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Go first. Go forth. Go fit.

## **Problem Description**

Have you ever wanted to live a healthier lifestyle but just could not find the motivation to even get started? We interviewed over a dozen people, from college students to healthcare professionals, and found that the vast majority of individuals care a great deal about their health, but generally struggle to find time or motivation to prioritize exercise. Although they want to stay healthy, they say don't have time, don't want to wait for the long-term benefits, or prefer to do other, more social activities. Existing solutions are inadequate, as they either do not put enough focus on the social aspect of exercise, have cumbersome UI, or require the purchase of expensive peripherals or subscription services.

## **Solution Overview**

Introducing goFIT, a new way to stay healthy, the social way!

With goFIT, you decide what kind of healthy lifestyle you wish to pursue. goFIT combines fitness tracking and community interaction, offering meaningful social connection to make exercise more rewarding. Easily log progress on your favorite exercises just like you would at the gym, and share them with dedicated workout communities of you and your friends. Our final prototype design combines elements inspired by traditional pen and paper models and social networks to redefine what it means to be a part of a fitness community.

This report describes the representative tasks we wish to showcase with our application, how we ended up with the current interface design, and how goFIT improves upon similar solutions currently on the market.

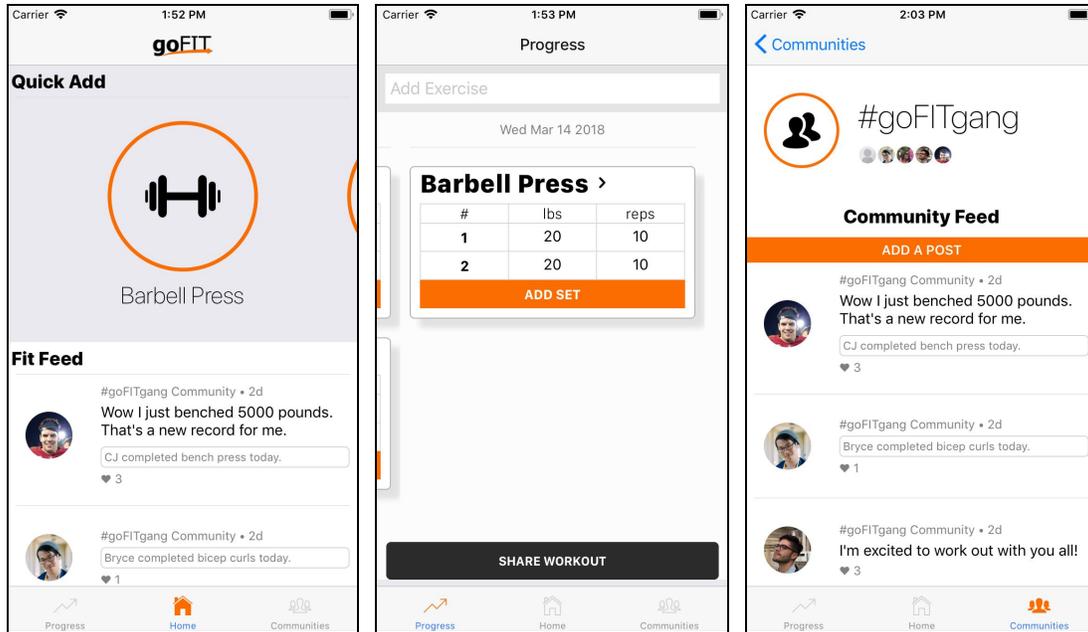


Figure 1. goFIT final prototype design.

## Tasks

After discovering the empty space found in at the intersection between a social network and fitness tracking, we decided to create three central tasks that our platform would be centered around.

The first and also the easiest task we determined would be logging progress on fitness and nutritional goals. The reason why we chose this task is very simple. In order to track a person's fitness progress, there must be a way for the user to be able to input their data into the system. Furthermore, as we found in user testing this task has to be simple because of the fact that the user does not want to spend much time attempting to log their weights which in turn would draw away from their ability to work out effectively.

In addition, an individual after tracking their goals wanted to have the ability to be able to see their history. Thus, leading us to create our medium task which is looking at all an individual's history for each exercise. This means the user could go back to see how much progress they have made over time. The reason we created this is to give the user who spends all the time to log their information the ability to go back and see how far they have come over time, which adds additional motivation.

