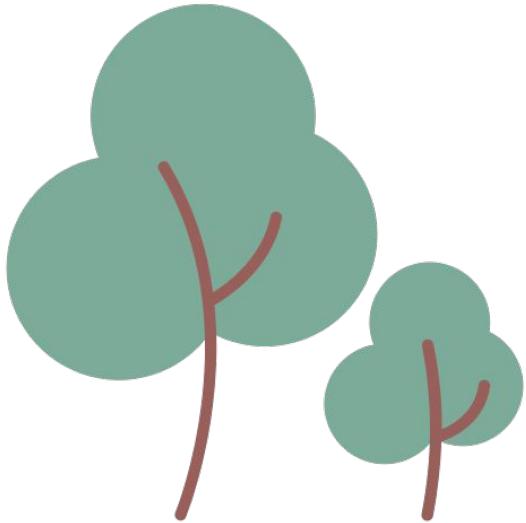




P4 Process Book Native App: Forest

Mira Mookerjee, Daisy Gollis, Anushri Gupta



Forest

A haven of resources
for college students

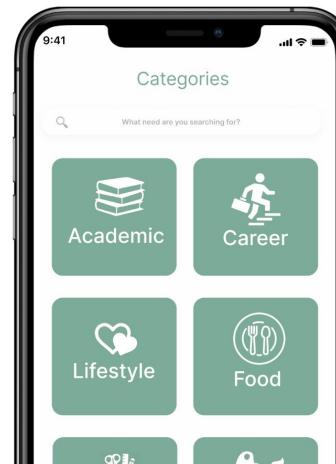
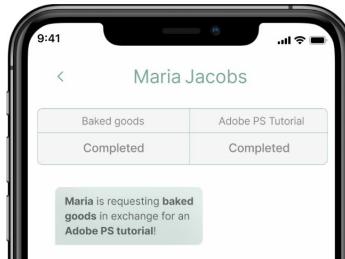
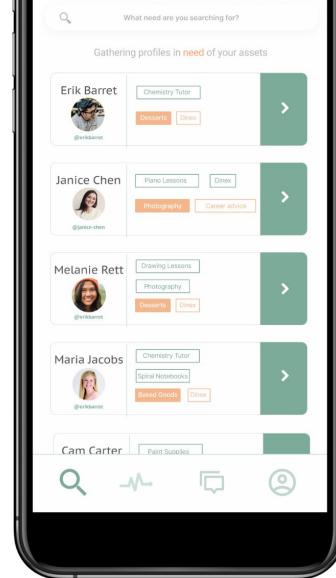
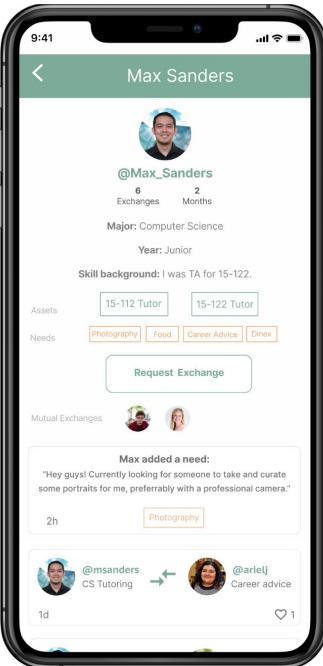


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Domain Selection

For this project, we selected time baking as our domain because we thought it posed interesting challenges from a design perspective, and could be incredibly useful in a multitude of communities.

Time banking is a way to exchange skills and resources instead of money. It works best in a community where there is

- (a) A diverse community, with a variety of resources and needs
- (b) Pre-established trusts
- (c) Common goals among community members

After analyzing all of these factors, we set out to conduct user research to determine an ideal niche for a time banking app, namely one that fits the above criteria.

Competitive Analysis

When researching into the leaders and players in the time banking realm, the apps on the market are of low popularity, and the amount of them is scarce. This concept is not one that seems to be advertised and known well in the wider public, which is also something noted in our primary field interviews. Interviewees were not very familiar with this system, whether they be older parents or millennials. The realm of Time Banking, unlike other domains such as Social Media Influencers, is not common knowledge for many people. While digital apps and social networks have begun to reach not only millennials, kids, and teenagers, but older audiences and users of all socioeconomic, cultural backgrounds etc., time banking apps have not gained that widespread popularity. But, within the time banking digital realm, we have found apps on the market.

We found just a few apps specifically meant for/labeled as time banking, and they weren't very popular.

We conducted an analysis for each...

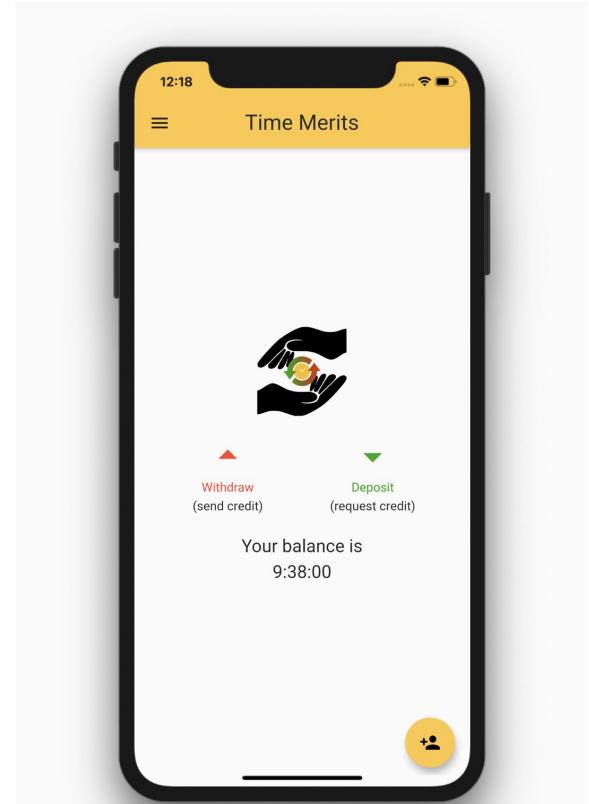
Competitive Analysis: Hourworld

Hourworld is an international network of over 40,000 members of “neighbors helping neighbors”. All hours banked are considered equal, irrespective of the complexity of the task. One can pick from 360 communities around the globe and list what they have to offer and what they would like to receive in return. A time-credit earned for doing a particular task can be used to request a task from any member of the community.



Competitive Analysis: TimeMerits

TimeMerits requires a log in for users to be able to use the time banking product. The UI is very intuitive. It is simple, so much so that it looks a little unsophisticated, as if it was the first project of an aspiring developer. The app calculates your balance in time instead of money. On the home page, you can view your balance, and you can withdraw or deposit from other users by scanning their QR code. While this ensures that the app documents the correct user transactions, this is an impediment for people who want to transfer time from a distance (it doesn't let you upload screenshots of a QR code, either). One feature this app does *not* include is a way to find nearby users. You can only use this app with people you know personally, but if you wanted to look up a particular service to share or request in your area (or beyond), the app would not be able to perform this task.



Competitive Analysis: TimeKeeper Bank

TimeKeeper Bank is an app particularly centered around using GPS, so that users can browse other users based on proximity. Then they can exchange services and requests locally. The app states: “offer your experience and knowledge to other members in the network”. On the “Market” page, a map is shown with nearby points showing where other members are, and there are three tabs: “People”, “Requests”, and “Services”. The app has notifications and reminders and the ability to schedule a trade with another member. Automatic transaction occurs. For the user profile, each person has a rating out of 5 stars that is shown. They advertise the app as more of a way to foster personal and community growth and be a part of something enriching. Uses HourGlass to transact hours within the app.



TimeKeeper Bank is a social app that reinforces the local sharing of skills/experiences and you can exchange services/requests locally.

Available On



Competitive Analysis: Ying

Coining themselves as the “currency for humankind”, **YING** brands themselves as a way of fostering social interactions while boosting personal endeavors. In order to access the app, you need to become a member of a community within the YING platform. They emphasize how they provide a platform where people do not need cash to get what they need. They label themselves as a means of “expanding capitalism”, perhaps to avoid promoting communist or socialist beliefs that the time banking concept has roots in. Something that makes this unique and perhaps more developed than other time banking apps is that you must have a membership with payments that are monthly or annual.



User Insights about Timebanking

We spoke to several people about their thoughts on timebanking using the protocol on page 73.

Some of our key findings were -

- There seemed to be uncertainty about the time-credit system because different tasks have different complexities which cannot be measured just in terms of hours required.
- A problem lots of people brought up was trust/selfishness, etc. People may not trust strangers to complete tasks well unless they have some common group they're in.
- People seemed willing to ask for help in areas where they weren't experts

Insightful Quotes from Interviewees

Q: Have you ever wanted to get a service in exchange for something other than money?

“The lady who gave me a facial told me she really wishes she could take one of my water aerobics class and I joke that I’d give her a free class if she did my brows for free.”

Q: Within what communities that you are a part of do you think time banking would be useful?

“Anyone who is seeking professional development.”

“Let’s say there’s a career fair - an alumn or someone who has interned at that firm gives you advice about it. Then you want to do the same for others once you’re the one able to give career advice. You were given an hour of advice, now you have that hour to give to someone else, or back to that person.”

Q: Do you see any potential problem with this system of time banking?

A: Uniformity, hard to set a unit. effort - ideally you’d want everyone to put in the same effort but people are selfish.

Deciding on the Setting for our Timeshare App

We thought a way to combat issues that we discovered through our research is creating an app for an existing regulated community rather than mere strangers on the internet.

Informed by our research, we decided that **college** is the perfect setting for a timeshare app. It gives it more of a centered focus with an audience that doesn't have enough disposable income to just pay for a service. We imagined a platform to share more than just tools, but advice and experience too. Some people interviewed mention a positive thing about their community is how they have older people who have advice for them as they go through things, and vise versa, so we could have an app that fosters that positive aspect of community. Specific examples of potential timeshare activities on this app include tutoring, giving certain supplies like trading old textbooks, or even an hour of career advice.

Research Synthesis

To better understand our users and their needs*, we created personas for our users and stakeholders. This was followed by drafting scenarios for our users and developing journey maps to identify pain points. These would serve as areas that our application could address.

* See Appendix for notes on research

User Persona (1)



CHRIS

Age: 22
College Senior

Chris is a senior in his last semester at Carnegie Mellon. He's a lover of football, theater, big dogs, and good food. As a senior, he eats out often due to his lack of a meal plan, and while he loves the food that Pittsburgh has to offer, he's very aware of the hole it puts in his wallet. Chris is excited for his post-graduation plans to work as a consultant at McKinsey. Since his last semester is going to be laid back, he is interested in serving as a mentor to any underclassmen who need help or advice. Moreover, he has a lot of textbooks from his seven previous semesters at CMU, and is interested in giving them away.

End Goals: To have a rewarding last semester at CMU and feel a sense of giving back to the CMU community; to meet new friends and spend quality time with old friends before moving on to the next chapter of his life.

Life Goals: To have a stable career and, eventually, a wife and two kids somewhere in the suburbs.

User Persona (2)



EMILY

Age: 18
College Freshman

Emily just started at Carnegie Mellon a few months ago. She's an avid photographer and loves capturing and editing photographs in her free time. She plans to major in Computer Science but is currently having a hard time coping with those subjects as she didn't study code in High School. There are many students in the class so she isn't able to get enough individual attention from the professor either. She knows that there are probably many students on campus who would be willing to help her but she doesn't know how to connect with them.

End Goals: To get through the semester with good grades and a sound understanding of her courses

Life Goals: To start a digital design and branding agency of her own a few years after graduation.

Stakeholder Persona



JACOB

Age: 21
CMU Student Body President
Junior

As Student Body President, Jacob is still a pretty mellow person, but is vocal in what he feels passionate about. He is a Business Major with a minor in International Relations. On the weekend he likes to explore new restaurants in Pittsburgh, although it can be hard to find time. He fills up his schedules front to back, whether it be frequent lunch meetings, career fairs, or regular executive board duties. Lately, students have voiced to him that they don't always know exactly where to go to when they want to get or give something, whether that be career advice, finding clubs, tutors, or textbooks. He hopes to find an innovative way to build bridges in the CMU community as well as help students have access to many tools, despite their financial abilities.

End Goals: Help create a more connected CMU student body, and make sure all of the students have access to resources they both need and want during their time there.

Life Goals: Live in a bigger city, while pursuing a career in the non-profit sector or within the government.

Chris's Scenario

How might we help Chris get rid of his old textbooks while also providing him with delicious brownies?

Chris is tired of seeing his pile of old textbooks he hasn't used in years every time he enters his apartment. He knows in theory that he can sell them, but doesn't really understand how the process works. Instead, he opens our app and finds that several freshmen are in need of some of the textbooks he has. He finds one freshman named Janie particularly interesting; she needs 3 of his 5 textbooks and is skilled at baking brownies. Chris messages Janie on the app and they both agree that each textbook is worth a batch of fresh baked brownies. Chris gets rid of the majority of his textbooks and the burden that comes with them, and enjoys the delicious brownies with all of his friends.

Chris's Journey Map

Pain points include -

- Struggling to get rid of old supplies
- Feeling guilty for spending too much

Positive experiences include -

- Feeling rewarded for using his own experience to help someone else



Chris

Persona Description

Chris is a CMU senior with a laid back spring semester who is looking forward to his next steps after leaving college

Scenario

This journey follows a snippet from a typical day-in-the-life for Chris at CMU.

Chris's Goal

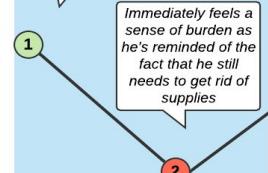
- Have a place to give supplies he no longer needs
- Give back to CMU in any way we can during his last semester
- Be more money conscious

Wake Up

1. Chris wakes up late because he doesn't have a class until 1:30
2. He gets out of bed and trips on a pile of textbooks at his bedside.

Feels well-rested

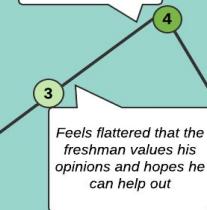
Immediately feels a sense of burden as he's reminded of the fact that he still needs to get rid of supplies



Give Advice

3. Chris gets a text from a freshman on his football team asking about good courses to take in Tepper.
4. He sends a detailed message and the freshman expresses his thanks.

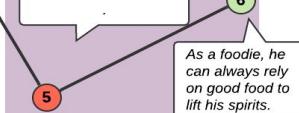
Feels rewarded for using his experience to help someone seeking advice



Lunch Break

5. Chris goes to Chipotle to get lunch. He hands his card to the cashier.
6. He eats his bowl and savors every bite.

Feels guilty for spending money on another meal out. The weight on his shoulders feels heavier.



Opportunities for Improvement: Other students may need the textbooks that burden him. Potential to exchange those or his advice (which he also enjoys) for things he needs, such as a cheaper meal paid by someone on a meal plan.

Emily's Scenario

How might we help Emily get the guidance she needs in a way that allows her to leverage her existing skills?

Emily has recently started school at CMU and is finding her Computer Science classes really difficult to cope with. She has the option of going to her professor, but she can't do that every time because there are many other students in the class who also require the professor's guidance. She is sure that there will be people on campus who can help her because of CMU's strong CS culture, but doesn't know how to find someone who will have the time to spare. On the app, she finds two juniors willing to provide CS tutorials. One of them, Mateo, was looking for a photographer to take pictures at a club event that he was hosting - this matched what Emily could offer, given her passion for photography. She gets in touch with Mateo and they agree on two CS tutorials in exchange for event photography, and now feels comfortable to even reach out to him again for continuous exchanges if needed. She feels more confident going into her exam, rewarded for getting to use her photography skills, and more connected to the community, as she is a new freshman and normally wouldn't meet Mateo in her normal circles.

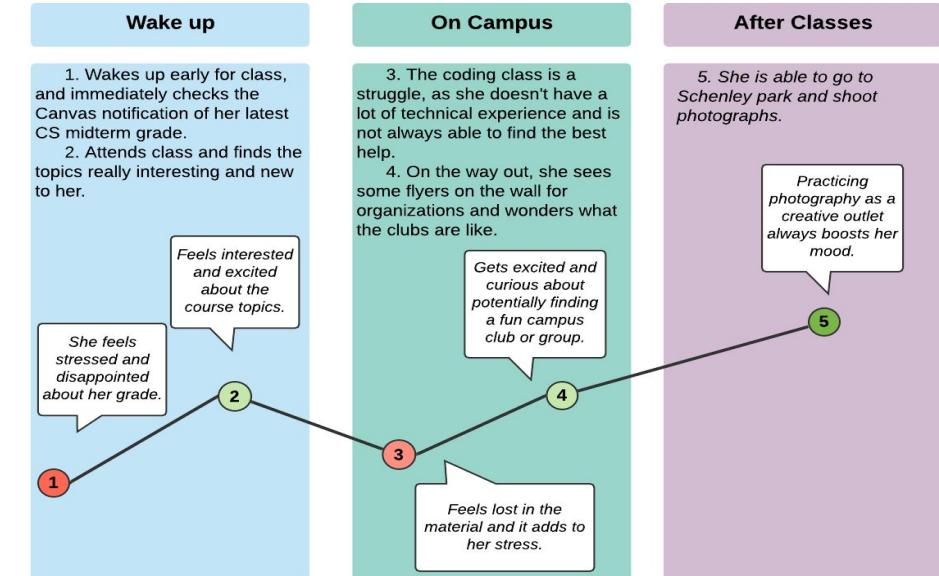
Emily's Journey Map

Pain points include -

- Feeling stressed and disappointed about her grades
- Feeling confused about academic material

Positive experiences include -

- Practicing her favourite hobby
- Excitement to learn about her new courses
- Excited to explore what campus has to offer



Opportunities for Improvement: As a freshman, she is seeking some guidance both in classes and with activities and clubs. There is potential for her to exchange her skills in photography or her love for baking as ways to get these needs fulfilled.

