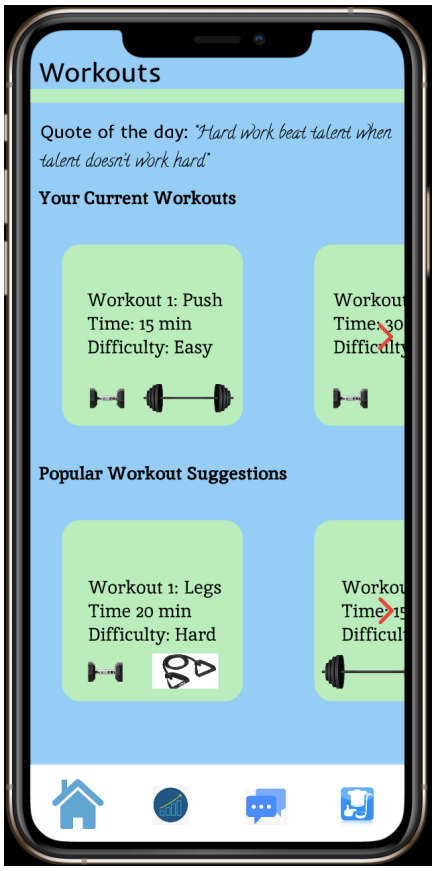
UX Case Study: Fitness and Exercising

Evan Chou | COEN 163: Web Usability | March 21, 2021



The Problem

Exercising and working out has been a big part of many college students' lives throughout their 4 years of undergraduate studies. Students find themselves going to school gyms to keep themselves fit, socialize, or simply to take a break from all the required studying. At Santa Clara University (SCU), the Malley Center is almost always lively, opening on most days at 6:30am to 12am. To many of our friends and peers, the Malley Center is a place where we can leave feeling satisfied and energized, ultimately improving our overall mood and health.

Unfortunately, due to the Covid-19 outbreak, all SCU students are sent home and gyms around the world are closed to follow health and safety guidelines. Students who often exercised at gyms are unable to exercise and being trapped in their house has caused a lack of motivation and socialization, resulting in decreased fitness, health, and poor diet. Many students at SCU have found it difficult to both lead a healthy lifestyle and stay motivated to exercise. In creating a fitness/exercising application that focuses on home fitness and motivation, we can not only help maintain a student's exercise routine, but also guarantee a healthier and happier lifestyle.

Target Audience

Our original audience was going to be all college students, but after discussing with each of our group members, we decided to target SCU students only, as we're most familiar and will be conducting a huge part of this study with them. Furthermore, we are not limiting the audience to only freshman or a specific grade because we feel that all four undergraduate level students spend a similar amount of time at the gym and believe that exercising is equally important to them. Following current trends, today's college students are very technologically intelligent and won't have trouble with applications that require a lower level of usability, so we don't have to worry much about disabilities. Most importantly, an application that includes chatting and socializing will attract this target audience, as social media apps are currently embedded in their lives. As a result, our application shouldn't have any problems requiring users to have a mobile device.

Team & Roles

Our team consisted of four members: Evan Chou (me), Morgan Fleshren, Alex Fang, and Rolan Afaga. Before beginning research, we decided for everyone to have equal roles rather than having one person be a leader. This allows us to give each other feedback without feeling uncomfortable and causes us to push each other when needed to complete certain tasks. In terms of Usability Testing, we decided for Morgan to be our facilitator, Evan and Alex to be note takers, and Roland to be the observer. Ultimately, we found no trouble in communicating with each other and completing tasks on time.