The final task we determined would be important to have is sharing a workout, which is also the most difficult task of the three. We determined this to be an essential part of the app because of the fact that the social interaction part of goFit is one of the foundational pieces. As a result,

sharing one's workout would be essential. When one is sharing their workout, they are sharing what they have already accomplished which is important for two reasons. The first is allowing you to feel a sense of accomplishment by showing the community that you are involved in that you are working hard to achieve your ultimate goal of becoming a more fit individual. The other reason is that one also has the ability to add their trainers and others to their community, so one individual can use another person's workout if they do not know what to do when entering the gym, a common problem among novice users.

In summary, our 3 representative tasks are: 1) adding an activity, 2) viewing exercise history, and 3) sharing workout progress.

## Task Flows

We show the task flows for each of our three tasks below.

### Adding An Activity

Adding an activity is the primary task involved with logging progress. There are 2 ways to accomplish this task: via manual search or via quick add.

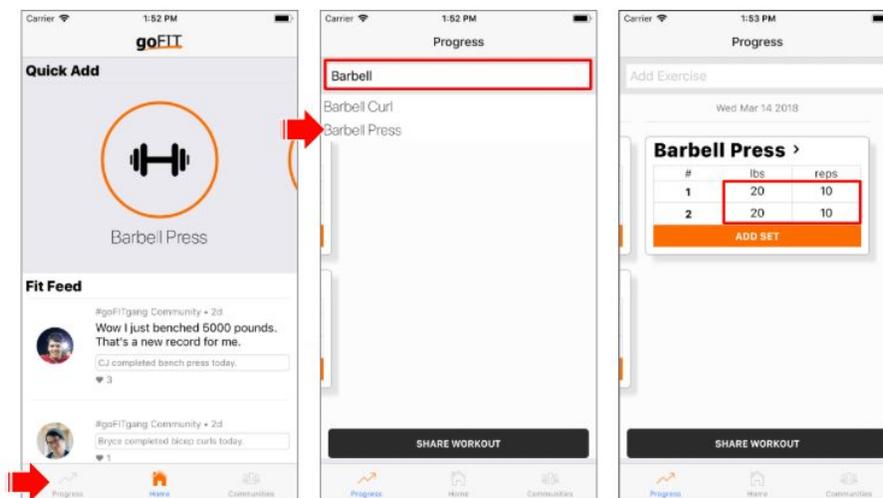


Figure 2a. Task flow for adding an activity (manual search).

When using manual search, you first click on the "Progress" tab. Then, search for the exercise you want to log progress for. Clicking on that exercise will add a card to your screen, which you can then use to add sets and reps to track your progress for a particular exercise.

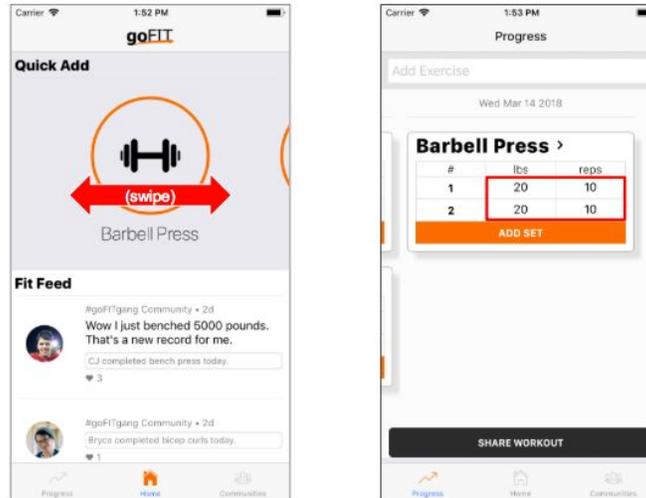


Figure 2b. Task flow for adding an activity (quick add).

When using quick add, the list of your most frequent exercises will be shown on the Home Screen. You can swipe through this list until you find the exercise you are looking for. Clicking on an exercise will add a new card and take you to the “Progress” screen.

### Viewing Exercise History

This task allows a user to view the history for a particular exercise.