Persona Description

Emily is a CMU freshman who plans to major in Computer Science. She is a photographer and also loves baking and trying new recipes.

Emily's Goal

- Get through the semester with good grades and settle into her major.
- Feel in-the-know about opportunities she can get involved in at CMU.

Scenario

This journey follows a day-in-the-life for Emily.

Features list and Design Pattern Audit

A features listed was created to understand functionality of the app before we started prototyping. A design audit was carried out for each feature to inspire our design process and ensure that our design would have a certain level of familiarity for our users.

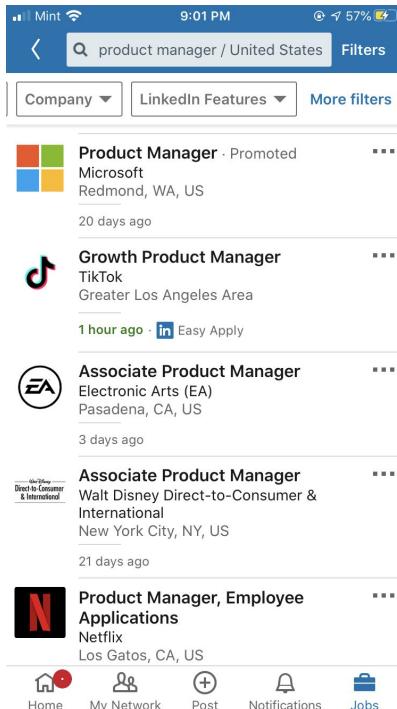
Features List

1. List/Tabs for showing services you can provide, another for services you need
2. Categories of services and skills
 - a. (academic/career/supplies/other)
3. **Profile Viewing:** Show service needed and skills you can provide at the forefront. Potentially other details if you look more into the profile (such as major, social media links)
4. Profile creation
5. “**Send request/offer**” type of button to initiate an exchange
 - a. Optional message with it
6. **Location**
 7. “People you know in common”?
8. **Ways to know how good someone is at skill**
 - a. Linkedin-endorse skill
 - b. Number
9. **Push notifications?** (“you have a request” “service scheduled for 10:am today”)
 - a. Notification for new request
 - b. Notification for negotiation request
 - c. Reminder x hours before deadline (maybe they get to choose x?)
10. **Schedule** to track upcoming and completed tasks
11. **Chat feature?** Incase they want to clarify stuff without sharing their phone number
12. **One time login** with university email
13. A way for both people to say that the job was done (eg. the **transaction is completed** after X agrees that Y did what they promised and Y agrees that X did what they promised)
14. **Search** to search for a specific skill/person
15. A **transaction value** feature (negotiate vs accept)

Feature #1: List/Tabs for showing services

LinkedIn:

List of job postings for a given search, with filter options on top.



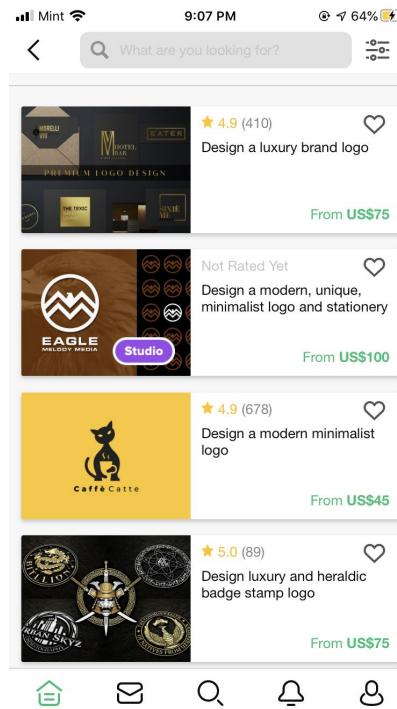
LinkedIn search results for 'product manager / United States':

- Product Manager** · Promoted
Microsoft
Redmond, WA, US
20 days ago
- Growth Product Manager**
TikTok
Greater Los Angeles Area
1 hour ago · Easy Apply
- Associate Product Manager**
Electronic Arts (EA)
Pasadena, CA, US
3 days ago
- Associate Product Manager**
Walt Disney Direct-to-Consumer & International
New York City, NY, US
21 days ago
- Product Manager, Employee Applications**
Netflix
Los Gatos, CA, US

Bottom navigation: Home, My Network, Post, Notifications, Jobs.

Fiverr:

List of tasks people can complete, with the price that they're asking.



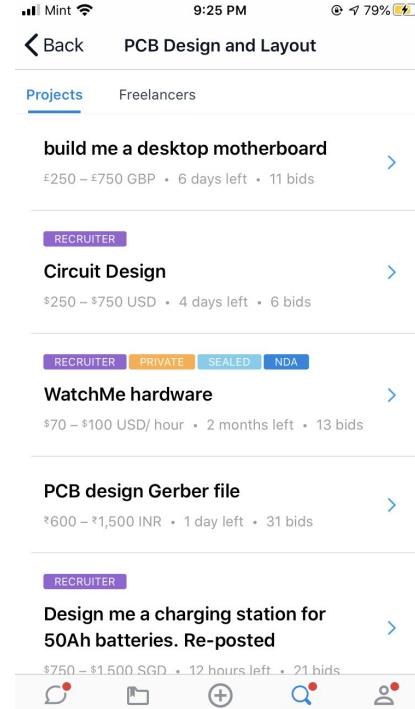
Fiverr tasks for logo design:

- Design a luxury brand logo**
4.9 (410) · From US\$75
- Design a modern, unique, minimalist logo and stationery**
Not Rated Yet · From US\$100
- Design a modern minimalist logo**
4.9 (678) · From US\$45
- Design luxury and heraldic badge stamp logo**
5.0 (89) · From US\$75

Bottom navigation: Home, Messages, My Projects, Post Project, Browse, Account.

Freelancer:

List of tasks people need done, with the amount they're offering.



Freelancer projects:

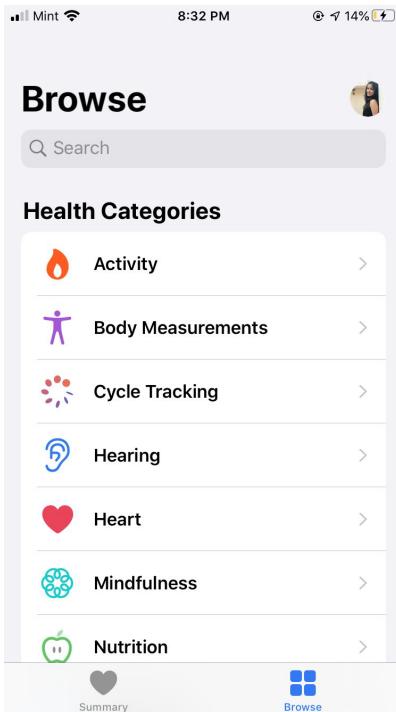
- build me a desktop motherboard**
£250 – £750 GBP · 6 days left · 11 bids
- Circuit Design**
\$250 – \$750 USD · 4 days left · 6 bids
- WatchMe hardware**
\$70 – \$100 USD / hour · 2 months left · 13 bids
- PCB design Gerber file**
₹600 – ₹1,500 INR · 1 day left · 31 bids
- Design me a charging station for 50Ah batteries. Re-posted**
\$750 – \$1,500 SGD · 12 hours left · 21 bids

Bottom navigation: Messages, My Projects, Post Project, Browse, Account.

Feature #2: Categories (Services and Skills)

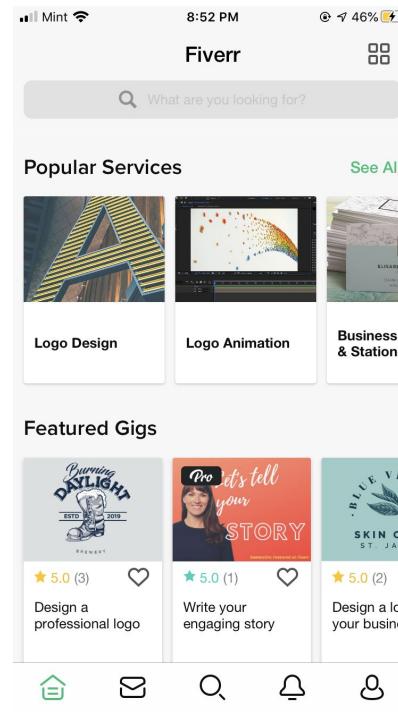
Health:

Viewing categories for different health functions the app can help with



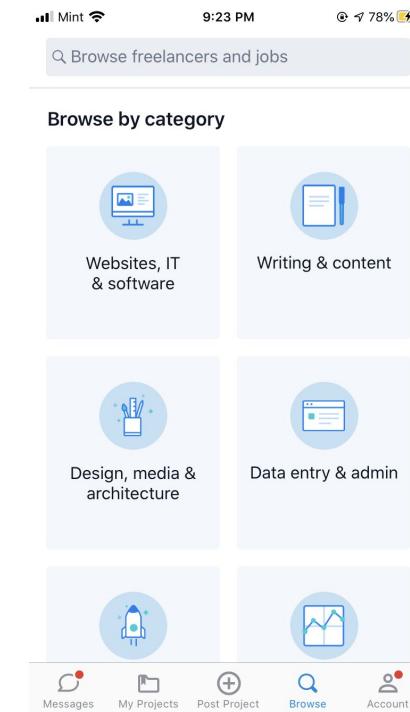
Fiverr:

Viewing services by category, in a horizontal scroll



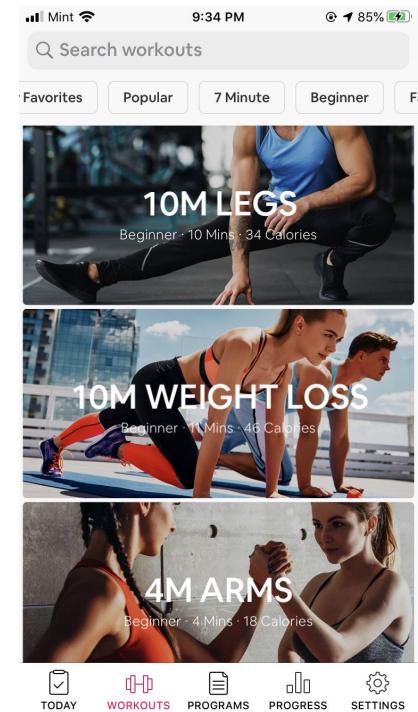
Freelancer:

Viewing services by category in a tile format



Womens Workouts:

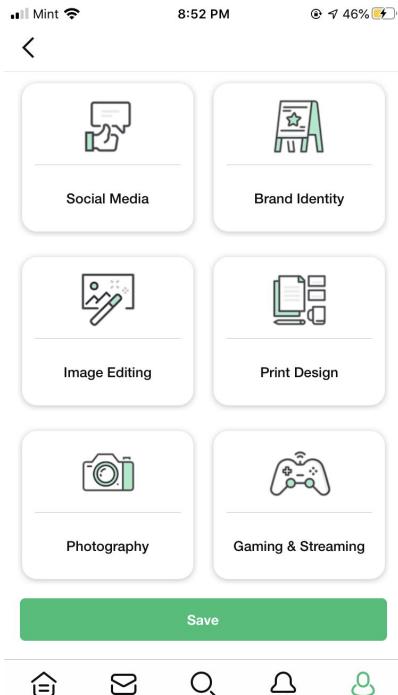
Viewing workouts by category, with filtering options on top.



Feature #3: Creating a Profile

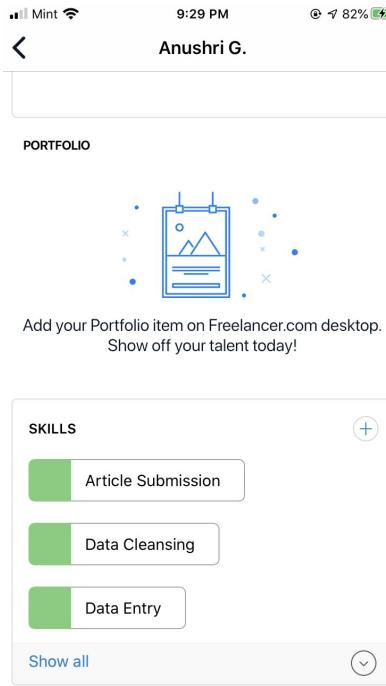
Fiverr:

Choosing skills while setting up profile



Freelancer:

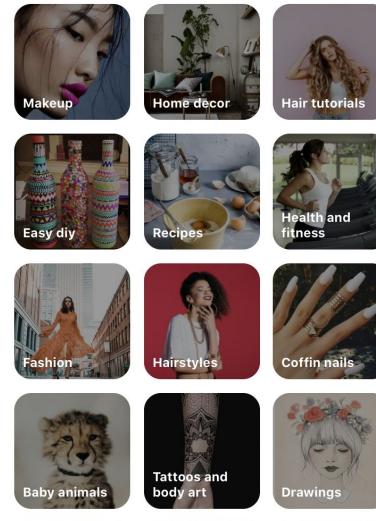
Choosing skills while setting up profile



Pinterest:

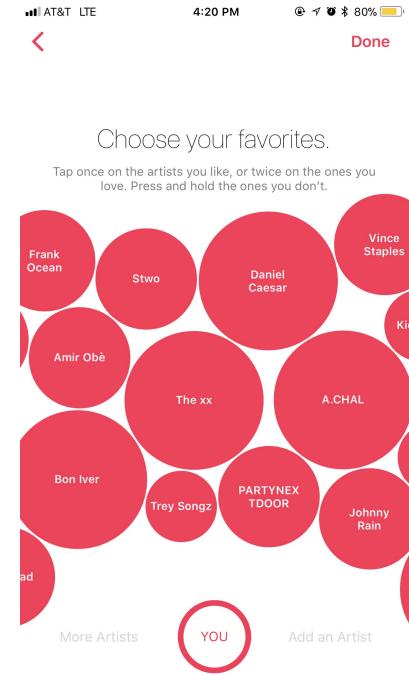
Choosing categories of interest while creating a profile

Welcome to Pinterest
Pick 5 or more topics



Apple Music:

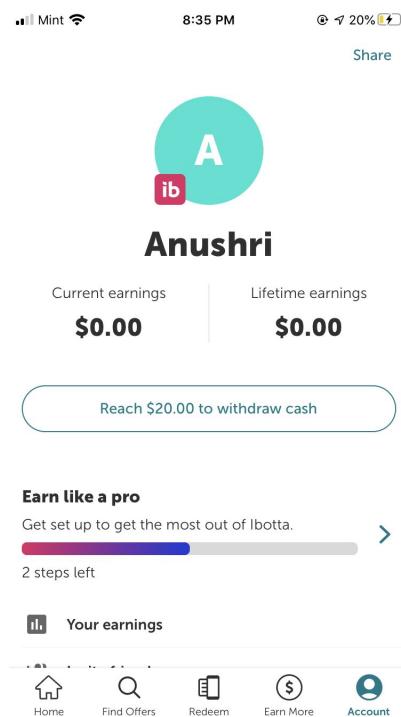
Choosing genres of music to personalize your profile



Feature #4: Viewing a Profile

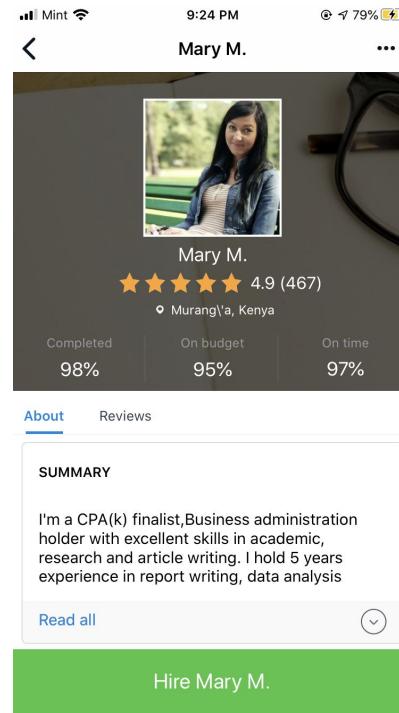
Ibotta:

Viewing current balance and earnings in your profile section



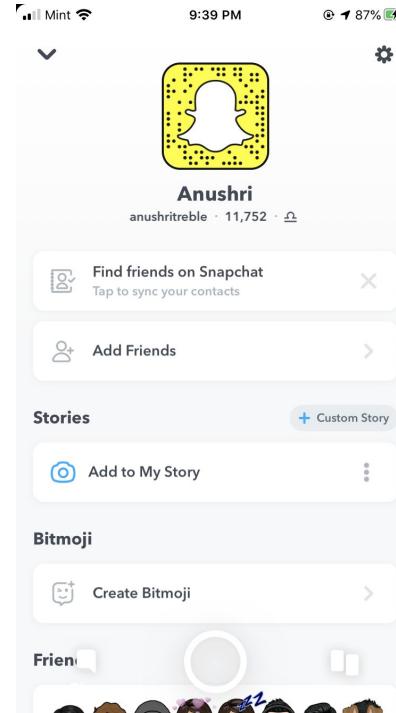
Freelancer:

Viewing someone's profile, summary and rating. Option to hire.



Snapchat:

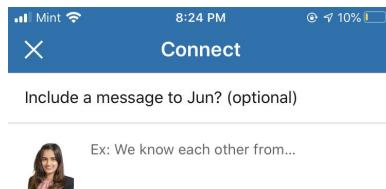
Viewing snapchat profile, snap code and snap score.