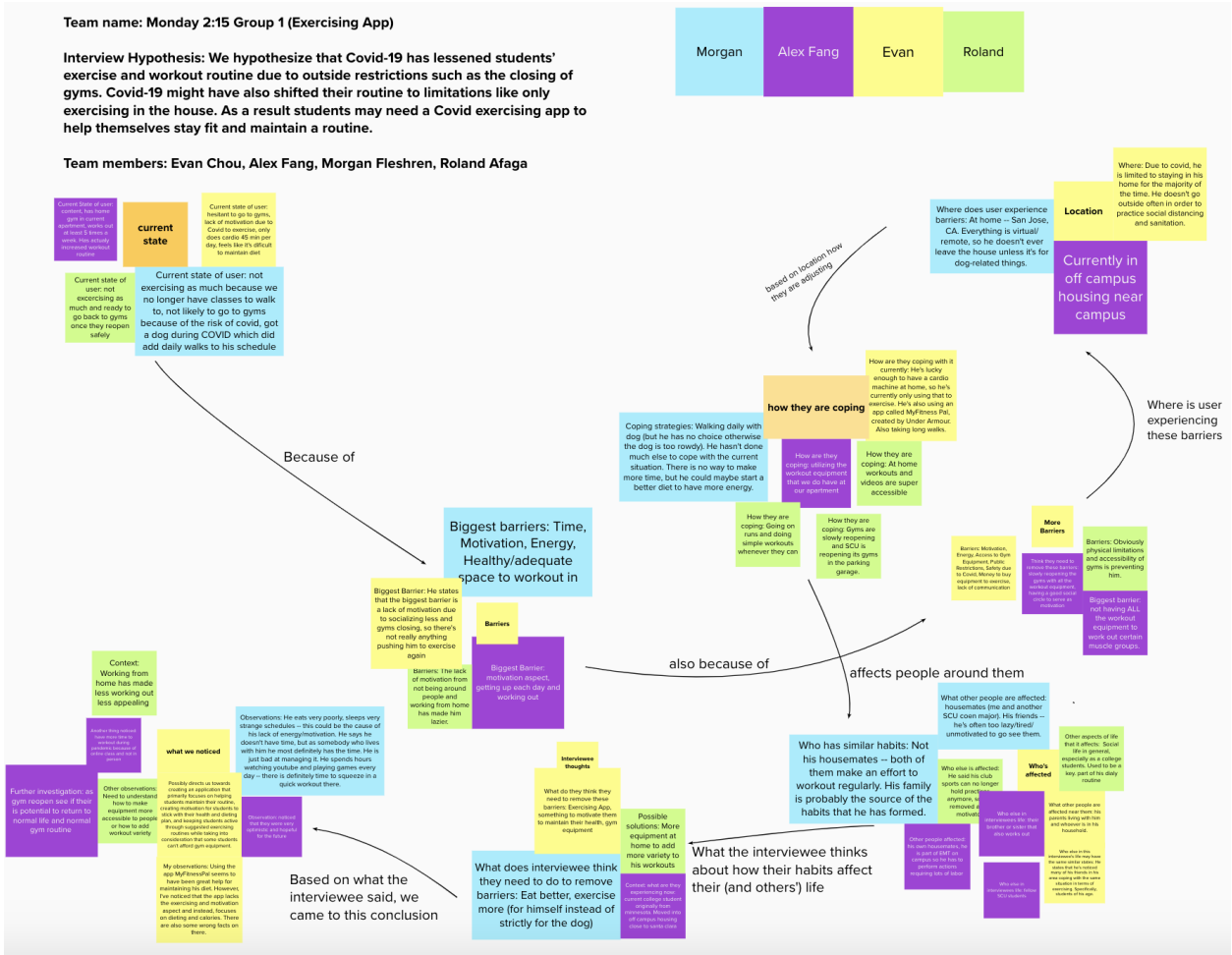
Research

Interviews

As a group, we each individually conducted and recorded an interview over Zoom calls (4 total interviews). We created an interview question guide to help us make sure the interview went smoothly and remind us of anything significant that we might have missed. The objective of the interview was to understand how Covid-19 has impacted college students' exercise and workout routine. We wanted to uncover current student life, behavior, and how their current lifestyle has changed due to the pandemic. More importantly, we wanted to see how they have been coping with public exercising restrictions. Our guiding motivation in this research is to uncover what students desire to help them maintain their exercise habits and routine.

We hypothesized that Covid-19 has lessened students' exercise and workout routine due to outside restrictions such as the closing of gyms. Covid-19 might have also shifted their routine to limitations like only exercising in the house. As a result students may need a Covid exercising app to help themselves stay fit and maintain a routine.

Learning about their problems and needs by real students at SCU helped us identify the real struggles and challenges they go through and how we can tailor and create an application to eliminate them. After conducting the interviews, we created an affinity map that proved our hypothesis to be correct.