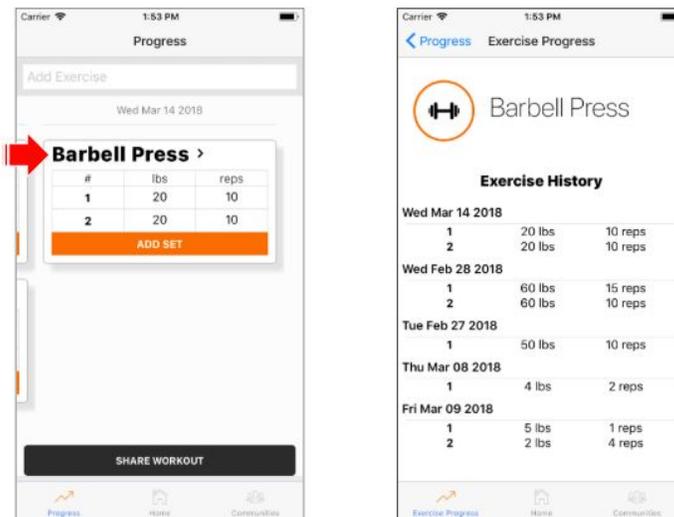


Figure 3. Task flow for viewing exercise history.

To access this screen, simply click on the name of one of the previous exercises you have logged.

## Sharing Workout Progress

This task allows users to share how they've progressed to their friends.

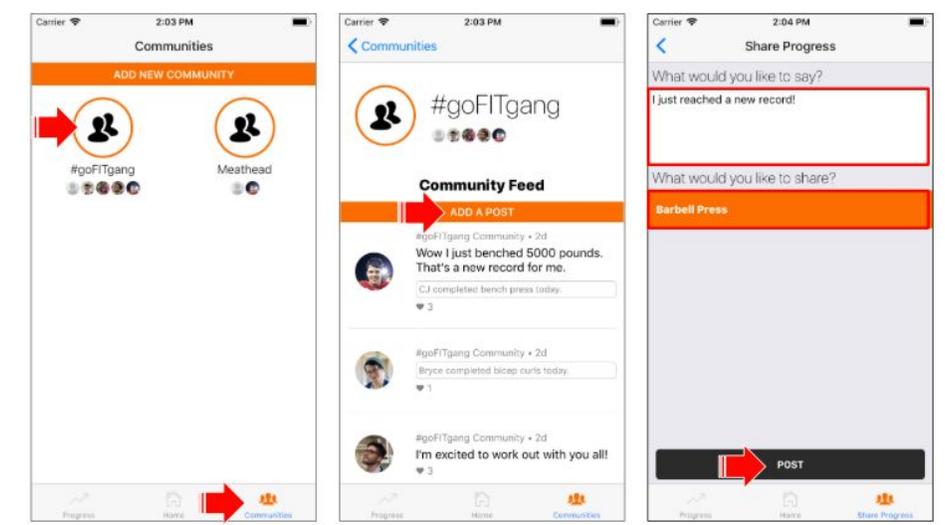


Figure 4. Task flow for sharing workout progress.

To access the feature, click on the “Communities” screen. There, you will see a list of the communities that you are a part of. From there, you can see the feed for the community, or you can “Add a Post.” Adding a post allows you to optionally attach one of the exercises you completed today to share with your friends.

You can also share progress directly from Progress screen, using the “Share Workout” button.

## Design Evolution

Following initial needfinding, we prototyped several ideas that led to our development of experience, low-fidelity, medium-fidelity, and high-fidelity prototypes.

### Experience Prototypes

We developed 3 separate experience prototypes to test our assumptions in the problem space of focus.

- *Virtual Personal Trainer* - focused on a virtual personal trainer that helps users achieve small goals to increase their fitness level throughout the day.
- *Gamifying Health* - stemmed from the assumption that people don't exercise because they cannot conceptualize the concrete, long-term rewards associated with it.

- **Exercise in VR** - tested the assumption that people aren't motivated to exercise because they don't find it very enjoyable/fun, but if we could transport into a more appealing or exciting scenario, they would find the motivation to exercise.