Feature #5: Sending a request (with an optional message)

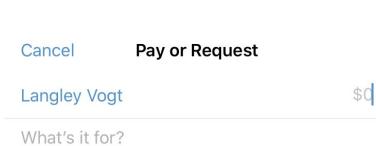
LinkedIn:

On sending a connection request to someone, you can add an optional message.



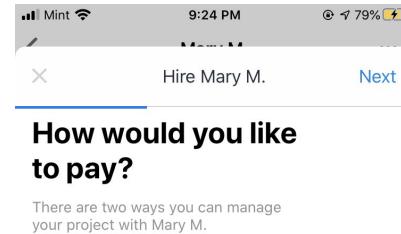
Venmo:

On sending or requesting money, you can enter text with details.



Freelancer:

On requesting a service, choosing the mode of payment

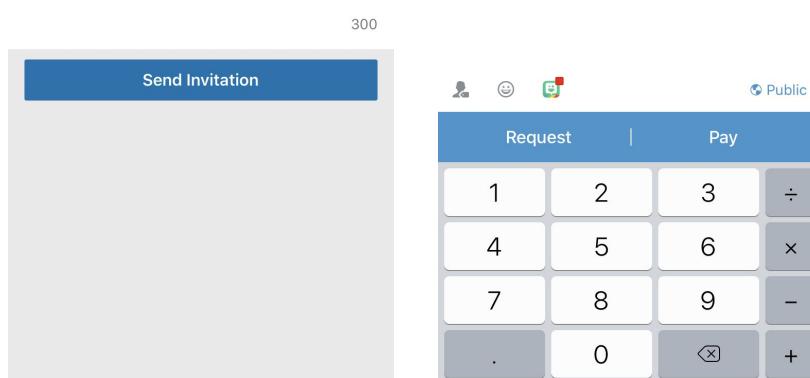


Fixed Price

Recommended for projects that have finite deliverables

Hourly

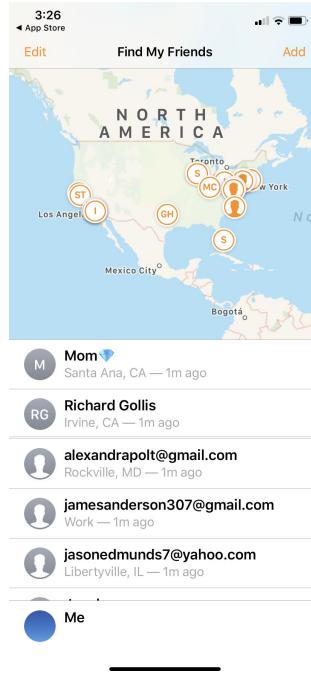
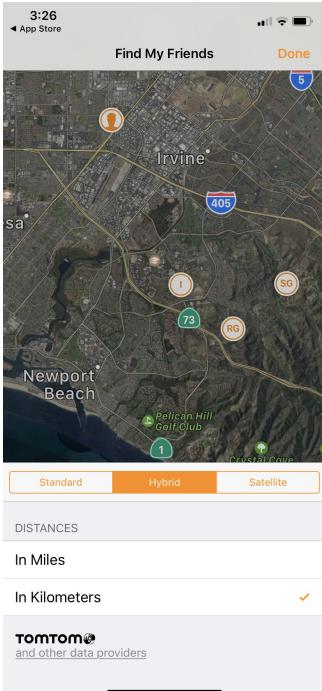
Recommended for projects that are ongoing



Feature #6: Location Tracking/Maps

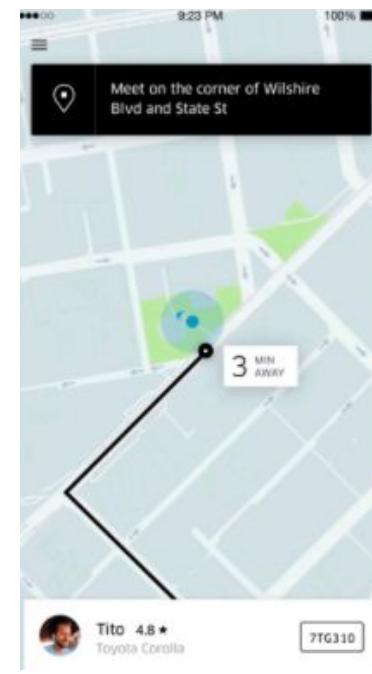
Find My Friends:

- Small circles on the map that can have name on it
- Can choose a different view of landscape
- List of your contacts shown on top of the map before clicking in on certain area or person.



Uber:

- Tracking how far away the driver is by number of minutes away. Profile shown below.
- Shows the route they are taking to meet at the meeting spot

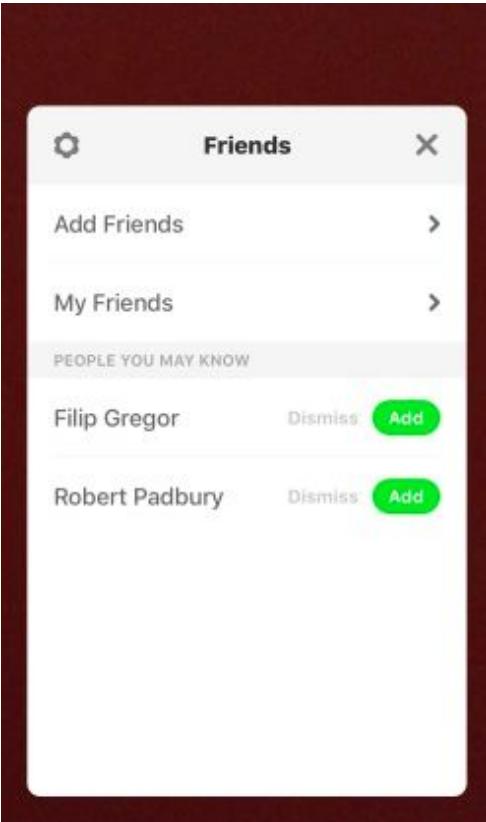


Feature #7: Showing Mutual Friends

Daisy Gollis

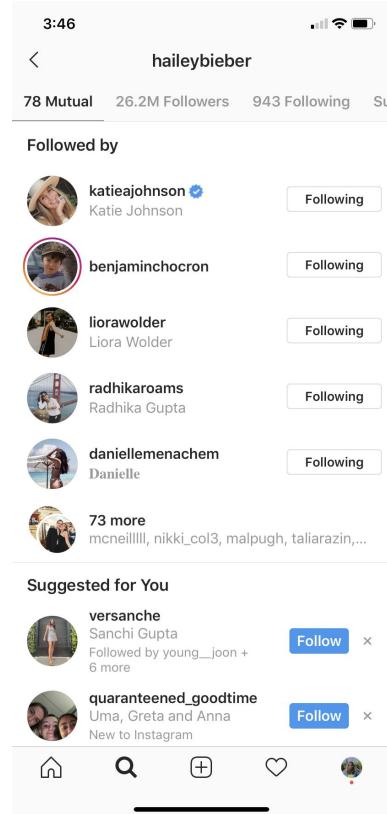
Houseparty - Group Video Chat:

- “People you may know”
- Can add people to your video chat that the app thinks you may know (have mutual friends)
- Can invite phone contacts onto the app



Instagram:

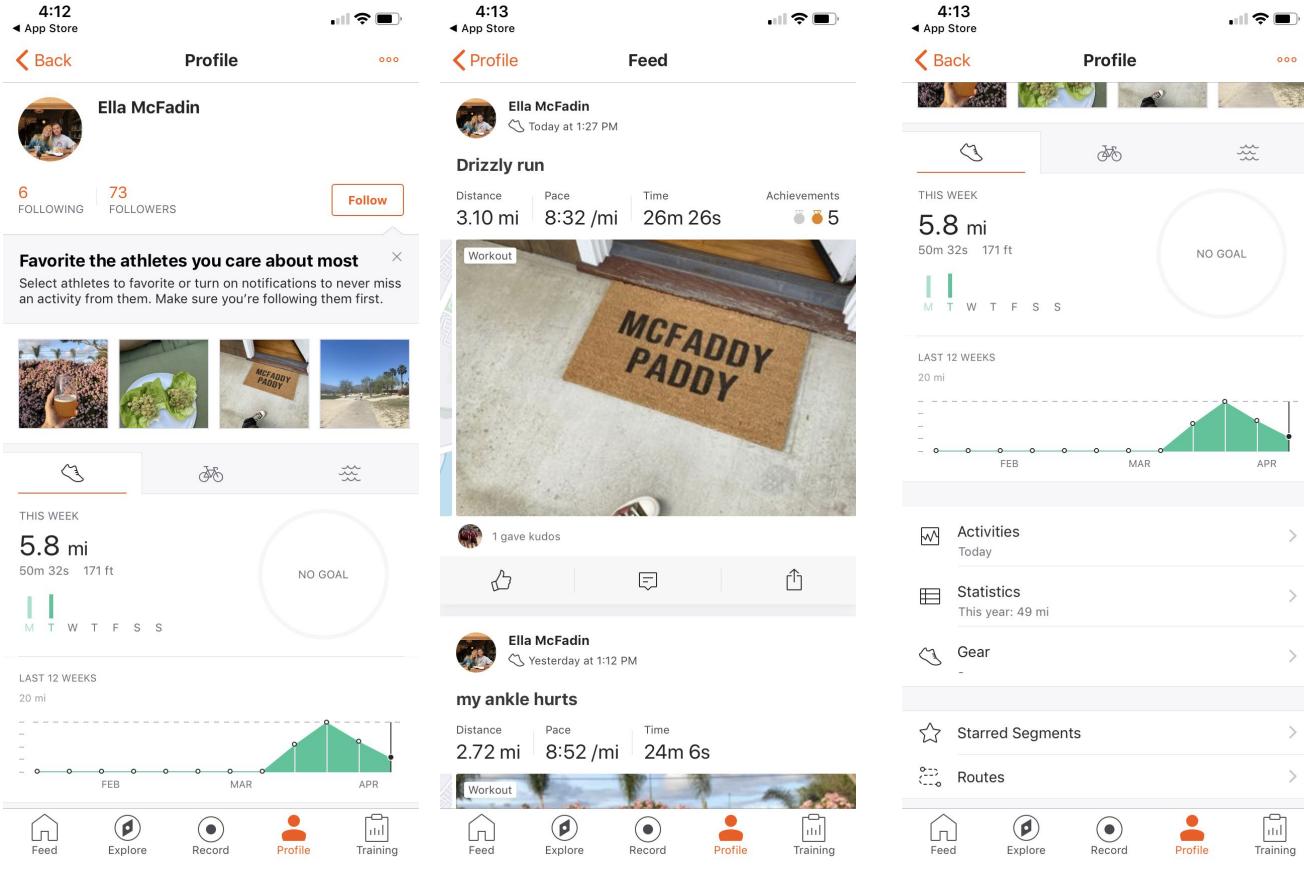
- On someone's profile, you can see who of your followers also follows them.
- A section for Mutual followers
- For our app, “followers” may be someone that has done an exchange with another user.



Feature #8: Viewing the exchanges of other users

Strava:

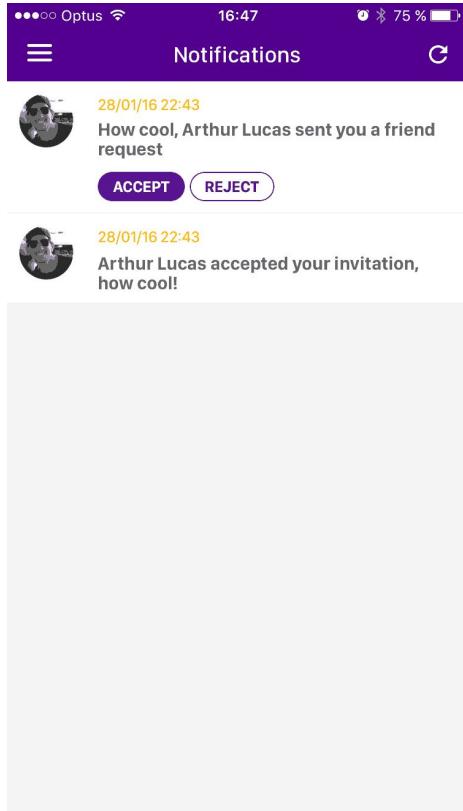
- On the profile, it displays the miles logged in a certain time frame
- You can scroll down and select Activities and see all of the past workouts they have logged
- People are able to “give kudos” on an activity shown



Feature #9: Notifications

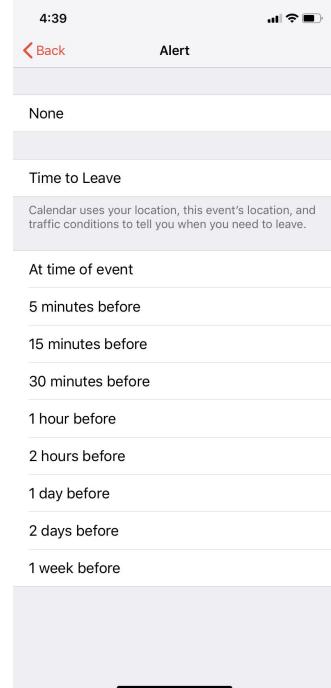
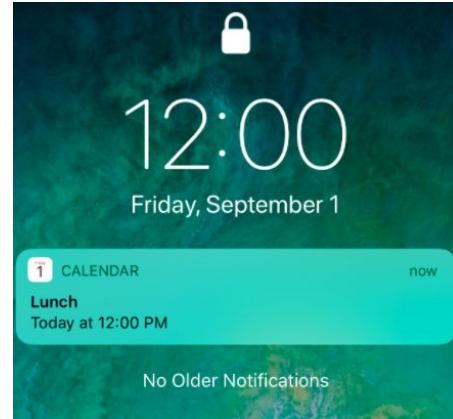
Wingit:

- Has a tab for all recent notifications
- Notify of friend requests



Calendar:

- Reminder of an event
- Select when the alert comes



Feature #10: Calendar

Daisy Gollis

TimeTree:

- Display of events in monthly view or in weekly view
- Can see events coming up on your schedule rather than just the date

Jul 2019

SUN MON TUE WED THU FRI SAT

30 1 2 3 4 5 6

Bupa pay Yann Jacq PH / RM Ca Product Tri Meeting wi Romain Pd

Pay Phone Weekly cat Founders c Catch up R.

GA/Fireside

7 8 9 10 11 12 13

Weekly cat PH / RM Ca Dimitri Arc Steph catch

14 15 16 17 18 19 20

Weekly cat PH / RM Ca TPG invoice Chris birthday

21 22 23 24 25 26 27

Weekly cat PH / RM Ca Bruno Bich Monthly Re Valentine PR Dentist

28 29 30 31 1 2 3

Weekly cat PH / RM Ca Bupa pay Pay Phone

Monthly

Keep

+

Feed

More

7 Jul - 13 Jul

7 Sun

8 Mon

9 Tue 11:00 am Weekly catch up Chris

10 Wed 9:30 am PH / RM Catch up

11 Thu

12 Fri

13 Sat All-day Dimitri Arcanger's birthday 5:00 pm Steph catch up Golem

Weekly

Keep

+

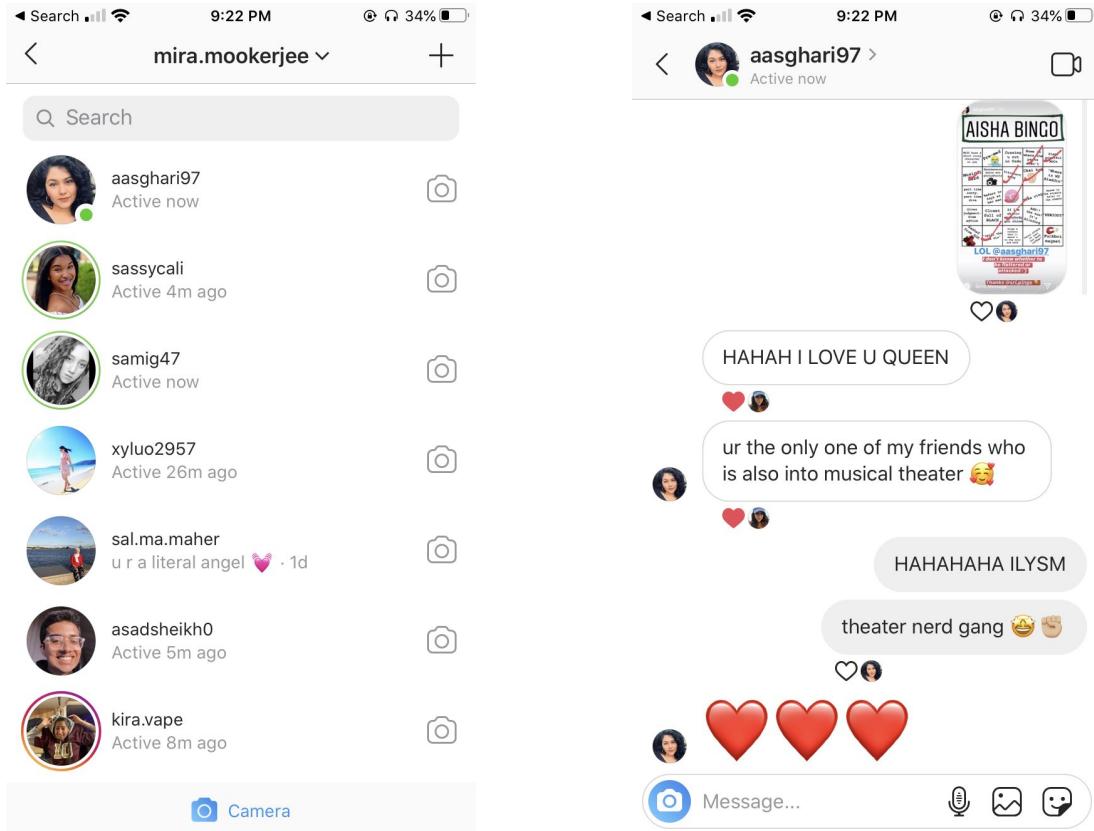
Feed

More

Feature #11: Chat Feature

Instagram:

- Display of recent chats sorted chronologically
- Chats of the user are displayed on the right and of the receiver are displayed on the left, with white different colors for text bubbles for different users
- Users can double tap a chat that the other user sends to “heart” it

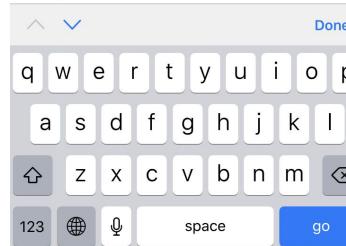
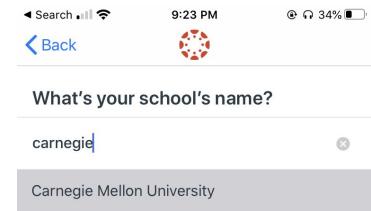
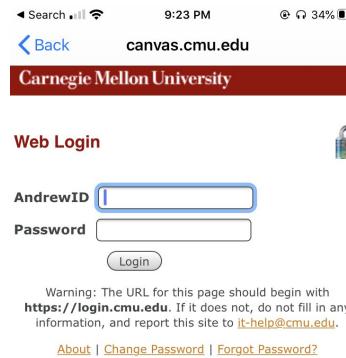


mmookerj

Feature #12: One Time login with university email

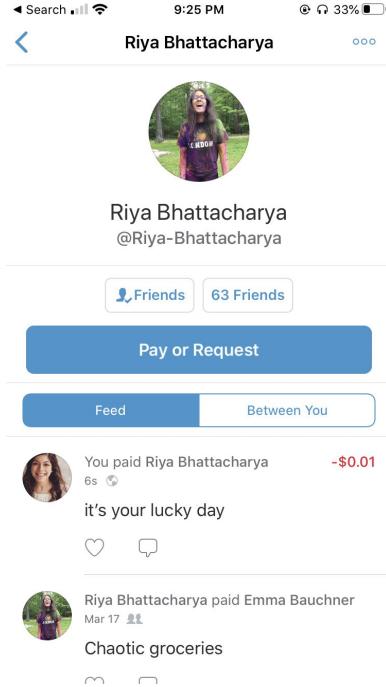
Canvas:

- Enter school name
- As you type, possible options appear that the user can select based on the characters that have already been typed
- Redirects to login page for the school

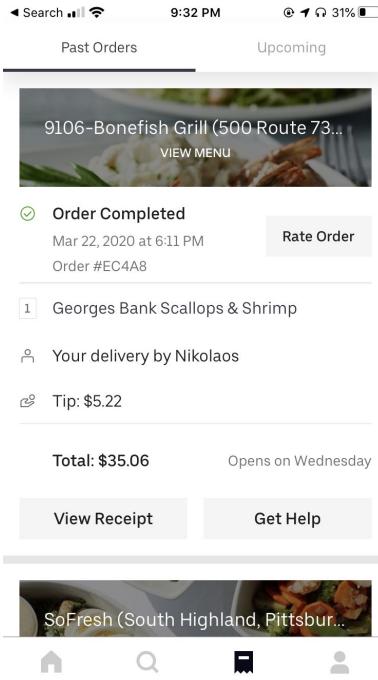


Feature #13: A way to indicate a transaction was completed

Venmo: After completing a transaction, you are redirected to a page listing all of the transactions completed by the second party in chronological order

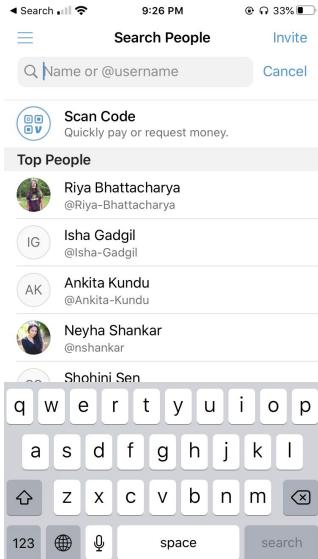


UberEats: There is a tab for past transactions and upcoming transactions for the user

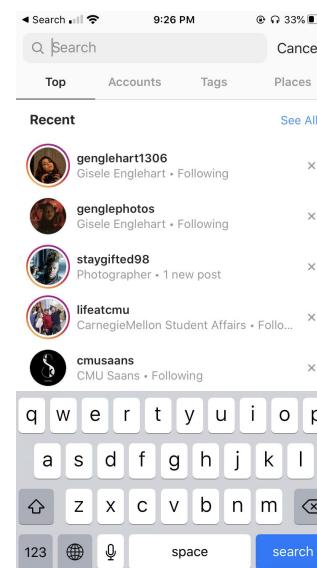


Feature #14: Search feature for a person or skill

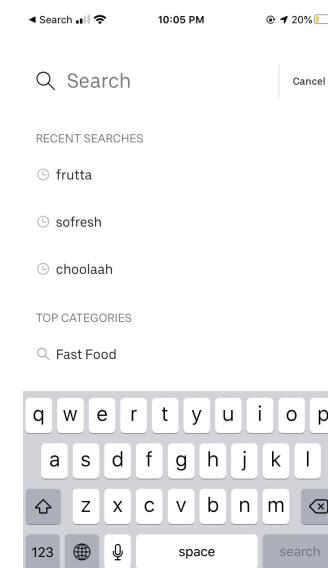
Venmo: Includes a QR Scan option and shows results based off of the top people the user has interacted with in the past before the user types



Instagram: Shows different options for categories the user can search in, and lists the most recent accounts searched by the user in the category

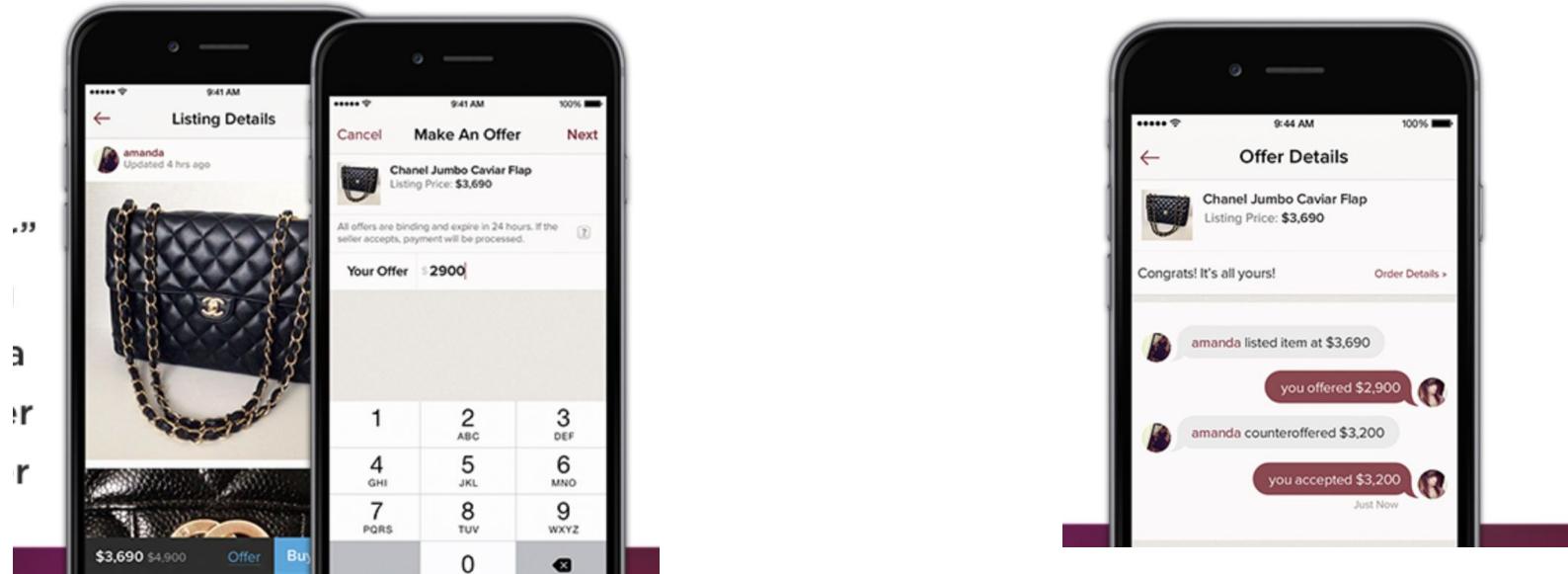


UberEats: Shows The top three recent searches and then shows top general categories that users tend to search



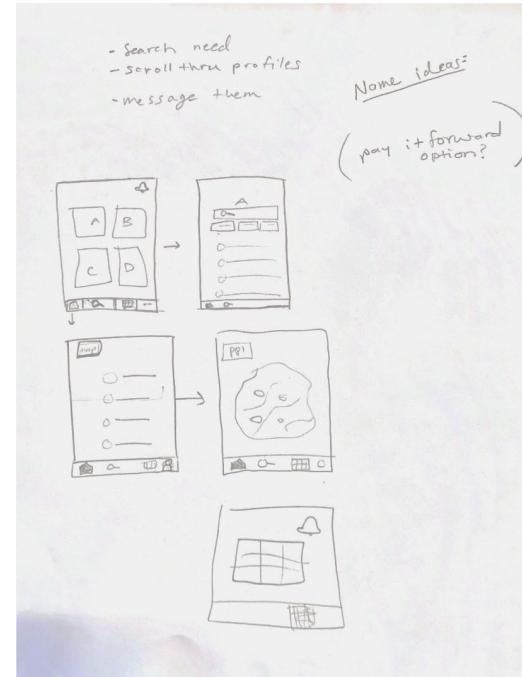
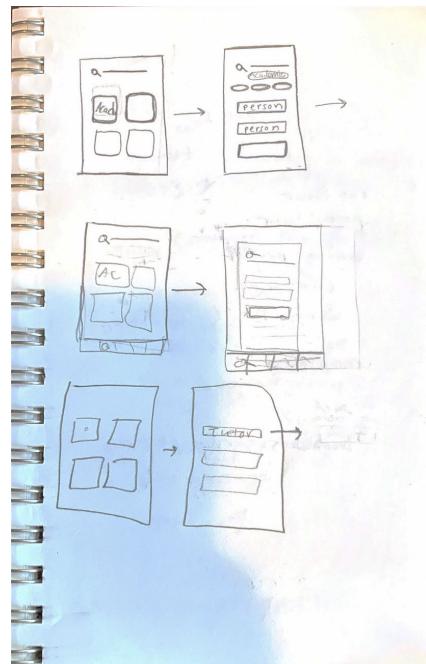
Feature #15: A transaction value feature

Poshmark: You enter your offer, and the offers are shown as a series of chats until the offer is accepted



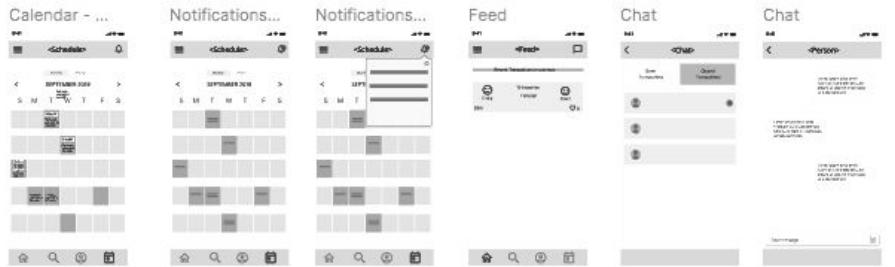
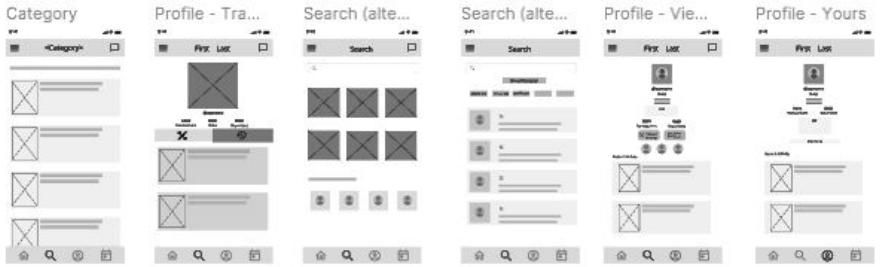
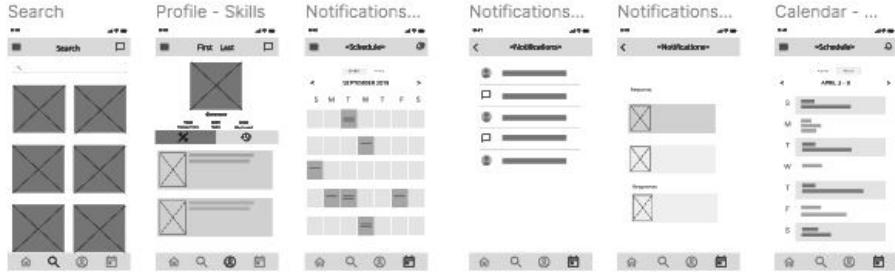
Preliminary sketches

Ideation for the app was started by making rough sketches, but we shifted to digital wireframes soon after because it seemed more efficient for remote collaboration.



Prototype #1

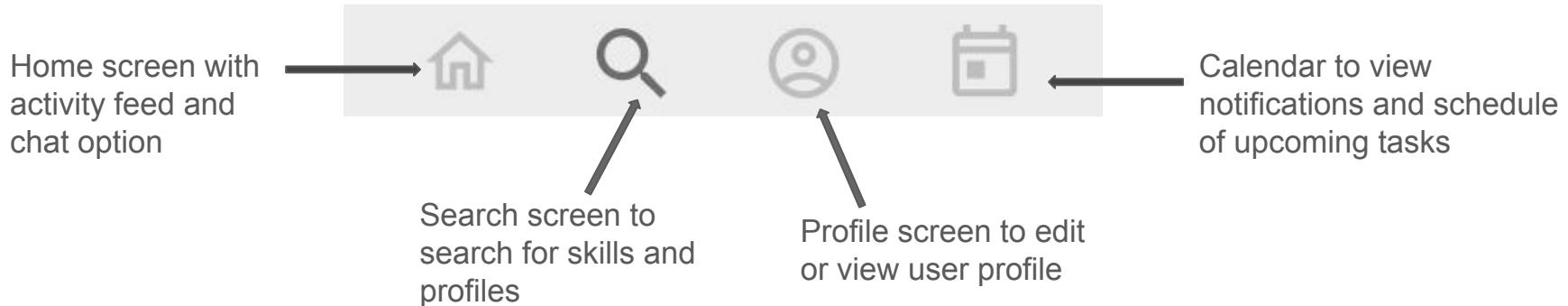
Low Fidelity Wireframes



Prototype #1 - Overview

Having a comprehensive list of features that we wanted the app to have, we created wireframes in Figma to layout the flow of our application. Screens were designed taking inspiration from both our design audit as well as our own creativity.

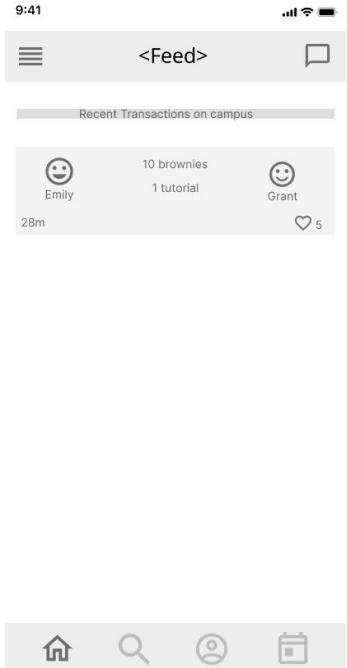
The foundation of the app is the navigation bar at the bottom of the screen which can be used to quickly shift between different functional centers of the app. The selected tab is indicated by a color darker than the rest.



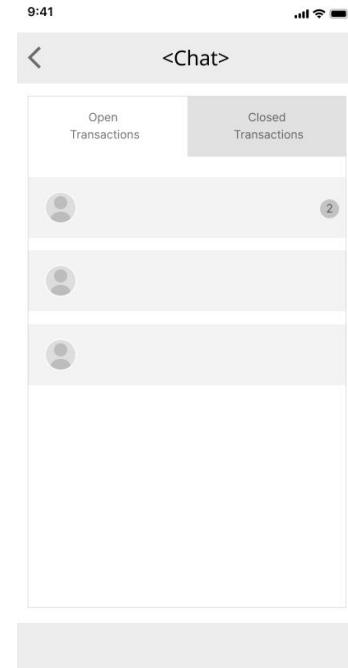
Prototype #1 - Feed and Chat

Feed and Chat

The “home screen” features a feed that displays recent transactions among people on campus. It also leads to a chat page where one can view conversations for open and closed transactions.