Struggling Points/Problems:	Goals and Motivation:
- Lack of motivation to exercise - Lack of equipment - Hesitant to go to gyms even after reopening - Not knowing exercises that don't require gym equipment - No energy to do anything - Working out from home has made working out less appealing - Doesn't know how to manage time - Help with dieting	- Wants to stay fit - Improve overall health - More time to workout since all the time is spent at home - Socialize more since Covid-19 has isolated students - Maintain a daily routine - Eat healthier

Quotes from Interviews:

"I think the current equipment from home is far from sufficient and would highly prefer having access to gyms and different equipment. Perhaps I don't know that many home exercises."

"It's difficult controlling my diet and what I eat at home for the majority of the time. My options are limited and it's hard to keep track of my daily routine."
"I feel like the lack of communication and socialization with others is making me feel isolated and on my own most of the time."
"I feel frustrated about the lack of motivation."
"There aren't any apps that combine dieting and food with fitness and exercising."

Competitive and Comparative Analysis

As we all know, there are already many fitness/exercising applications for audiences of all kinds. Conducting competitive and comparative analyses not only help us discover what is working and what isn't, but also allows us to create something that sets our application apart from others. We can further tailor the application to our specific target audience (SCU students). After researching reviews of certain similar apps and then navigating through them, we created a table showing what the apps lack, have, and not have on categories we feel are important from our interviews.

	Map My Fitness	**Home Workout**	**Planet Fitness Workout**
No equipment required	✔	✔	✘
Set your own goals	✔	✔	✔
Geo Mapping	✔	✘	✔
Compete with friends	✔	✘	✔
Integration with wearable technology	✔	✔	✘
Track your progress	✔	✔	✔
Record own recipes and recipe recommendations	✘	✘	✘
Workouts/Exercises	✘	✔	✔

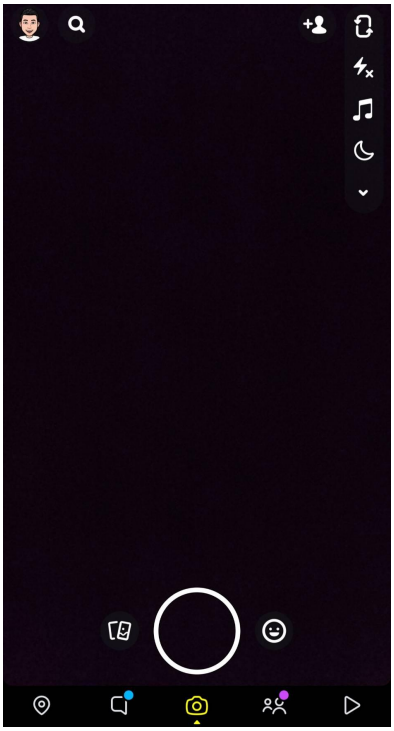
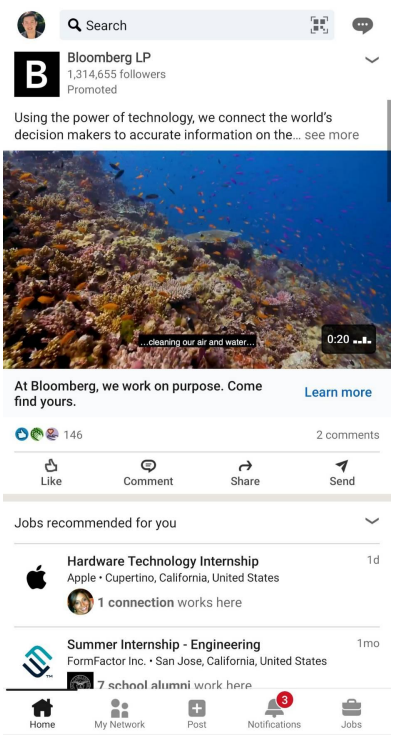
After this, we decided to conduct further analysis on Map My Fitness, as it seemed to be the application with the most features that users desired. We noticed that the app has great features that makes it a great fitness tracker for the following reasons:

1. It monitors what types of exercises the user does
2. It records the repetitions, timing, and how much calories the user is burning
3. It tracks the user's food intake and has a vast catalogue of different types of food where he can scan the QR code, allowing him to keep track of his daily food intake

However, a flaw about the app is that the majority of the functions have to do with tracking and not so much on exercising and food. In terms of food, it only has dieting with calories rather than providing the nutrition values. There are also no exercise suggestions or exercise routines and notifications to motivate the user. Most importantly, it seems like the app has some wrong facts. For instance, it displays boba (popular Taiwanese drink) only having 200 calories when boba calories vary depending on the size and type of drink. There are only sizes for popular products such as In N Out burgers and if you're trying to find a niche product, you need to guess the amount of calories yourself.

Further Research

Since our target audience was SCU students, we conducted further research on what makes social media apps attractive to enhance our mobile app design. Specifically, we looked at the popular college student applications: Snapchat, Instagram, and Linkedin. The simplicity of the apps and having large amounts of space proved to be the key in enhancing the usability experience for students. Moreover, an easy to understand navigation bar at the bottom was the similarity trend in all 3 applications. We also researched their chatting functions and what they used to make it easier to connect with others.

Snapchat	Instagram	Linkedin
		

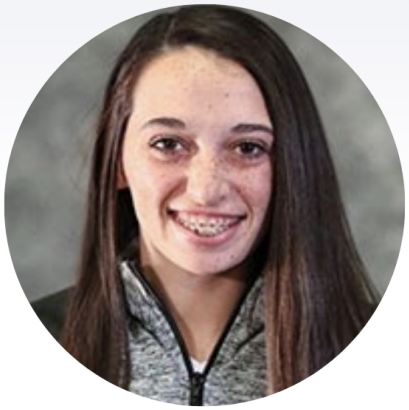
Personas and Journey Map

After conducting research and interviews about pain points, needs, goals, and trends, we created three personas representing the essence of the problem we're solving. This helped us in developing an app tailored towards different SCU students' needs.

Persona 1

I am Sarah Smith

- College Freshman
  - Just moved away from parents
- Income: $1,000/month
- Web Design Engineering Major
- Struggles to stay motivated
  - Needs reminders

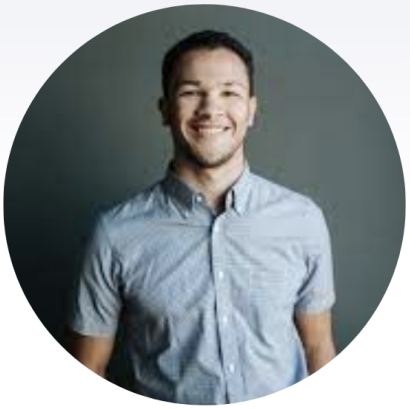


Sarah Smith is a 17 year old female college freshman, currently located in Santa Clara, California. She just moved out of her parents' house and moved close to campus. She's currently struggling with remote college and always forgets to take care of herself. She's a full-time student at Santa Clara University and a part-time cashier at the nearby Safeway. Her major is Web Design and Engineering and her income is $1,000 per month.

Smith's main goal is to get more motivated to workout. Some barriers that are preventing her from achieving this goal is that she's forgetful (needs reminders to get her into the app to workout) and she needs the app to be more motivating so she is more willing to stay on it instead of resuming responsibilities. Lastly, her tech skill set includes being proficient in using the iPhone, Laptop, and being fluent with learning new technologies due to her major.

Persona 2

I am Jay White



- College Junior
- Income: $200/month
- Accounting Major
  - OK with technology, but not great with *new* technology
- Has trouble cooking balanced meals on a budget
  - Limited time

Jay White is a 20 year old male college junior, currently located in Santa Cruz, California. He is living at home during the pandemic to save money on rent. His parents make him cook for himself and he has trouble cooking balanced meals. He's a full-time student at Santa Clara University and is majoring in Accounting. His income is $200 per month from his parents.

White's main goal is to eat healthier in order to gain more energy day-to-day. Some barriers that are preventing him from achieving this goal is that with no job, he finds it difficult to afford healthier foods. Ordering out is also really expensive. Furthermore, he finds cooking, shopping for food, and finding healthy recipes taking a lot of his time. Lastly, his tech skill set includes being proficient in using the iPhone, iPad, MacBook Pro. He's not great with learning new technologies, but he's good at what he does know.