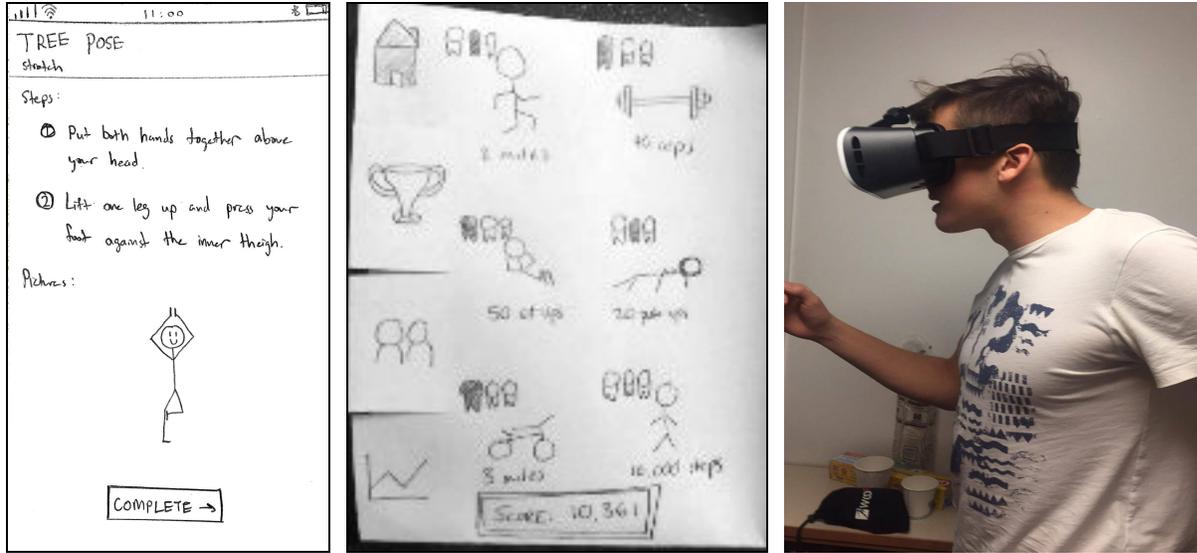


Figure 5. The 3 experience prototypes.

Overall, we believe that our experience prototype in gamifying health was the most successful in achieving its desired solution, with elements from the virtual personal trainer prototype added to increase the motivation factor of our application. Our test users liked that it appeared easy to use and add workouts. As one tester said: “The more I think about it, the more I think it would be a good app. The majority of apps I’ve seen are come in three categories, hitting at most two: good UI, tracks multiple sports, and is free for all features. This app seems to hit all three of those.”

**Low-Fidelity Prototype**

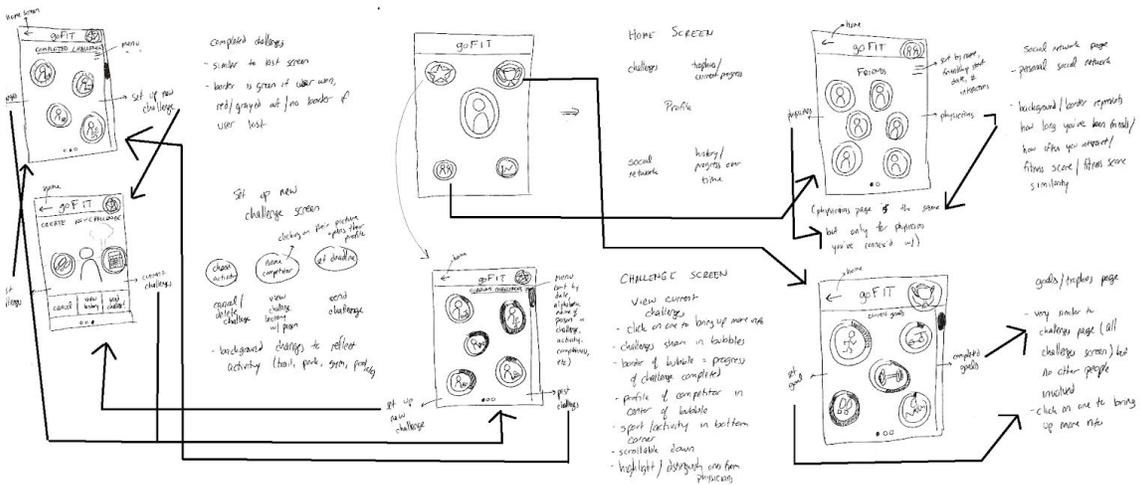


Figure 6a. “Bubble Mobile” detailed sketch.

Following the development of our experience prototypes, we brainstormed several different designs to implement our idea. We experimented with a variety of device types to explore the design space before settling with two specific detailed designs that we liked. The first of which was a Boxy Mobile design which was very professional-feeling and organized, but felt more solitary and less social. Instead, we ended up settling with a Bubble Mobile shown below.