Activity Feed



List of chats

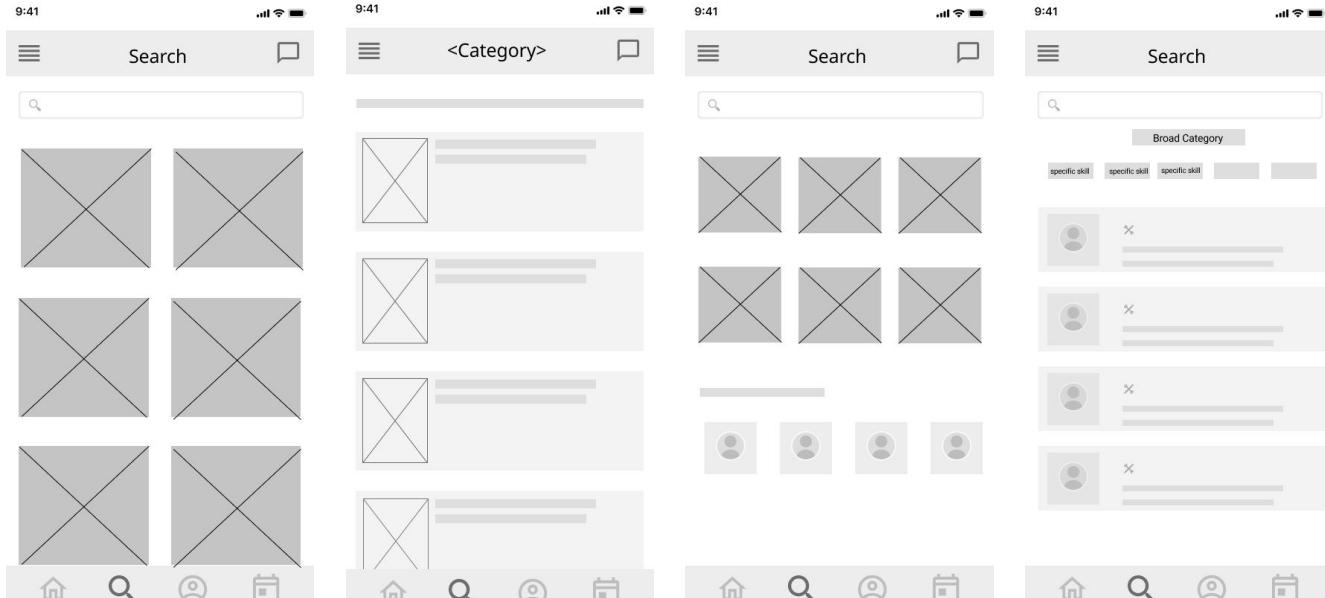


Chat window

Prototype #1 - Search

Search

We created multiple iterations of search screens to direct search results from an overarching category towards a more specific search result.



Categories for the Search

Search results within a category

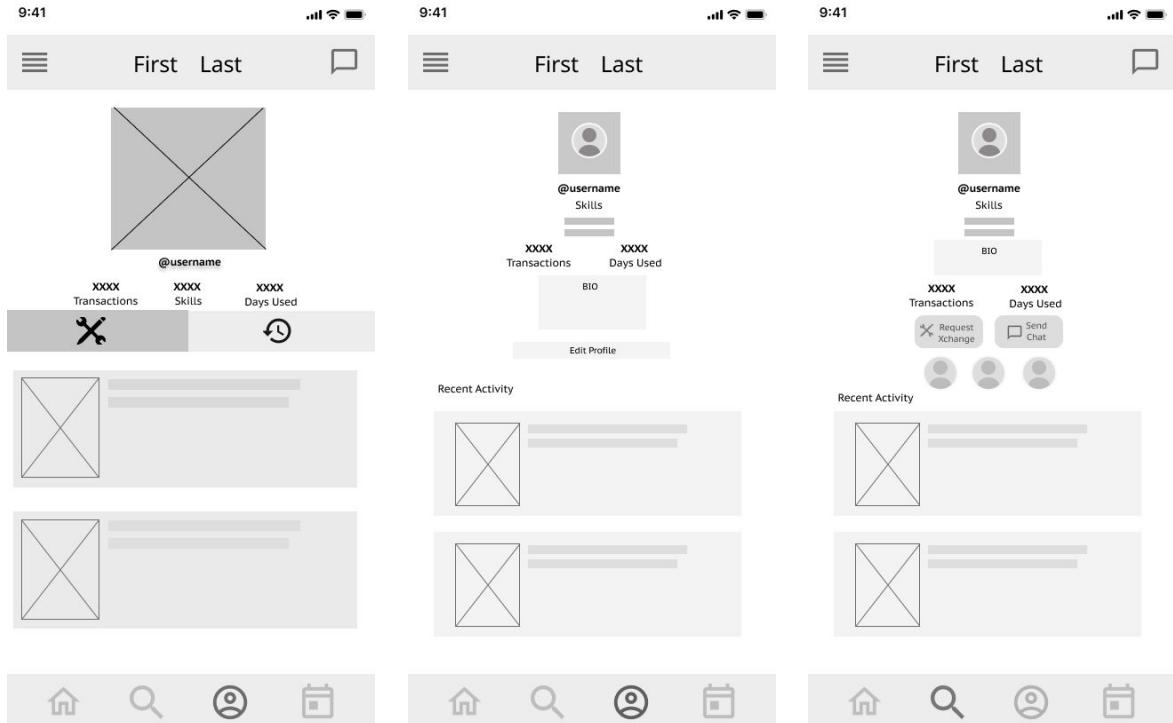
Alternative for search categories

Alternative for search results

Prototype #1 - Profiles

Profiles

Profile views were created for both your “own” profile as well as viewing someone else’s.



User profile

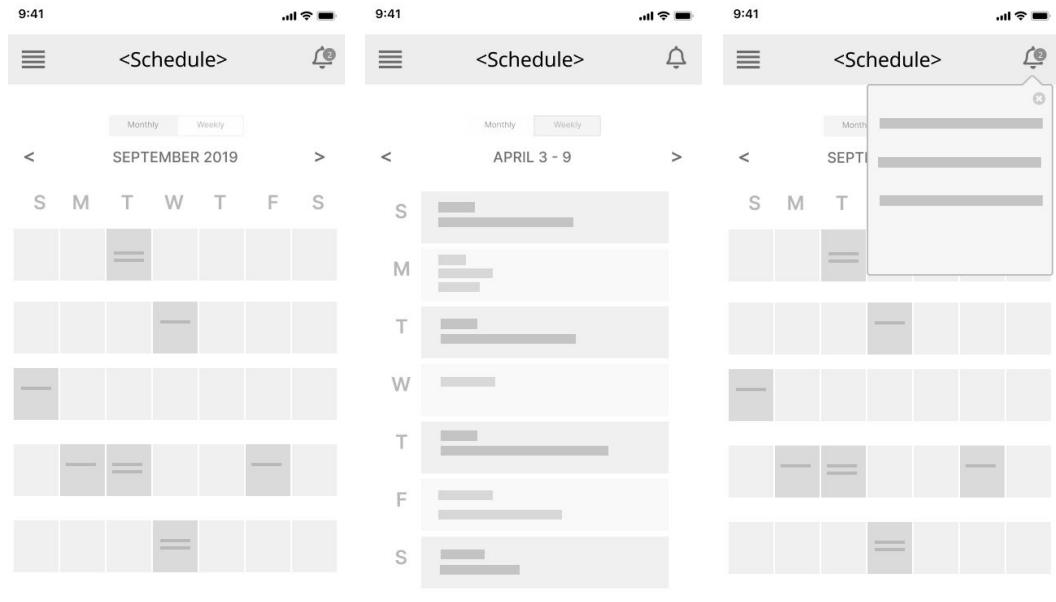
Alternative design
for User profile

Viewing someone
else's profile

Prototype #1 - Calendar

Calendar

A monthly and a weekly view of the calendar was created for a user to be able to view their upcoming exchanges. A bell in the top right leads to new notifications.



Monthly view of calendar

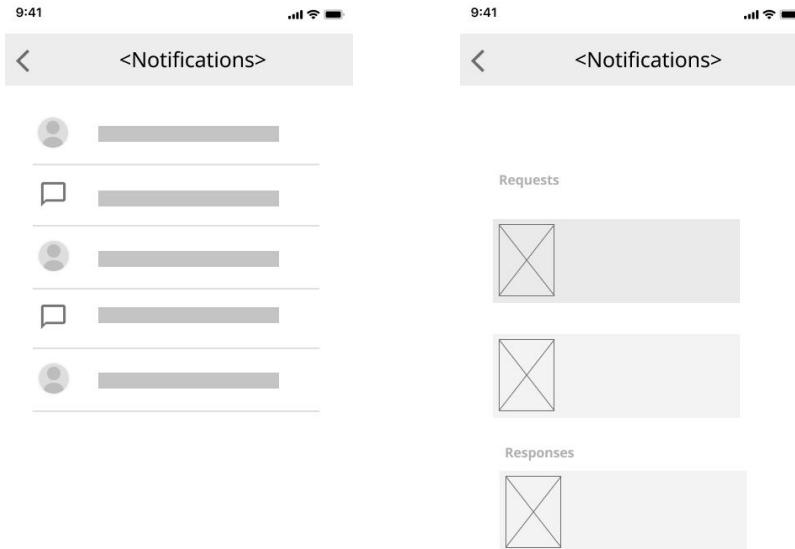
Weekly view of calendar

Recent notifications

Prototype #1 - Notifications

Notifications

The notifications, embedded in the calendar tab shows the user new requests, new messages, and any other activity that is important for them to take note of.



Notification screen
with requests and
messages

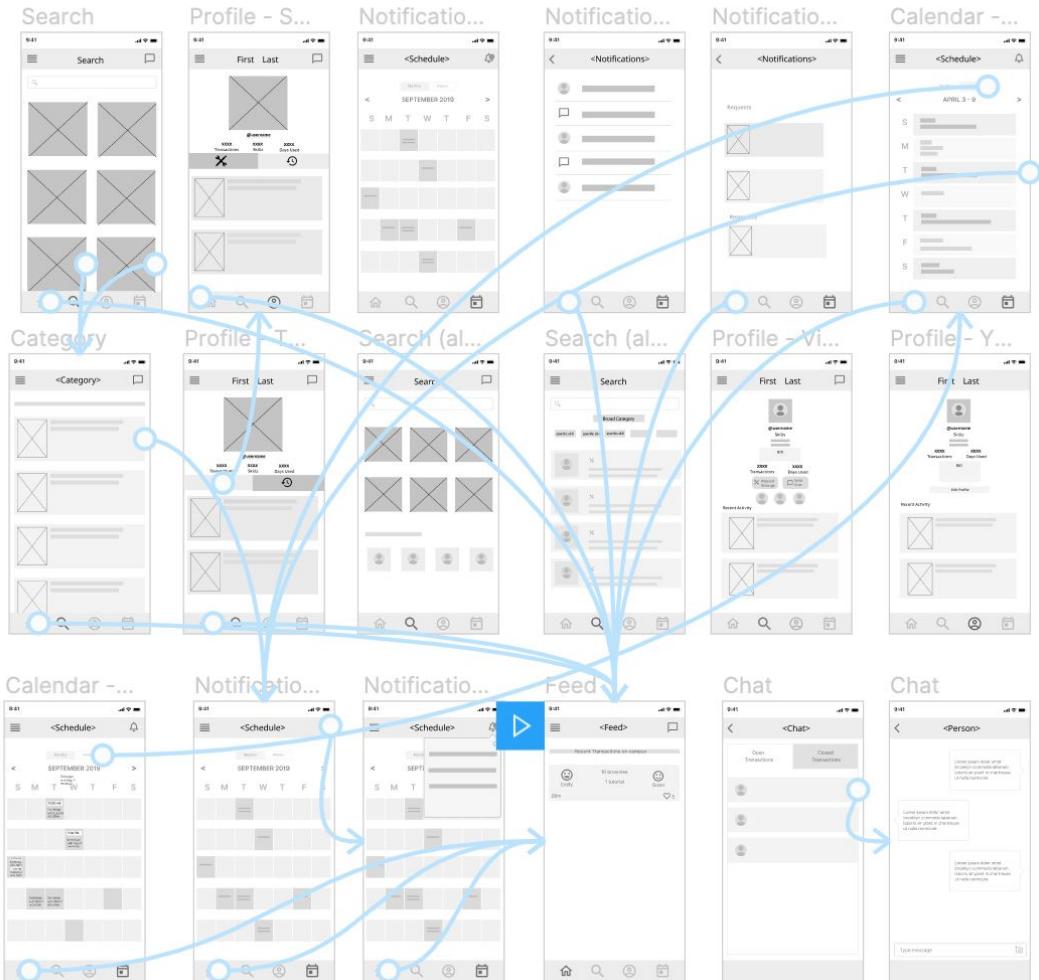


Alternative with
separated requests
and responses

Prototype #1- Testing

We realised while creating the testing protocol for our first round of user testing that the screens **didn't have enough information for a new user to understand!**

Because of this, we quickly dove into our second mid-fi prototype which had enough detail to be better understood by a new user.



Prototype #2

Mid-Fidelity Wireframes

[Link to prototype](#)

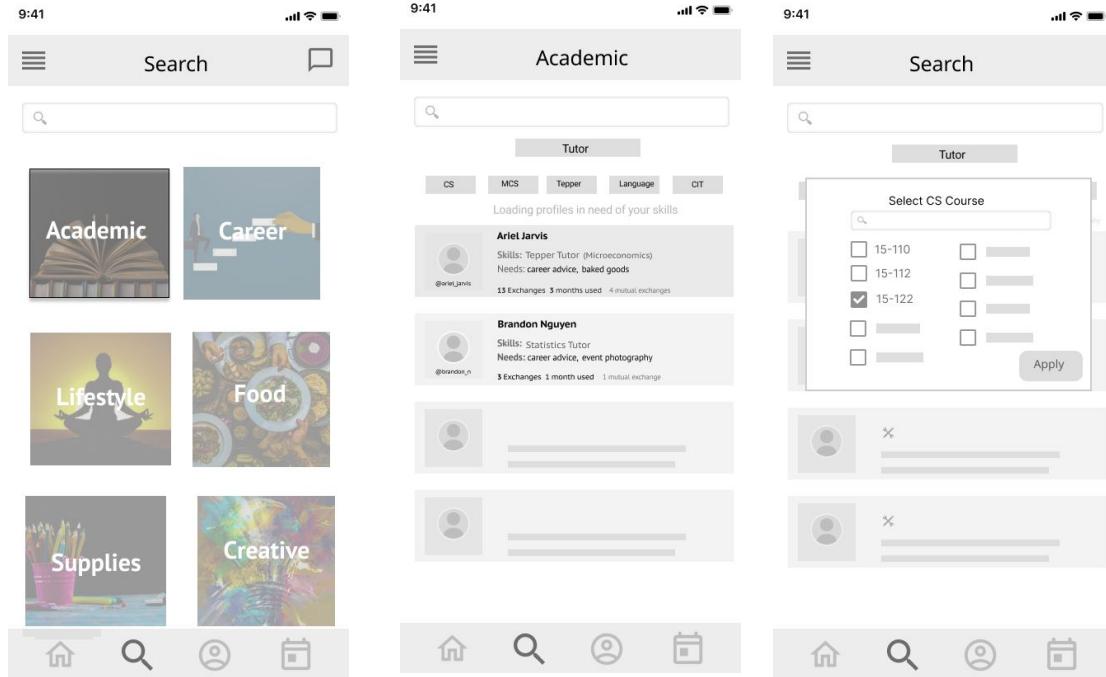


Prototype #2 - Search

This version of our app was very similar to the first prototype, except we added **more text and detail to facilitate effective user testing.**

Search

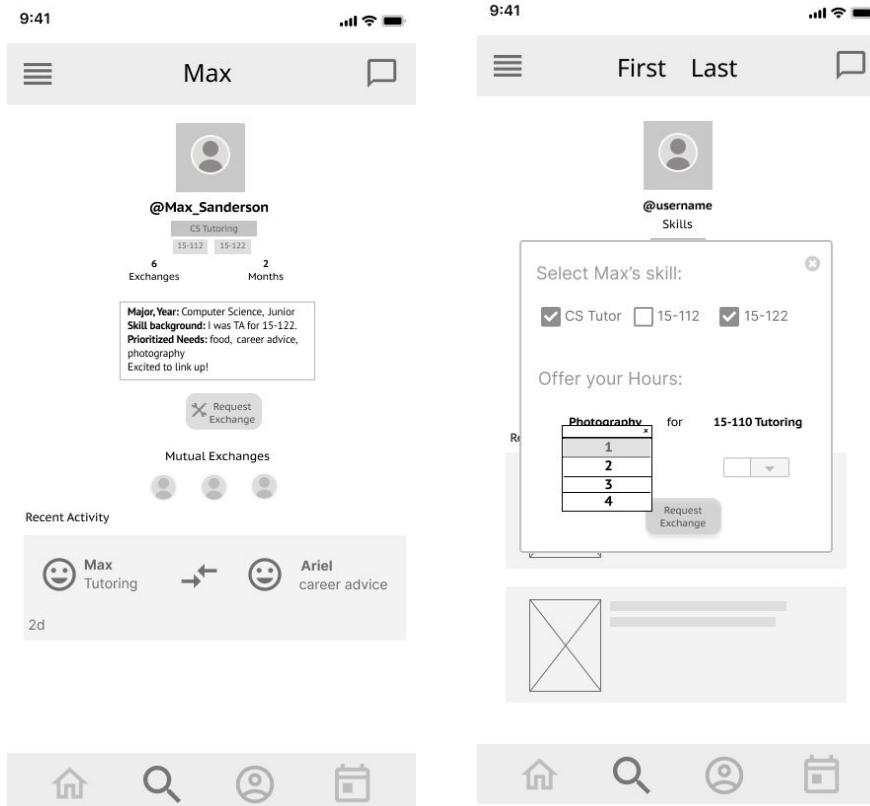
The search process was made clearer by adding specific categories and search options, as well as being able to view “real” profiles in search results.