Persona 3

I am Cameron Peters

- College Senior
- Income: $1,500/month
- Psychology Major
  - Not familiar with most modern technologies
- Limited space to workout
  - Lives with housemates

Cameron Peters is a 21 year old male college senior, currently located in San Jose, California. He lives by SCU Campus with other college students and is afraid of going to gyms out of fear for Covid. He's a full-time student at Santa Clara University majoring in psychology. He's also a part-time intern with an income of $1,500 per month.

Peters' main goal is to find a more structured at-home workout that does not require a lot of equipment. Some barriers that are preventing him from achieving this goal is the SCU gym closing, his new fear of going to gyms, and limited space to workout. Since he is living with other college students, housing is very cramped and there is no space for bulky equipment. Lastly, his tech skill set is android and he's not really great with technology. He gets frustrated quickly, so he needs something that is really simple and an easy-to-understand application.

Tasks and Brainstorm

With our interviews done, personas created, and problem statement defined, we were able to go through a tedious brainstorming process to determine how we might solve the students' needs and what exactly to tailor our prototype to. Before brainstorming, we thought about four key tasks to focus on:

1. Track progress for both working out and food intake
2. Collect achievements and share/compete/socialize with friends
3. Find quick, healthy recipes and be able to store your own recipes
4. Follow along to workouts that don't require much equipment

Step 1: Clear Problem Statement from User's POV - 5 minutes

College students need a way to lead a healthy lifestyle and stay motivated to exercise because there is lack of motivation and limited house workout equipment due to COVID-19 restrictions.

Original: Due to COVID-19, many students at SCU (WHO) have found it difficult to both lead a healthy lifestyle and stay motivated to exercise (PROBLEM). Pre-COVID, most students got daily exercise by walking in between classes, working out at the gym, and eating balanced meals with access to a dining hall. Now, due to county regulations and COVID-19 restrictions, many students are stuck in their house (WHERE) every day of the week (WHEN).We propose an app to help guide SCU students in maintaining their exercising routine and living a healthier lifestyle (SOLUTION). This includes features for structuring workouts, motivation to eat better and exercise, and new indoor workout or exercise suggestions for students that can't afford gym equipment.

Step 2: Brainstorm HMW questions - 5 minutes

Team Member Name: Evan

How Might We...

1. How might we motivate students to workout from home?

2. How might we ensure that the application is usable for all students (those that can't afford any equipment vs those that can)?

3. How might we create workouts and exercising routines that don't require gym equipment?

4. How might we make our application appealing to those that don't often exercise?

5. How might we save user data for them to reference their past and current routines?

6. How might we remind students to exercise if they forget?

7. How might we make it fun for students to exercise?

Team Member Name: Morgan

How Might We...

How might we add features to improve a workout app?

How might we generate a motivational environment in the app?

How might we curate workouts that do not require much gym equipment?

How might we send convincing reminders/ alerts to remind user to workout?

How might we design the app to be as usable as possible (people of any background should be able to enjoy app easily)?

How can we cater different workouts to different people? Maybe a questionnaire at the beginning?

Team Member Name: Roland

How Might We...

How might we share information about accessbility of gyms and workout equipment?

How might we provide substituitons or alternatives to gym?

How might we motivate people to workout despite everything being online?

How might we create a friendly social enviornment despite still needing to social distance?

How might we remind users of their fitness goals and personal motivations?

How might we remove distractions that prevent people from working out?

Team Member Name: Alex Fang

How Might We...

How might we increase overall motivation to workout during the pandemic?

How might we curate workouts that require basic equipment >vs. complex equipment?

How might we promote the benefits of working out to people?

How might we design the interface of the app to be the most athetically pleasing to the user?

How might we make working out a priority during a busy schedule?

How might we solve the social group problem in which you are only allowed to workout with your housemates and not others?

Step 4 - until the end of class

TOP 5 BRAINSTORMING QUESTIONS - 5 minutes

How Might We...
How might we increase overall motivation to workout during the pandemic?