The Bubble Mobile design is image-oriented and focused on easy navigation. It is simpler and prioritizes ease-of-use, with the experience based around a single, central dashboard. As a result, it feels more social/approachable, is cleaner/simpler, and is geared towards novice users. Since ease of use and approachability were our most important factors, we wanted the primary interface to be easily navigable and friendly, allowing new users easy access. This led to the resulting low-fidelity prototype below.

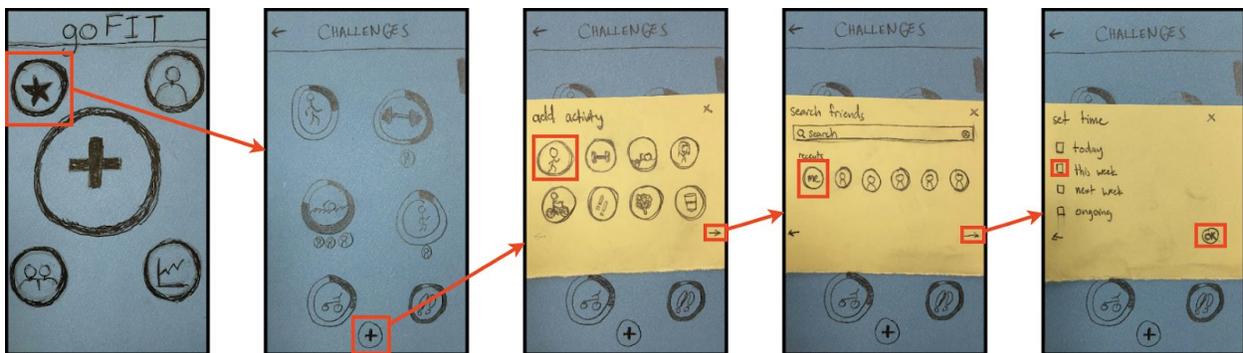


Figure 6b. Low-fidelity prototype pictures for adding a challenge.

### Medium-Fidelity Prototype

Following our low-fidelity prototype tests, we found the following problems with our current design.

1. Testers didn't understand that they could access challenges by hitting the "+" button on the main screen.
2. Users wanted a way to subtract from progress, in case they accidentally logged progress.

These problems led to a complete redesign of our main screen that simplifies the logging process and eliminates functionality that may induce confusion. We did this by removing the "+" button entirely and adding scrollable challenges directly to the main screen. This change would allow user easy access to all their challenges and view how much progress they had achieved in their activities. In addition, we changed the progress log buttons to better match what we intend the user to do.

To construct our medium-fidelity prototype, we used Sketch and InVision. Sketch was used for designing the screens themselves, and each screen generated became a static image. InVision was used for putting the screens into an interface that mimics a mobile app. Due to limitations and constraints, our medium-fidelity prototype doesn't allow the full range of motions a user

would have with their phone (like swiping), no information is stored in memory (each screen transition is hard coded, so an update in part of the app doesn't update other pages), not every button has a transition/screen, and there are no working screens for user profiles and personal history. However, we implemented enough screens to demonstrate our three primary tasks, as shown below.

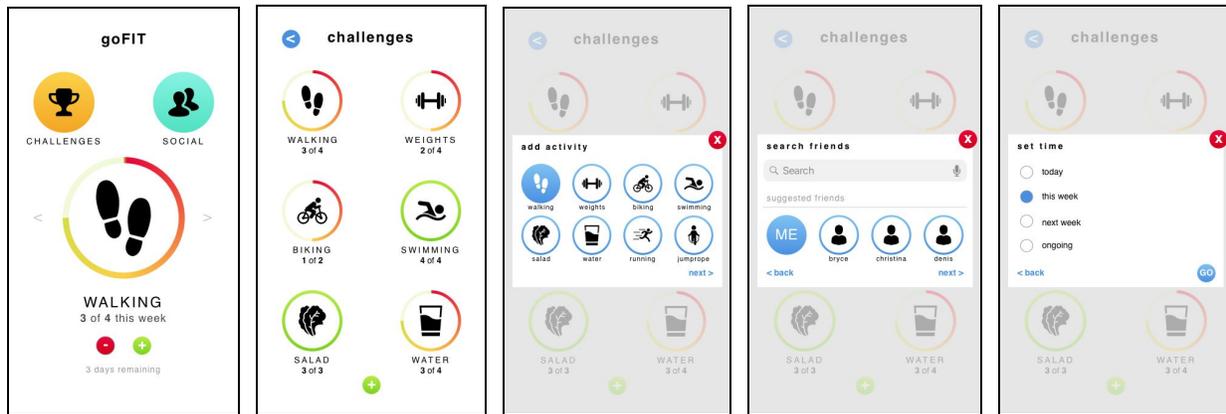


Figure 7. Updated screenshots from medium-fidelity prototype.