Prototype #2 - Requesting an Exchange

Requesting an exchange

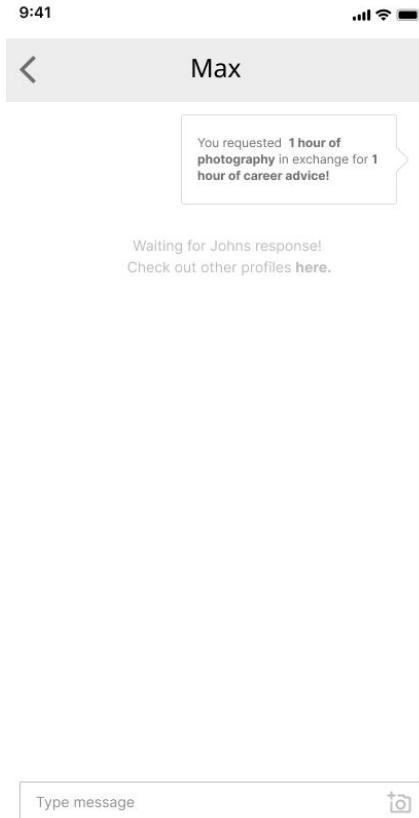
The profile was detailed by showing a short bio, recent transactions and a pop up menu for requesting the transaction.



Prototype #2 - Chat and Feed

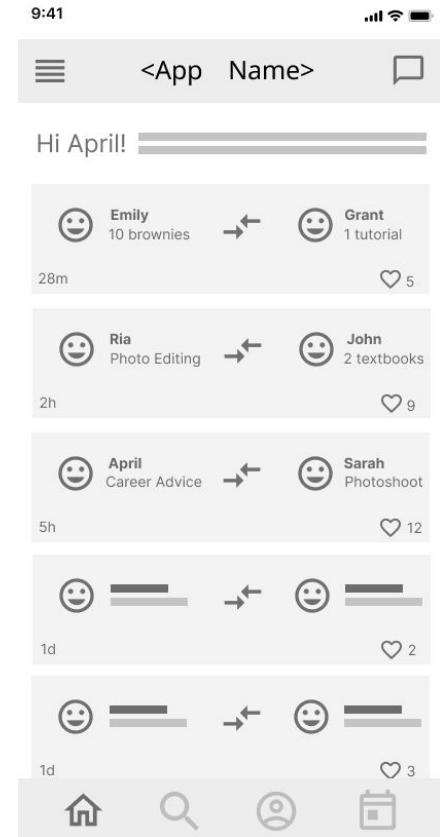
Chat

An automated message is sent to the user that you request a transaction from, after which they can accept or reject your request



Activity Feed

The activity feed shows recent transactions on campus with the option to “like” a transaction to facilitate community engagement



Prototype #2 - Testing Protocol

Below is the protocol that we followed for user testing on this prototype.

Introduction to set context:

Thank you for testing our timeshare app. This app is intended to connect students on a college campus through the skills they can provide others and request from others. For example, if Person A is really great at baking and needs help in a computer science class, and Person B has experience in that class and enjoys eating brownies, they can exchange their skills through this app. Today, we are going to have you perform some tasks that a user of our app would typically do. Please remember that we are testing the prototype, and not you. Do not worry if you have any difficulty completing the tasks.

Instructions:

You are a student who needs help in 15-122, a computer science course. As someone who enjoys photography, you are on the lookout for someone who is willing to tutor you in 15-122 in exchange for a photoshoot. Your task is to find someone who matches this criteria and send them a request. In your request, you want to exchange one hour of tutoring for one hour of a photoshoot.

Questions to testers:

What parts of this process did you find difficult or unintuitive?
Do you feel this app would be useful for college students?
Does this app seem like something that can realistically be used by college students?
What could have been changed to improve the experience of the app?

Prototype #2 - User Testing Results

The complete transcripts for this round of user testing can be viewed in the appendix (page 76). These are a few of the insights we had”

- Users felt it would be easier to just chat about when to meet and add it to their own personal calendar rather than be bound to the date selection and calendar function within the app.
- There was uncertainty around how to request the exchange after finding a profile that matches the needs.
- The bio, Recent and mutual transactions on someones profile helped build credibility and trust.
- The overall concept of the application was well received, given that we maintained simplicity in functionality.
- Call To Action buttons were placed very differently on each screen, which made the usage of the app a little difficult. A user suggested having a more linear flow, with CTA buttons around the same area on the screen for ease of use.

Prototype #2 - Points of action for Prototype #3

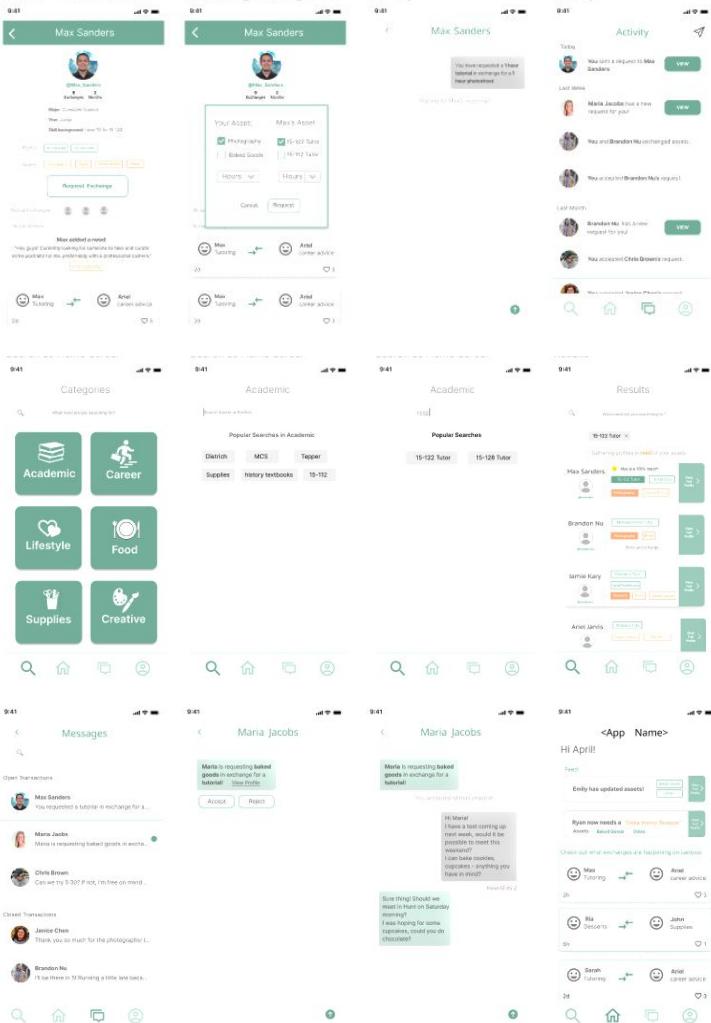
Studying the results of our user testing yielded the following points of action to be considered for the next iteration. These include-

- Eliminating the calendar feature and replacing the calendar tab with a separate tab for notifications.
- Shifting the chat feature from the home feed screen to the notifications tab.
- Adding updated needs and assets to the feed.
- Reducing the complexity of category hierarchy in the search and implementing assisted search instead.
- Indicating when a particular profile is a “perfect match”
- Detailing the notifications tab with buttons to quickly view details about a particular notification.
- Making the “request” button more prominent.
- And lastly, transitioning from black and white to colour.

Prototype #3

Mid-Fidelity Colour Screens

[Link to prototype](#)



Choosing a Color Scheme

Our aim was to display a fresh, youthful and approachable interface, while still having a sense of sophistication, and without being too bright and overpowering. From user testing, we found that the legibility of the screens worked well, as the screens were not overcrowded, so we aimed to keep this style and have a simple white background with hints of a brand color to highlight certain features.

Our first thought was to search for something in the realm of blue or green, as these tend to exude the emotions we aim to convey. We wanted to use more muted values that were not too bright. Furthermore we did not want to choose a strong green, as that can symbolize money, which is not the focus of our app.

We decided on this blueish green color, and chose an orange with a similar value tone to use as the accent color.

When implementing these into our app, the green color would display the assets that people have to offer, and the accent orange would display their needs.



#7CAB99

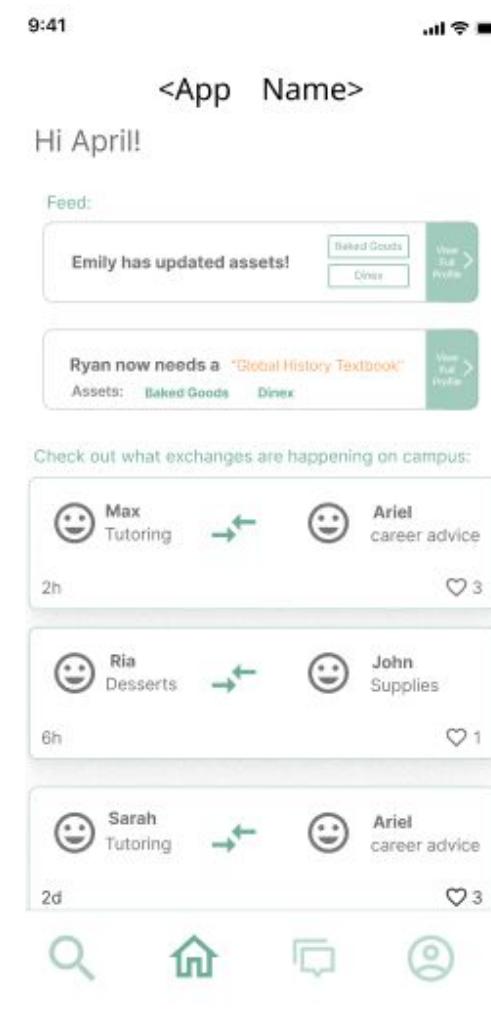


#F6B687

Prototype #3

In this next iteration, we increased the fidelity, made decisions with regards to color schemes, and further capitalized on user testing to make significant UX changes.

- We rearranged the ordering of the navigation tabs so that the home page is now the search, and the user clicks the next tab in order to reach the feed. This helps prioritize the main goal of our app: to guide students' search for resources.
- This solves an issue found in user testing: users took a long time to find that they should go to next tab in the navigation bar in order to search, since the start page was the feed.



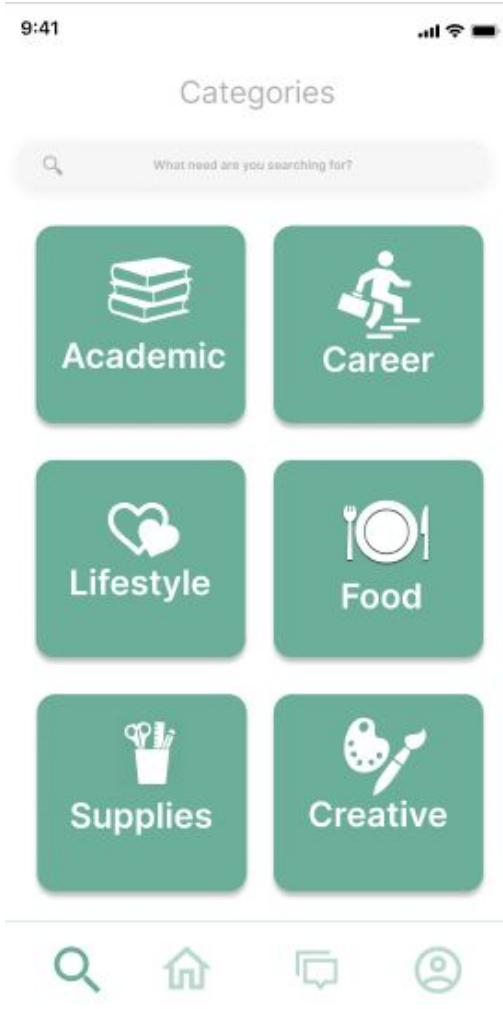
Representing the Categories

We chose to have a more abstract representation of the logos rather than previously used images in order to maintain a cohesive UI and also showcase the main color.

We chose these broad categories with guidance from user interviews. We took into account the resources that students said they would likely search for.

Furthermore, the search bar still remains at the top for a direct search option (of a profile or resource), in case a user doesn't know which category a resource belongs to.

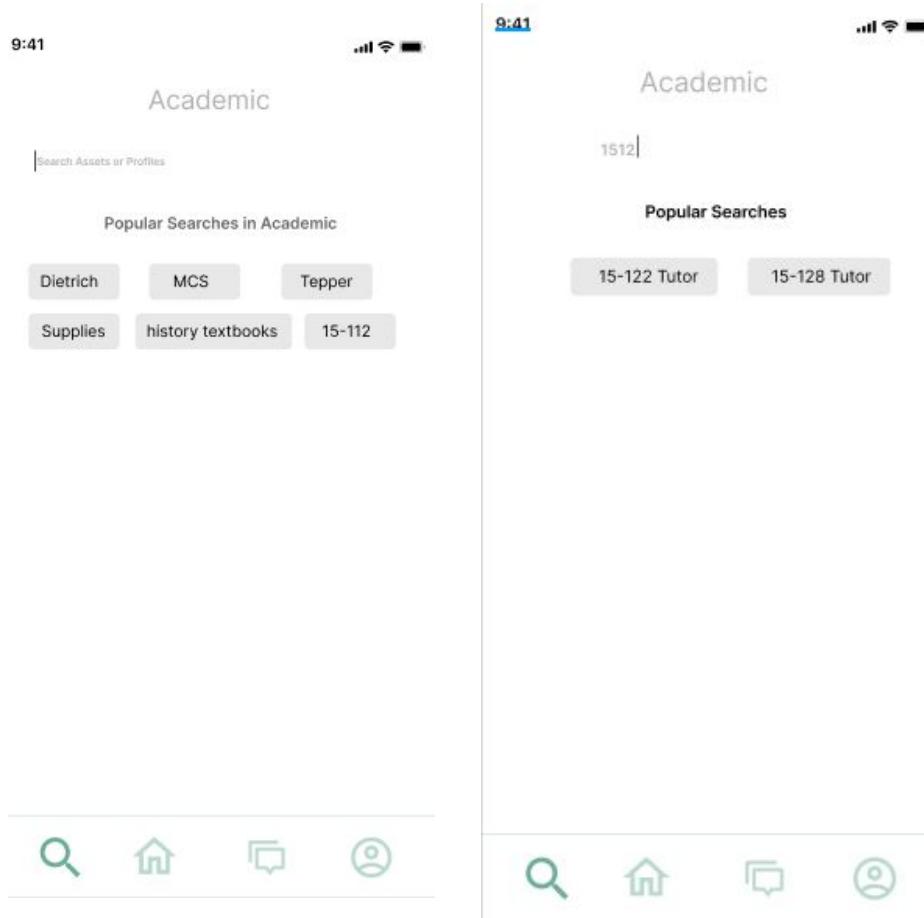
The categories act as a template and guide so people know the scope of the app.



Guided Search

Something we debated was how to best guide the users into finding the specific resources they need. We toggle with the idea of having subset categories within each broad category, but one reason this couldn't work is that many resources can belong to multiple categories, or none, etc.

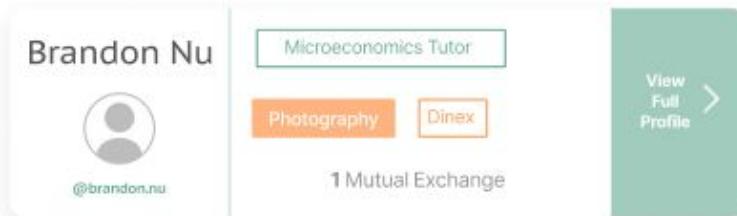
- As you type in the search bar, user-inputted tags appear, letting the user know what has already been put in the data-base
- This helped with our problem of trying to help the user search “correctly” i.e. not type in 15-122 when perhaps another user called it something else.



Displaying Profiles

We aimed to use colors to display assets and needs and avoid using too much text.

- Display the needs and skills color coordinated, and they appear bolded if it is matches your search
- Display profiles prioritized by a matching need to skill basis first, so that users can feel confident that they can provide value to the person they request
- Display a large “view profile” CTA, as this leads the user to be able to eventually send a request and interact



Brandon Nu

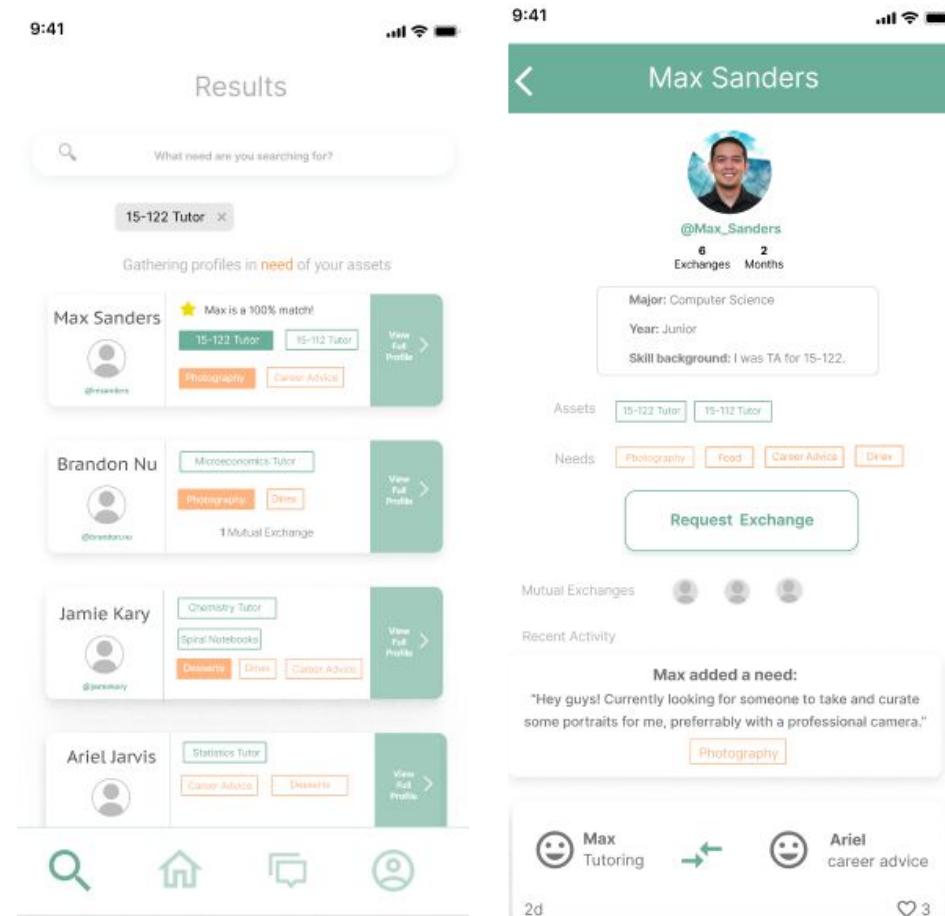
Microeconomics Tutor

Photography Diner

1 Mutual Exchange

View Full Profile >

@brandon.nu



9:41

Results

15-122 Tutor

Gathering profiles in **need** of your assets

Max Sanders

Max is a 100% match!

