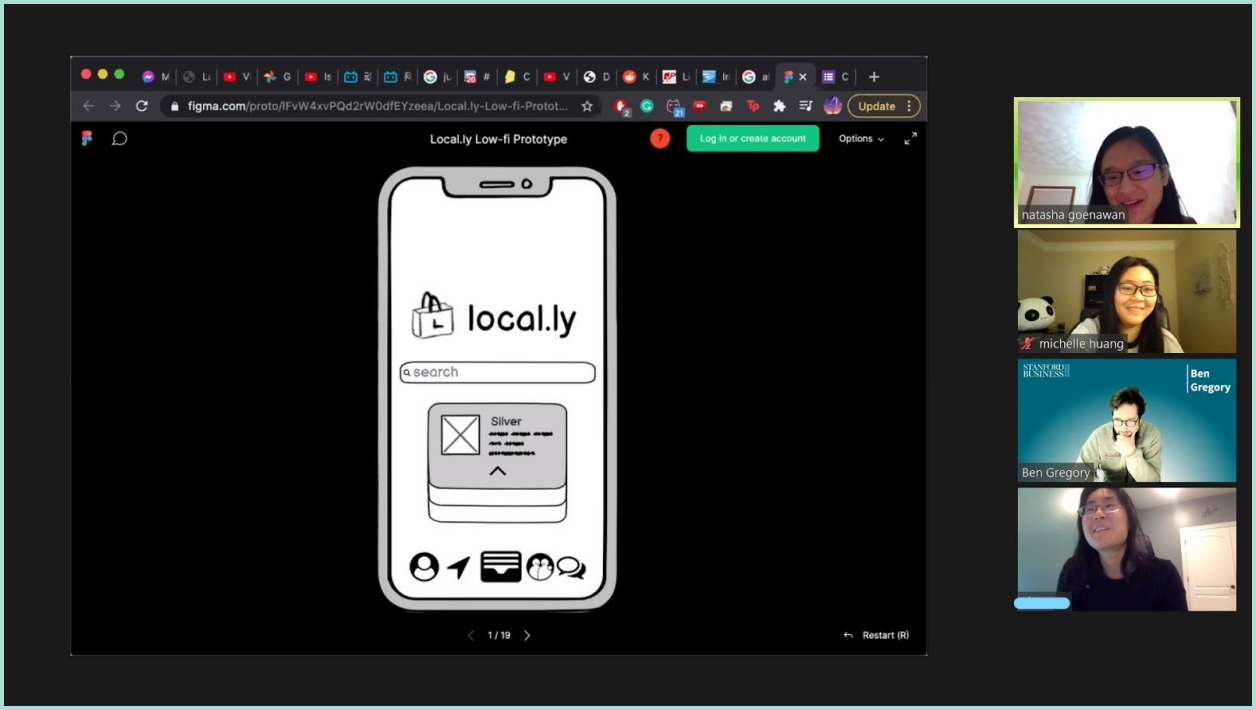
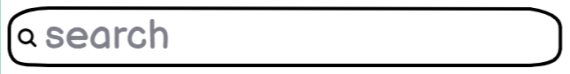



**Figure 13:** Our usability testing process using Figma and Zoom.

## Results

**Positive**

- Representation of a business as a digital card was well-understood and positively received
- Sharing a card to send your friends information was viewed as intuitive
- Social features “made sense” and were well-received
- Search on every screen was viewed positively
    - “At any given moment, I might want to search for something else”




**Negative**

- Representation of rewards was mixed with one person initially believing it was a “sketchy internet ad”
- Unclear what caused upgrade from silver to gold card status + mixed reaction
- “Build a relationship” caused users to go down the wrong task flow because of the icon of two friends
- Feedback smiley faces caused confusion

**Suggested UI changes**

- Update Home button (icon and position)
- Remove recommendation feedback option (smiley faces)
- Update rewards bar into punch holes or stamps to indicate purchase history
- Make card status (Silver, Gold, etc.) and associated benefits clearer
- Delineate relationships with friends vs. relationships with businesses more cleanly

## Discussion

Our methodology helped us gain lots of insight on our UI and interaction design. We felt the user experiences were more authentic without a person in a “computer” role, since it better simulated a user choosing to download a new app. We received very honest feedback from our prompts, with users being vocal about their aversions.

In terms of validating our concept, we couldn't be happier with our results. Business cards were intuitive and fun. They appealed to users, and we managed to ground it with familiar tools like the search bar and value filters, catering to more technical use cases without putting them front and center.

Interface-wise, we already had a sense our UI needed to be better fleshed out. Users were most confused on how they "progressed" on their business cards symbolizing relationships, which we had been unsure about ourselves going in. Now that we know using cards to symbolize relationships does make sense to users, we can more easily build on our past work and flesh out this component.

We had a few mishaps with our UI icons and task phrasing that caused confusion, including how our "build a relationship" task made our participants want to click the "friends" icon instead of the silver card on the screen. However, no users were, or felt, completely lost, which we interpreted as a win for this low-fi version of the concept.

In one quick take, our rewards screen was compared to "sketchy internet ads." While we think this comparison was a symptom of the low-fidelity nature of the prototype, we noted it as a standout reaction. Going forward, we hope to shed the comparison since those ads are synonymous with anything but trust.

Overall, this was a successful round for our platform. We have several UI and UX updates to make, but this first rendition was generally well-received. Yay!