## Initial High-Fidelity Prototype

Following the development of our medium-fidelity prototype, we performed a heuristic evaluation using experts from other groups. The list of heuristic violations is extensive, so we describe the five biggest violations below, as well as the steps we took to address them.

- When selecting the duration of a new challenge, it is unclear exactly what time period this challenge will be active once it is set. We addressed this by making all of our challenges weekly, with the user being able to set how many times they wish to perform a particular activity each week.
- The challenges screen did not show enough information about each individual activity. We decided that the best way to resolve this issue is to let the user set the unit of measurement themselves.
- There are currently no examples of what it is like to receive a challenge. As a result, we implemented a notification system that would alert users of new incoming challenges.
- There was some confusion over the small green button on the bottom of our challenges and social screens. We moved the button to become the first entry in our table of challenges/friends such that it is properly attributed to each screen.
- While creating new challenges is a relatively intuitive process, there seems to be no way to delete or alter a challenge once it has been created. We added a way to edit challenges on each individual challenge screen.

The results of our heuristic evaluation yielded the updated high-fidelity interface shown below. Notice also how challenge creation has been streamlined, the transition from modals to views, and the updated colors/iconography. Our changes ensured that our high-fidelity prototype felt professional and refined.



Figure 8. Initial screenshots of our high-fidelity prototype.

## Lab & Field Tests

With our initial high-fidelity prototype complete, we wanted to perform additional usability tests to see whether our application succeeds at our original goals. Here, we describe the results of our lab and field tests.

In our lab tests, our goal was to test the following things about our application:

- The app needs to be easy to use so completion time should be low.
- The app needs to provide significant value so people use it over other methods.
- The app should be straightforward or else people will not use it at all.

We found that all of our test participants were able to successfully accomplish our tasks easily and quickly, thereby affirming our goals of our app being easy to use and straightforward. However, there was some debate as to whether the app generated any real value, and how often users would consider using the app on a weekly basis. We share some quotes from our test participants below.

*“I go to Reddit for the social aspect of staying motivated and encouraging others to meet their goals.” (Jamie, 21)*

Jamie stated how her experience with a larger community like Reddit helped motivate and reinforce her goals. Thus, we decided to refocus goFIT on communities over individual challenges with individual friends. The rationale behind this change was that people often exercise in groups. Moreover, different people may have different individual goals, but they may still want to work out together, and communities often want to do multiple different challenges at the same time.

*“When I lift, I keep an exercise journal and log workouts using pen and paper.” (Alex, 20)*

Alex exercises regularly but uses what seems to be a rather outdated model (pen and paper) to record his workouts. When asked why he doesn't use an existing fitness app on the market, he claimed that although apps for exercise logging exist, the interface is often cumbersome and convoluted. We wanted to address this need by redefining what we meant by logging progress.

Specifically, we wish to replace our idea of challenges with a simple logging interface that emulates the pen and paper model, and allow users to optionally share their progress with others.

The new insights we gained from our lab study are embodied in the sketch below.