How Might We...
How might we curate workouts that do not require much gym equipment?

How Might We...
How might we remind users of their fitness goals and personal motivations?

How Might We...
How might we solve the social group problem in which you are only allowed to workout with your housemates and not others?

How Might We...
How might we design the app to be as usable as possible (people of any background should be able to enjoy app easily)?

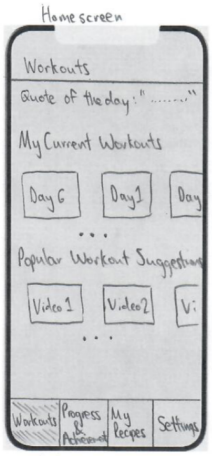
Low Fidelity Paper Wireframes

After our brainstorming session, we created paper sketches that took into account all the tasks. This helped us determine which designs were the most valuable and what we needed to improve on or what was missing.

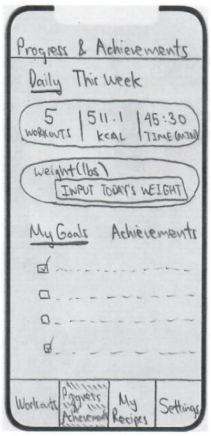
The application will include features such as a social feature where users can work on achieving goals/challenges with fellow friends. The application will also allow users to record their workout sessions, for example miles ran, calories burned, and time. Then the user is allowed to share their progress or achievement with the community or friends through chatting. In addition, our application will incorporate already-created-workouts and offer exercise suggestions that require no equipment to make it accessible to all college students.

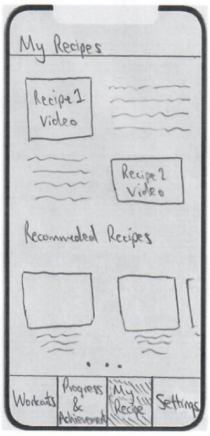
We are aiming for a simplistic design that is easy to use for all age range and technology backgrounds. Some features we are looking into are notifications that include motivational quotes and constant notifications to make the user aware that they are skipping out on exercising.

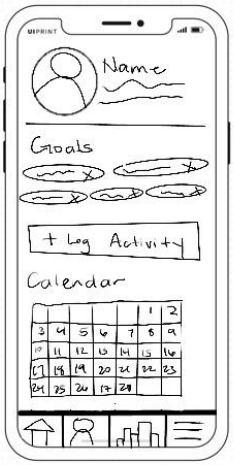
Lastly, we are planning on incorporating a section that offers meal suggestions, especially since diet and exercise go hand in hand. This will include a large database of recipes that users can browse through or add to, while also allowing users to plan their meals out especially since many people have busy schedules.



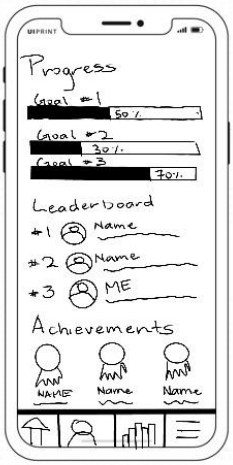
Note: ... means scrollable from left to right