15-122 Tutor 15-122 Tutor

Photography Career Advice

View Full Profile >

Brandon Nu

Microeconomics Tutor

Photography Diner

1 Mutual Exchange

View Full Profile >

Jamie Kary

Chemistry Tutor

Spiral Notebooks

Photography Diner Career Advice

View Full Profile >

Ariel Jarvis

Statistics Tutor

Career Advice Desserts

View Full Profile >

Request Exchange

Assets 15-122 Tutor 15-122 Tutor

Needs Photography Food Career Advice Diner

Mutual Exchanges

Recent Activity

Max added a need:

“Hey guys! Currently looking for someone to take and curate some portraits for me, preferably with a professional camera.”

Photography

Max Tutoring

Ariel career advice

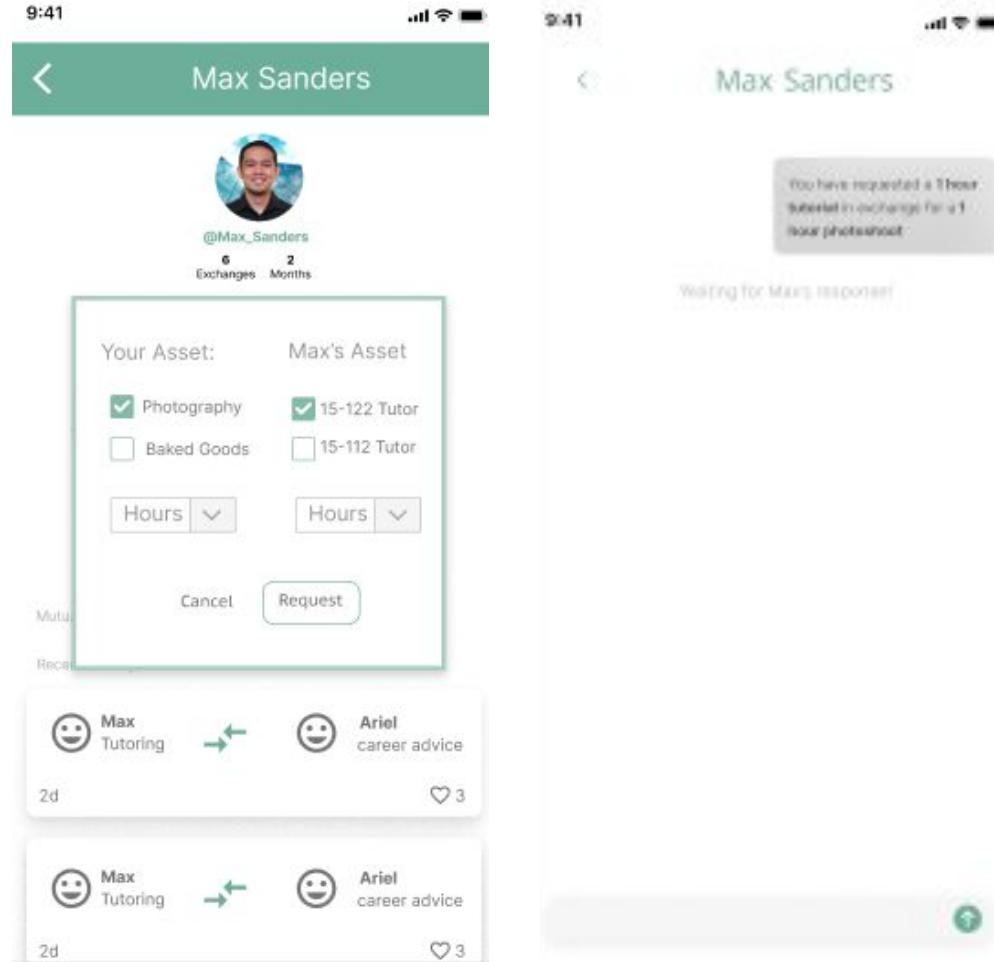
2d

3

In-App Exchanges

Upon clicking request exchange on someone's profile page, the user selects which assets they'd like to exchange, and how much of each.

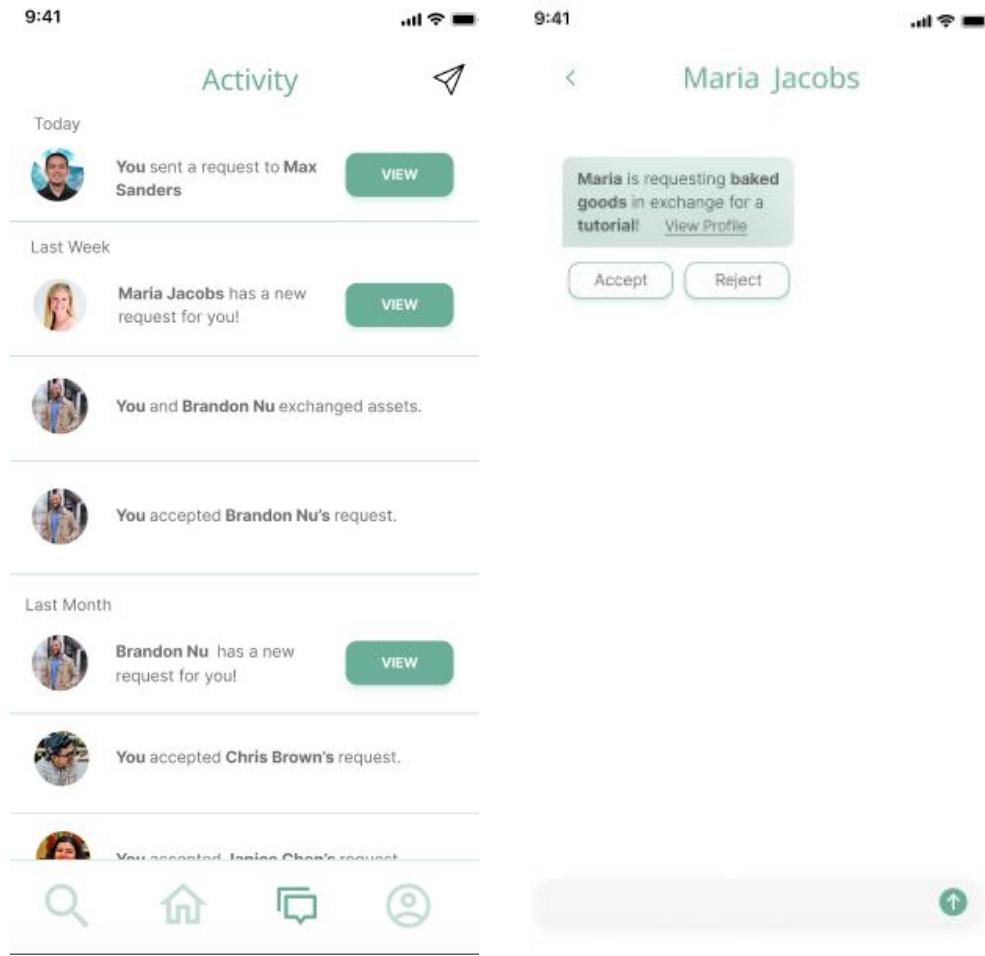
Upon requesting, an automated message is sent, in order to initiate the conversation to be had if the request is accepted.



Managing Exchanges

Removed the calendar Tab:

- Instead of having an in app calendar, we realized that most users put things in their own calendar.
- We still felt it was necessary to have one tab dedicated to keeping track of your own activity and paired this with an in-app chat feature.
- New requests show up as messages in the Activity tab.



Other small changes

Moved the hamburger menu to just be within your own profile tab. It is not needed on the front page, as some users thought it was a menu that could aid in searching, but really it would just contain privacy settings, push notification settings, etc.

We changed the phrasing from “skill” to “asset” because this app allows people to also offer what they have (such as supplies, textbooks, etc.) and is not limited to just skills.

User Testing on Prototype 3

The full transcript from our testing can be viewed in the appendix (page 79), but a few of our key takeaways were as follows.

Things that worked for the user:

- Categories helps them structure the idea of the help you need
- Seeing what other users are exchanging in the feed helps them gauge if what they have to offer makes sense and has value
- The personal activity feed where you can see exactly what you did, like a personal receipt
- The color and layout were visibly pleasing and legible
- Displaying “needs” in a different color was helpful in distinguishing

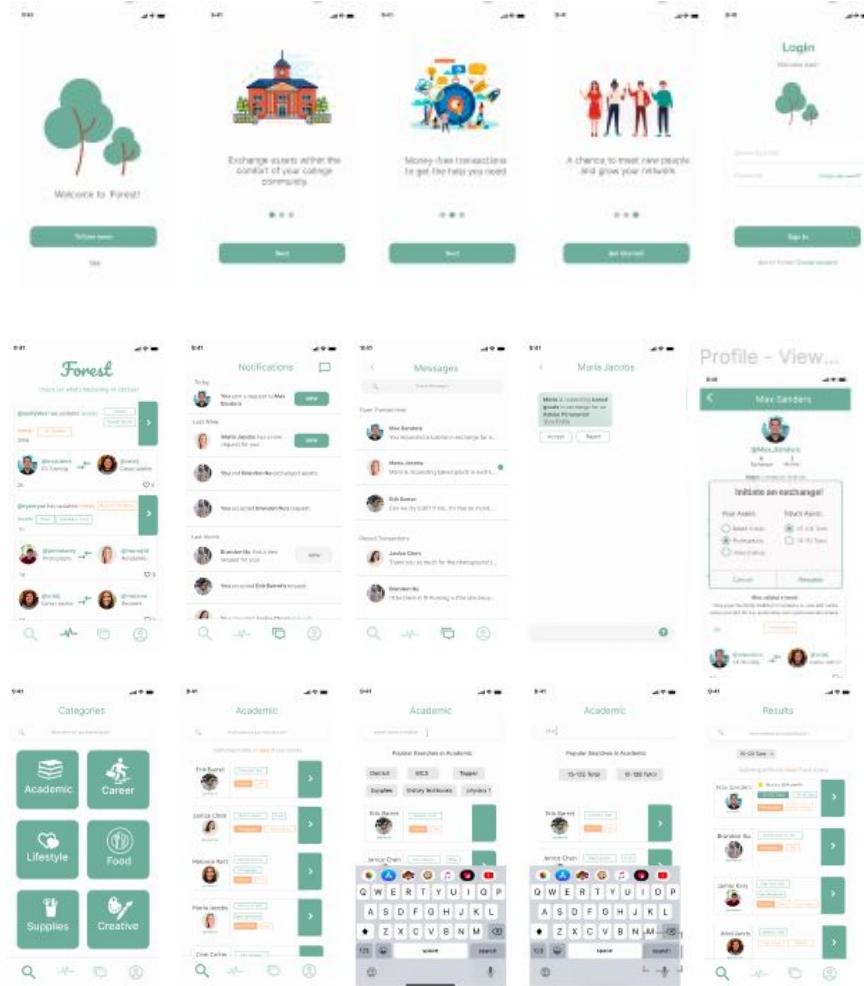
Scope for improvement:

- Change the color of the “view” button to let the user know it has already been clicked or has not been viewed yet
- Make the green “View profile >” on the profile card more bold
- Implement a “complete transaction” button to put your transaction in your closed transaction history
- Make the tags, font, etc. on the profile page bigger
- *Come up with a name!
- Changing the “home” icon as that screen wasn’t actually the home screen so it was misleading for our users

Prototype #4

High-Fidelity Color Screens

Link to prototype



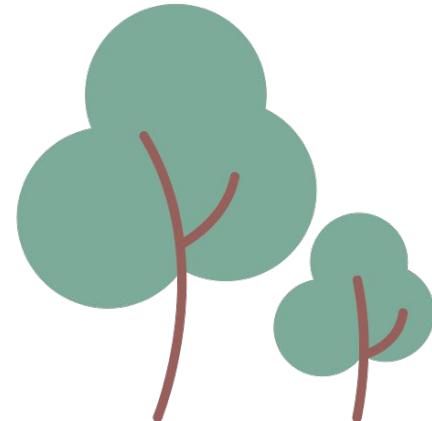
Application Name and Branding

While deciding on a name required much brainstorming, we felt it was a necessary step in the process. With our app, we aim to create a space where a wide mix of resources in a community can be found in one place. We wanted to find one word that captures this idea

A forest is associated with **growth** and **abundance**, and is home to a variety of **unique resources** all residing in one environment.

As CMU students, we witness daily how unique our peers are, and how each person has much to offer. In our app, everyone has something valuable to offer to this collaborative community. Furthermore, everyone is always looking for opportunities to expand their network and grow.

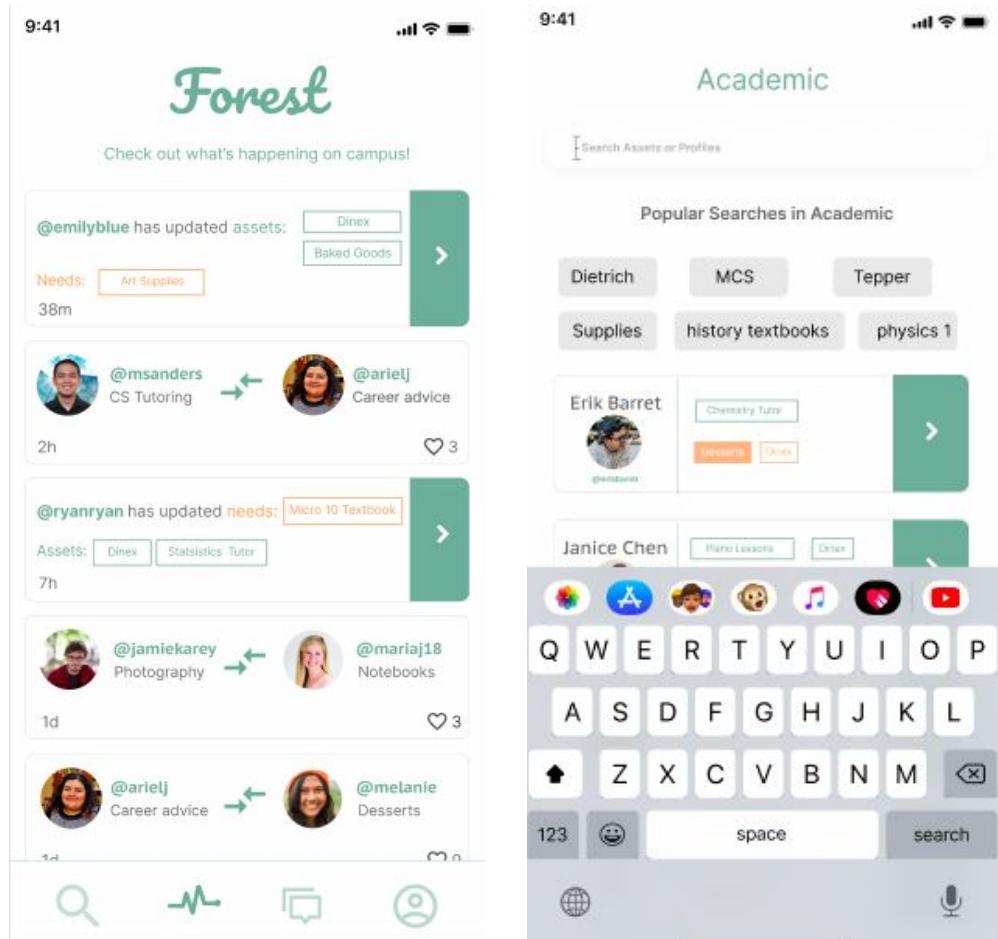
Forest



Background is slightly more gray, a subtle difference but helps create a more polished look.

Drop shadows on the cards removed, add thin strokes to make them pop instead. Removed the words on the viewing full profile CTA button, as it is intuitive enough as is

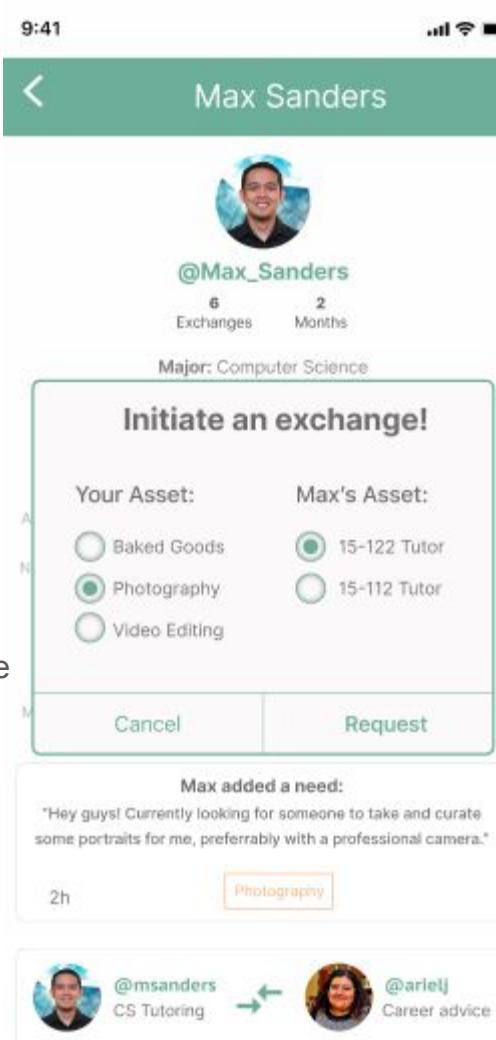
The feed is chronological, rather than having one section for updated needs/assets and another for activity between users on the app.