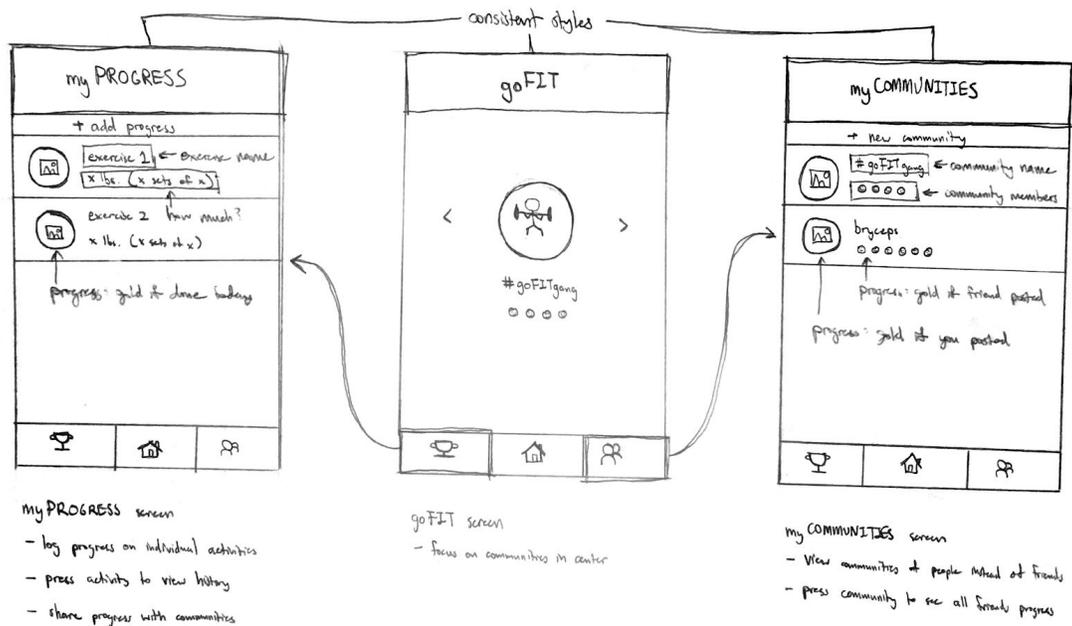


Figure 9. Sketch of our redesign after the lab usability study.

While we did update our prototype in between our lab test and our field tests, the changes we made after our field tests were minimal, so we want to share the additional insights we gained from our field tests here first.

The purpose of the field study is to understand 2 things in context.

- Does the virtual progress log effectively replicate the traditional pen-and-paper model at the gym?
- Does the community aspect offer any significant social meaning to exercise at the gym or at home?

Therefore, we wanted to perform 2 different field tests, 1 focused on dedicated users and 1 focused on more casual users.

- Gym Test: focused on all tasks to be done at the gym.
- Home Test: focused on casual community-related tasks to be done at home.

Our field tests proved to be successful. Our test participants were able to complete our tasks both at the gym and at home, and they all liked how polished the UI felt. Some participants seemed to have some problems with the navigation, so we added titles to each of our screens

so the user knows exactly where they are in the app all the time. We also had some complaints about the size of the in-app font and text boxes (especially when at the gym), so we decided to make them bigger. We also made a multitude of minor interface changes based on participant feedback, all of which are shown in the final prototype described below.

## Final Interface

In the sections above, we described how to accomplish each of the 3 main tasks with our application. Here, we describe each screen in detail.

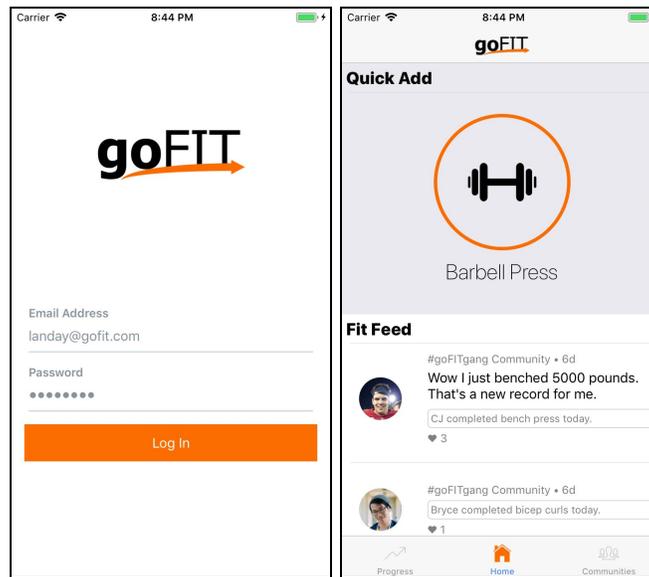


Figure 10. The login and home screens.