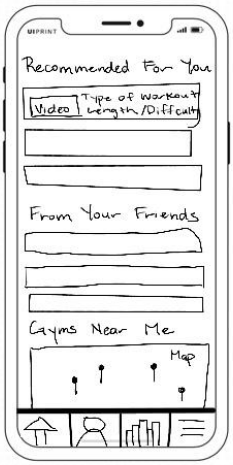




Profile Page



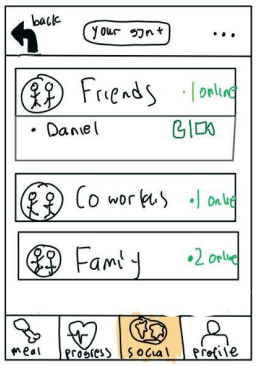
Social Page



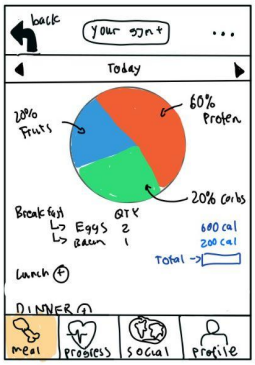
Home Page

Home

Social / community

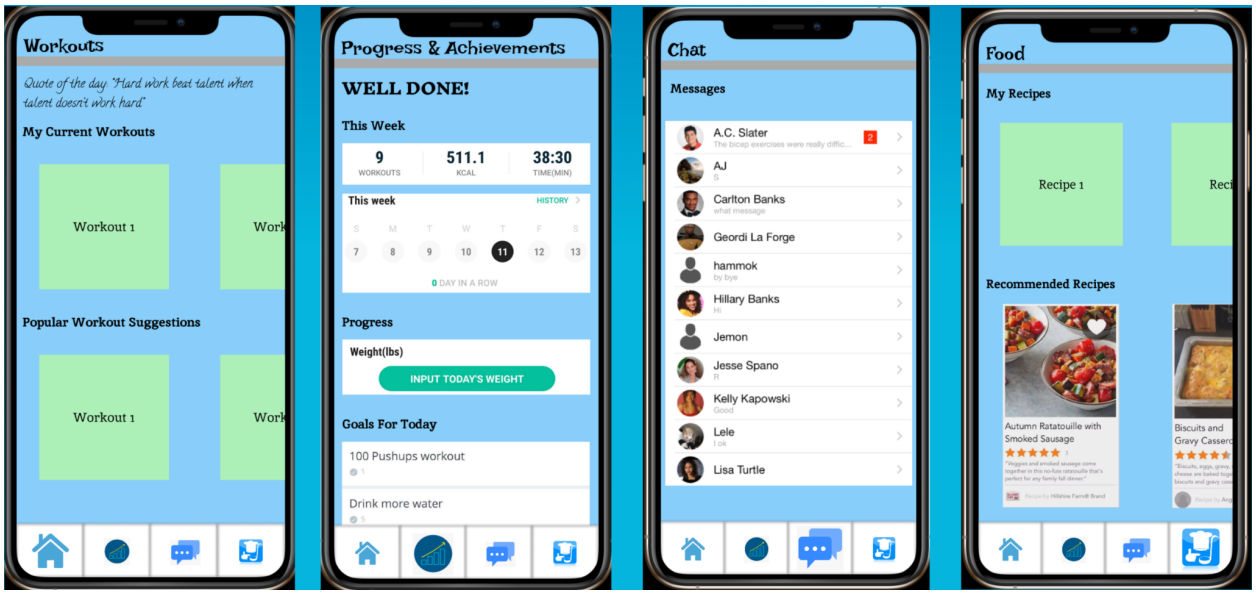


Meal Prep



First High Fidelity Prototype

With our low fidelity paper sketches, we were able to use Figma software to create an application that included 4 sections: Home/Workouts, Progress/Achievements, Chatting/Socializing, and Food.



3 Testing Tasks and User Testing

We tested our first high fidelity prototype with many SCU undergraduate students via Zoom and took note of observations and their feedback. Specifically, we had them attempt the following 3 tasks/scenarios:

Task One	**Task Two**	**Task Three**
Imagine you're struggling with motivation due to COVID-19. You've gotten out of shape due to never leaving your house, and now you're looking at a way to stay fit in your newly found lifestyle. Unfortunately, you do not have access to much gym	*Imagine you're on a budget but you still want to eat healthily. You are also struggling to manage your time due to COVID turning your life upside-down.* ***Your task is to find recipes that are quick, healthy, and/or cheap.*** *You may want to sort by*	*Imagine you're a motivated person and you already have a clearly defined list of goals for yourself. The pre-loaded achievements in the app are "cool" but wouldn't you prefer to achieve your actual goals?* ***Your task is to find where you might add your***

equipment, thus making a traditional workout implausible. ***Your task is to find workouts that do not require gym equipment.***	*duration and/or price, or even filter by certain ingredients that your body is intolerant of -- lactose intolerance, peanut allergies, etc.*	***own goals to the app.***