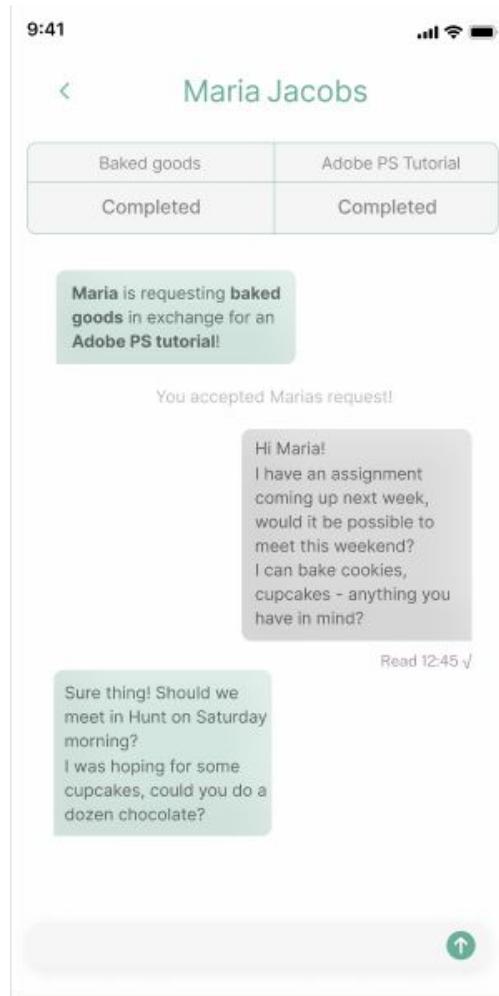
Blew up the size of information displayed in the profile page
scroll down to view the rest of their activity



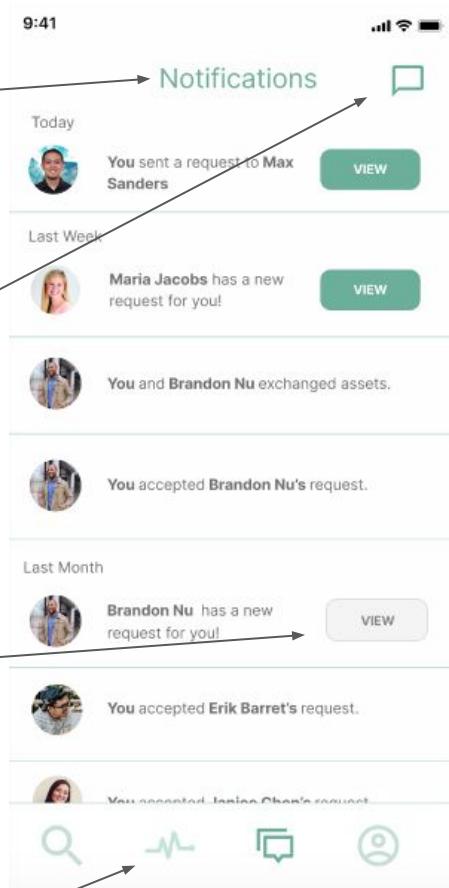
Request popup more compatible with iOS



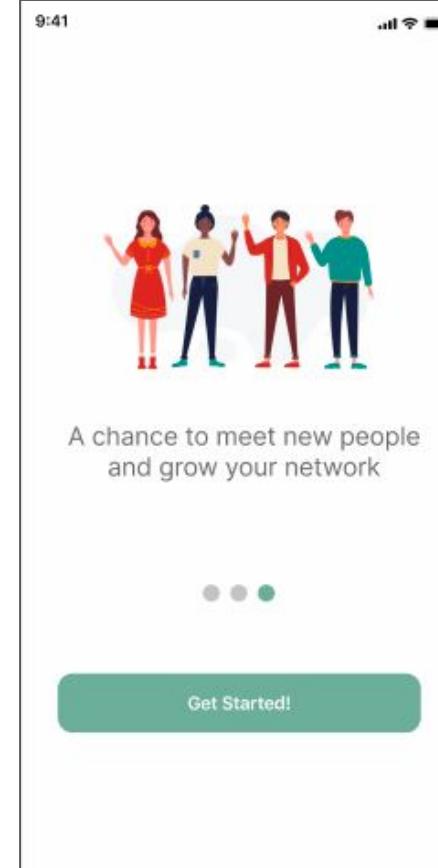
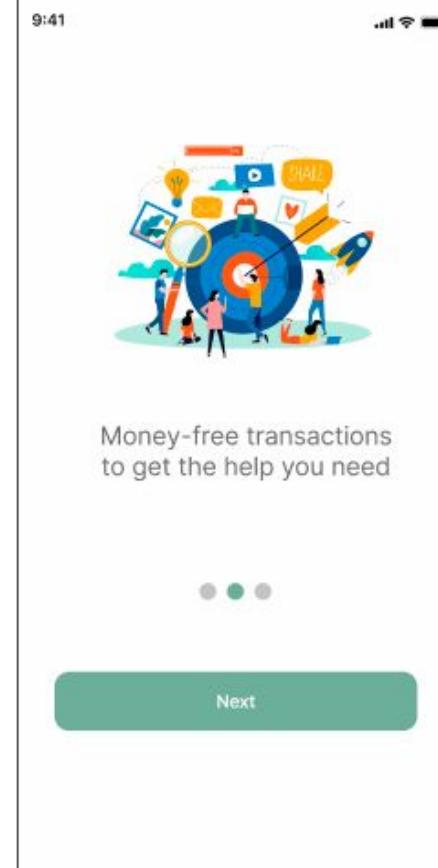
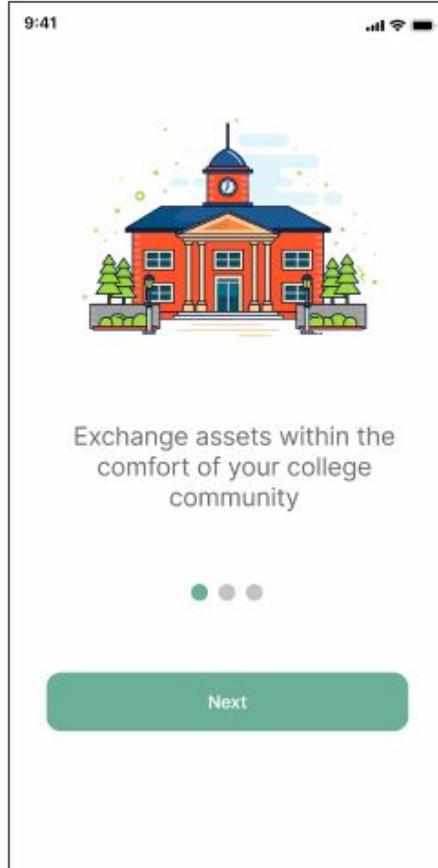
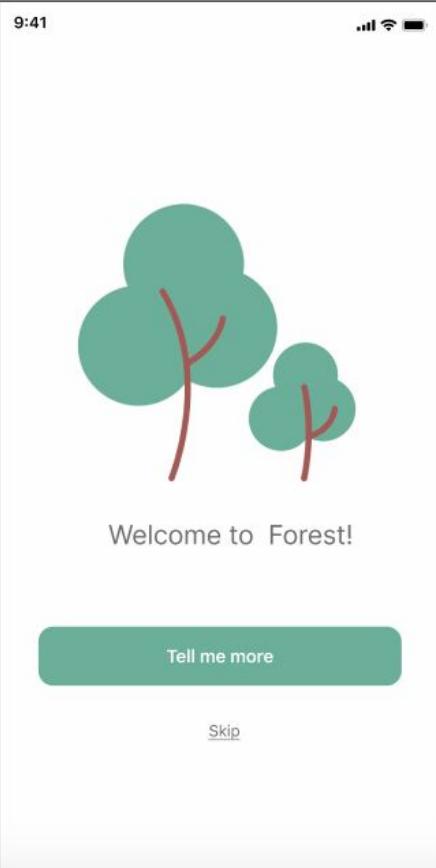
Complete transaction button within messages



Renamed the tab “Notifications” instead of activity, because activity could be confused with the activity feed page logo



Changed the icon for the feed page



An introduction to Forest, upon opening the app for the first time.

Login with your university
information

9:41



9:41



Login

Welcome back!



University Email

Password

[Forgot password?](#)

[Sign in](#)

New to Forest? [Create account](#)

Create account

Just a few steps away from sharing your
skills!

Name

University Email

Password

I agree with our [Terms and Conditions](#)

[Create account](#)

Already have an account? [Sign In](#)

Post-Pitch User Insights

Positive feedback on the branding, explanation of name, and aesthetic/color choices

Feedback:

- Make requests you sent and requests you receive be more visually distinct in the notifications tab
- Students can see themselves using this and finding it practical and really good for new students or maybe less extroverted students.
- The green arrow for each person is a little distracting. Perhaps use more color in place of words in certain parts.
- Likes the simplicity, some tags are small and harder to read.
- Like that it is an exchange without credits because it makes it not just a one way exchange.
- Current activities feature is essential, and the colors are very neutral and soft and easy on the eyes which is important for an app like this which you would use quite often.

Design Trade-offs and Reflections

We realize that a perfect match (as in the case of the prototype) is not always going to exist. In general, users may still request someone that doesn't have the need matching their skills. The messaging feature helps with this. Users can send a message in the chat to offer and discuss alternatives. We found through our research that people still find it rewarding to help each other even if they don't get something essential in return.

With the introduction of remote online collaboration, we had to adjust to working virtually. Not having the benefits of the natural back and forth of an in-person working team, such as being able to flesh out ideas on paper in front of one another was something we realized we had to adjust to. For instance, some of us prefer hand sketching in front of one another to illustrate our creative ideas. Overall we enjoyed finding new ways to achieve this through Zoom, and worked well despite having to adjust to different time zones.

Appendix

Domain Research Protocol

Interview Protocol/Questions:

- 1) Have you ever wanted to *get* a service in exchange for something other than money?
- 2) Have you ever wanted to *provide* a service/share a skill in exchange for something other than money?
- 3) What do you think of this existing xyz timbanking interface?
- 4) Within what communities that you are a part of do you think an app like this would be useful, if any?
- 5) Do you see any potential problem with this system of time banking?
- 6) What size/radius do you think would be most ideal for a time bank to cover? An immediate distance? Wide reaching?
- 7) Think of a community you are a part of. What is a problem you associate with it? What is missing?
- 8) Within that community, through what means and how often do you communicate?
- 9) What is a really great thing about that community?

User Testing Protocol

Introduction:

Thank you for testing our timeshare app. This app is intended to connect students on a college campus through the skills they can provide others and request from others. For example, if Person A is really great at baking and needs help in a computer science class, and Person B has experience in that class and enjoys eating brownies, they can exchange their skills through this app. Today, we are going to have you perform some tasks that a user of our app would typically do. Please remember that we are testing the prototype, and not you. Do not worry if you have any difficulty completing the tasks.

Instructions:

You are a student who needs help in 15-122, a computer science course. As someone who enjoys photography, you are on the lookout for someone who is willing to tutor you in 15-122 in exchange for a photoshoot. Your task is to find someone who matches this criteria and send them a request. In your request, you want to exchange one hour of tutoring for one hour of a photoshoot.

List of user tasks (do not share with tester):

1. Click on search tab
2. Choose “Academics” tab
3. Choose subcategory “tutoring”
4. Request an exchange (set durations)

User Testing Protocol (Cont'd)

Questions to testers:

1. What parts of this process did you find difficult or unintuitive?
2. How useful do you feel this app would be for college students
3. Does this app seem like something that can realistically be used by college students?
4. What could have been changed to improve the experience of the app?

Closing comments:

Thank you for testing our app prototype.

Possible Second Task:

From start page:

You want to see everyone else's latest updates, what they've been doing on the app. Find that.

Should go from search at bottom to home on nav bar.

Sending a request:

- Click on search bar
- Choose category
- Choose subcategory
 - *Make a screen for this*
- Request exchange
 - *Set first transaction screen*
 - *Chat with automated message*

User Testing Notes: Round 1

Interviewee 1

- Got up to Max Sanderson very quickly but took time to request exchange
- Was looking for somewhere to input that she was looking for photography
- Make request exchange a different color or bigger
- Difficult / unintuitive?
 - First part to click academic was good to need a tutor
 - CS was right at the top which was good
 - Filter by 122 was good
 - Wasn't sure what the drop down is supposed to do

- Useful?
 - Feels like "there's a market for this, for sure"
 - Nice middle ground between asking a friend and Academic Development
- Improve?
 - Finds pop up screen weird "does know exactly what it is"
 - Doesn't see the point of selecting Max's skills when she already searched for this skill
 - Felt that it was cluttering it
 - Liked the extra details on the page (recent activity, mutual exchanges, etc.) when she was looking at things after completing the user story

User Testing Notes: Round 1

Interviewee 2

- Only cared in first case that it had 15122, not about other info. Course is priority when seeing which profile to click.
- Very useful for college students, don't have to spend a lot of time saying do u know this person who can help me? But people would have to be actively engaged.
 - Contacts synced
- Changes:
 - It's good that the skill searched for is bolded, if not there it'd be good to have it show alternatives. Maybe either make it really obvious, or have it say "match" or "partial match".
 - Helpful to see what their activity is so maybe you can ask that person (if you knew them)
 - I tend to look at the top of the screen so I thought that's where I should search it.
 - A linear system could help, where the places you click are consistently around the same place on screen, rather than starting at the bottom, etc.
- Rating system?
 - Problem could be why would you trade measurable
 - Have a page that explains how it works.
 - Place to edit you needs as they change.
 - Maybe post that your need changed or that you need it by certain time?

User Testing Notes: Round 1

Interviewee 3

- Was skeptical when she heard about the concept in our previous interviews, but it makes more sense if its in a college setting
- Went straight for the chat button from the first page
- Liked that you could see the persons major, helps build credibility for the fact that they're good at what they're doing
- "Ah it's sort of like tinder"
- Not sure what I would offer on this app, do I have any skills that would work?
- Its cool that I'll probably end up learning some new skills as I try to offer them to people
- It would be helpful to have the names of the courses instead of just the number
- (What do you think is the best way to decide when to do the tasks?) -We're college students, we're flexible, it might be easiest to just talk about when we're meeting
- Very Clear, did not need much instruction, knew how to navigate
- Liked familiarity of the interface
- Would be nice if the skills were more specific. If I'm offering photography, can i specify what kind of photography?
- Had trouble with choosing number of hours (thats probably just a prototype issue)
- Would have to maintain simplicity for it to work for something that could also be done with just a conversation

User Testing Notes: Round 2

Interviewee 1

- While on the feed, wants to click on profile of Grant because it says tutorial and wants to see what he tutors, “maybe he tutors 15-122”.
- First thing that she goes to is the hamburger menu or message button. Goes to the top of screen first
- Finds search, then academic right away. Looks at the profiles and then sees none are 15-122, so she clicks CS and apply.
- Sees he needs photography and has 15-122 bolded, wants to contact him but isn’t sure how. (Maybe add a click here to view)
- Request exchange was easy to see
- Chooses 1 hour, but didn’t know where to close it.

User Testing Notes: Round 2

Interviewee 2

- Task 1
 - Hit academic quickly (few seconds hesitation)
 - Search was intuitive
 - Clicked on first
 - Might help if side arrow was a bit darker, bolder color
 - Colors “make sense” but didn’t intuitively know what they mean (e.g. skills shared vs skills requested)
 - Didn’t immediately figure out where request exchange and hours was
- Task 2
 - Found home page after a hint
- Unintuitive?
 - Selecting the amount of time (figma thing)
- Useful?
 - Doesn’t know if he would use it
 - Could see somebody using it -- somebody who does a lot of stuff and doesn’t have a lot of time to do certain things (e.g. cooking) -- could be useful in marketing this app to stakeholders
- Improve?
 - Doesn’t understand why these are the six categories
 - Have broader categories

User Testing Notes: Round 2

Interviewee 3

- Hit academic quickly
- Hit 15-112 instead of 15-122 but then took her to 15-122
- She **likes** the categories (compare with previous)
- She recognizes that Max is 100% match and that's why he chooses them
- Thinks mutual exchanges are anonymous bc of icon
- Request exchange - intuitive
- Notes that assets are prefilled
- Hours filling intuitive
- Likes the automatic message!
- Second task
 - Not intuitive without having direction to go to a screen where there are icons at the bottom

- Unintuitive?
 - Liked initial categories, helps you structure your idea of the help you need
 - Compares home to Venmo history page; likes it to gauge if what she's offering
 - Likes personal activity feed where you can see exactly what you did; makes sure you didn't do anything accidental
 - Doesn't understand why Max has a handle
- Useful?
 - Thinks it would be really helpful
 - U get told in college to reach out to resources but it's hard to motivate yourself to take that step, app motivates you to take that step in a fun way
- Improve?
 - Activity page
 - View request and view chat buttons could be different colors
 - Change color if it has been viewed