# Appendix

**Word Count: 1489**

## Test Script

Prototype link:
https://www.figma.com/proto/lFvW4xvPQd2rW0dfEYzeea/Local.ly-Low-fi-Prototype?node-id=1%3A26&scaling=scale-down

Hi!

Thanks for taking the time to run through this with us.

For background, we're all in a class at Stanford called Intro to Human Computer Interaction class and are testing an app concept named Local.ly to better connect you to local businesses and affinity aligned brands.

As you test our app, we'd like you to participate in the "talk aloud" process, where you say everything you're thinking as you perform actions. There are no wrong answers; we're just trying to learn how people interact with our app so please tell us as we go what you're thinking as you use the app, what you expect to happen, and any surprises that occur.

For this scenario, imagine that you've decided to shop using Local.ly. We've wired up the Local.ly prototype so you should be able to navigate on your own. Please share your screen with us. You're trying to figure out how the Local.ly app works, and you're welcome to tap, swipe, or scroll anywhere on the screen.

To start off, your first task is:

Simple: Find a local vendor to buy a value-driven product.
Moderate: Build up your relationship with a local business.
Complex: Discover a new business with similar values.
Complex: Share a business with a friend.

That's the end! Thank you so much for participating, and feel free to contact us if you have any more questions.

**Blank Consent Form**

# CS 147 Interview Consent Form

This student team is interviewing and observing as part of the coursework for Computer Science course CS 147 at Stanford University. Participants provide data that is used to understand the possible opportunities of the design. Data may be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (Ben, Cooper, Natasha, or Michelle) or with Professor James Landay, the instructor of CS 147:

James A. Landay
CS Department
Stanford University
650-498-8215
landay at cs.stanford.edu

Participant anonymity will be maintained by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the research and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to local.ly's research. I also give permission for images or audio/video recordings of me being interviewed to be used in presentations or publications, as long as I am not personally identifiable in the images/video. I understand that I may withdraw my permission at any time.

* Required

What is your name? *

Your answer

What is the date? *

Date

(Signature) Please type your full name to indicate your consent. *

Your answer

Please pick the name of your interviewer. *

Natasha Goh

Cooper Reed

Ben Gregory

Michelle Huang

**Critical Incident Log, Incidents left and severity right (0- not a problem; 4 most severe)**

**Participant 1 - JC**

| | |
|---|---|
| "At any given moment, I might want to search for something else" - likes search bar | **0** |
| Useful search filters (eco-friendly) | **0** |
| Successfully went through map search functionality | **0** |
| Responds positively to "only so far away from a reward" - "yeah I'm going to shop". | **0** |
| Correctly assumes "My Wallet" is filled with previous cards | **0** |
| Not immediately understanding the results screen | **2** |
| Not clear what the upgrade on the card is (silver to gold - "is it an upgrade for the product I'm purchasing?") | **1** |
| Not exactly clear what caused the upgrade (a purchase, check in, etc?) | **2** |
| At the end of the flow, not clear what to do next - has to click on screen to figure out what clickable parts of prototype are | **2** |

## Participant 2 - ZM

| | |
|---|---|
| Quickly knew she needed to click the search bar | **0** |
| Green navigate button was straightforward after it appeared | **0** |
| Did click the card after evaluating options | **0** |
| Understood it was a receipt you should scan, **but thinks the scan is to pay for the items at first blush,** quickly figured out it's scanning for a reward | **1** |
| "Yay"? @ gold card lol | **0** |
| "Definitely go to the friend icon" when she heard "share" (but could be biased from earlier interaction) | **0** |
| A little confused on task 1 language | **.5** |
| Only clicked collapse because it was the only interactable part | **3** |
| Noted filter icon + title takes up a lot of space | **1** |
| Kinda confused what the results are | **2** |
| Would click navigate button over "save card" | **1** |
| Not sure how to go back to main page (doesn't recognize the home icon) | **1** |
| If she wanted to build a relationship with a business, first thing she would do is search up the business | **2** |
| progress screen looks like "sketchy internet ad" | **3** |

| | |
|---|---|
| Thought “silver” was the name of a shop, after seeing upgrade button, realizes it’s the level of the card | **1** |
| Would try to click “search” for discovery, then opted for friends icon (would not have clicked on it originally, but it was the other path she thought) | **3** |
| Expected app to give store recommendations, not friends’ recommendations | **2** |
| Thinks friend recommendation card chat looks like a ML training algo | **1** |

**Participant 3 - AW**

| | |
|---|---|
| Correctly clicks Search | **0** |
| Correctly opens Google Maps | **0** |
| “Looks like Apple Wallet” | **0** |
| Believes has silver status with company | **0** |
| Correctly connects to status with business | **0** |
| Connects QR to purchasing a product | **0** |
| Sees stack of business cards that he’s saved | **0** |
| Went through task flow quickly | **0** |
| Friends clear is clear that he can provide recommendations to friends | **0** |
| Seems unclear where to click to exit the filter menu | **3** |
| Difficulty returning to the home screen | **1** |
| Wanted to click the friends icon because “it looks like people hanging out” and the task mentioned “relationships” | **2** |
| Very confused here - not sure if the friends are friends who use app or businesses | **3** |
| Confused how this task is different from task #1 | **2.5** |
| Hard to know how to provide feedback when he hasn’t been to the store yet (most confused here) | **2** |