Usability Testing Results

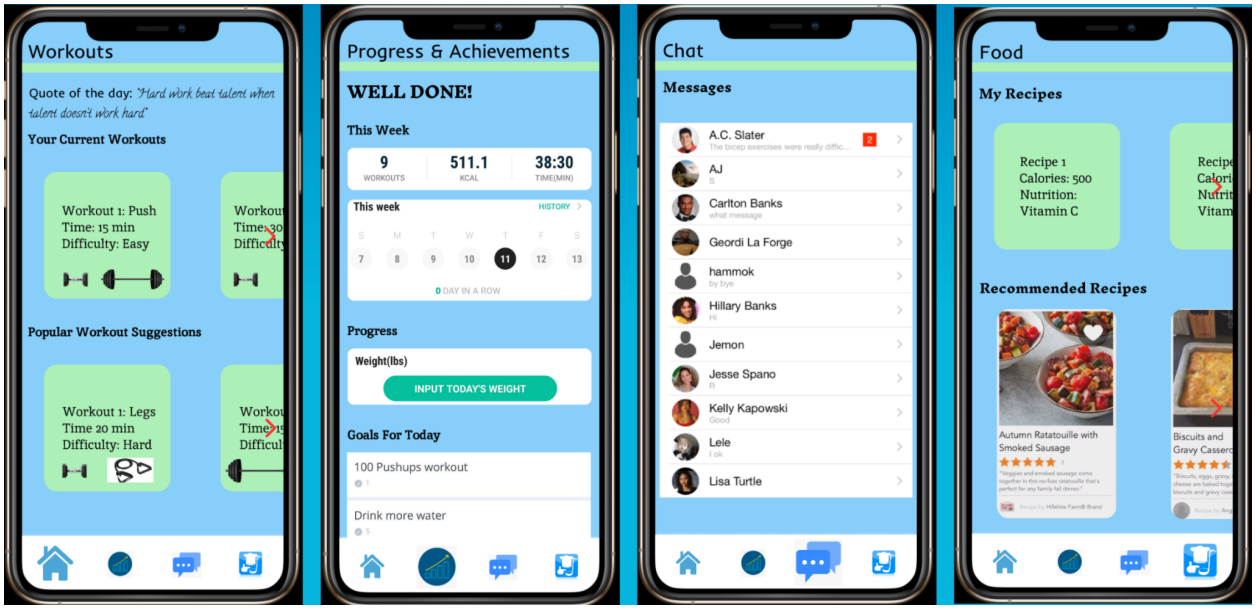
From conducting our first high fidelity prototype user testing, we were able to gather the following notes/results:

Notes

- Our app has a lot that we are trying to accomplish
- Definitely need a thorough onboarding process
- Make sure to clearly display important info
  - Workout duration
  - Equipment
  - Difficulty level
- Images are needed for workout and recipe cards
- Current prototype feels outdated already
- Nothing to indicate that side-scrolling is available
- Font at top does not blend-in with the theme of app

Final High Fidelity Prototype

Taking into consideration our usability test results, we were able to create our current final high fidelity prototype.



Follow-up Work and Takeaways

The application definitely could already be useful for those that desire a home fitness/food/health app. We were able to learn a lot about the effects of the Covid-19 pandemic on student lives through researching about the topic. However, we also came across a lot of new suggestions and ideas that could set us greater apart from already-existing fitness apps. Due to the small amount of time in the course, we weren't able to implement everything that we wanted to do.

There are many follow-up work ideas and further research that my group would like to do. First, we plan on gathering extensive data and user comments from the final prototype over the course of a longer time period to fix minor bugs and critical problems. We also hope to incorporate some possible AI/machine learning that will allow users to have more personalized accounts. Being able to track user behavior and using this data to come up with personalized nutrition values would be very useful and is something we have planned. Furthermore, as many businesses were affected by the pandemic, we want to possibly work with local businesses around Santa Clara University and incorporate them into our food plan (for instance, coupons in exchange for achieving goals). Lastly, the most important follow-up would be working on the development of the next iteration in order to make it even more pleasing to the current generation. Incorporating fresher trends such as having our application connect to spotify to play personalized songs while working out would be beneficial in creating the "best-fit" usability for SCU undergraduate students.

Click Through Prototype:
https://www.figma.com/proto/ys00MAw6hnIboX6miG99EC/Exercise-App-Prototype?node-id=0%3A3&scaling=scale-down