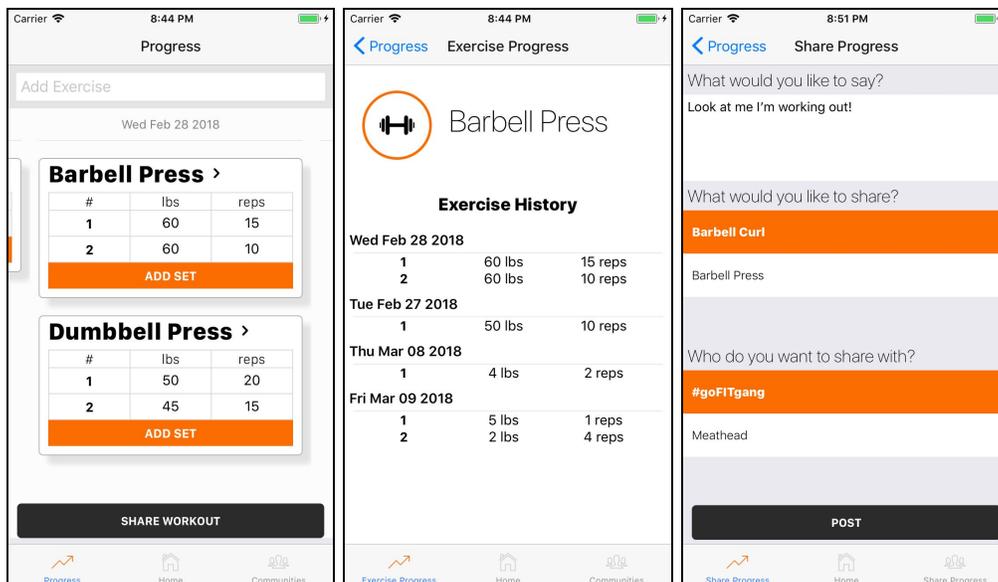


Figure 11. The screens from the progress tab.

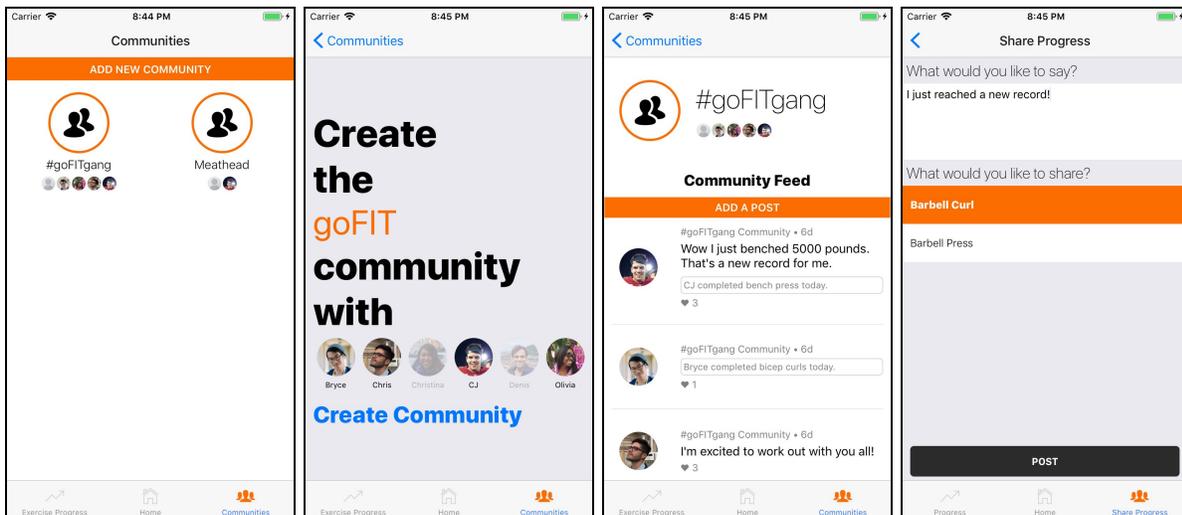


Figure 12. The screens from the communities tab.

## The Login and Home Screens

To login with the app, you input your email address and a password. For the purpose of demonstrating the app, you are logged in with the default account that we have setup on Firebase.

## The Progress Tab

The progress tab is where users can log progress on the exercises they complete.

1. Swipe horizontally to view the exercises from previous workout sessions.
2. Add a new exercise by searching for it using the search bar at the top of the screen. A new card is added for that exercise after you select it from the search bar.
3. Click on an exercise's card to view your history for that exercise.
4. Quickly share progress with your community by clicking on the share workout button. You can then add a post description and decide which of your communities you'd like to share to.

## The Communities Tab

The communities tab is the hub for social interaction on goFit.

1. View the communities you are a part of on the communities screen.
2. Create a new community and invite friends to join your community.
3. Share progress with your community by clicking on the add a post button.

## What Was Left Unimplemented

We only had to incorporate one Wizard of Oz technique to feign a multi-user community for a single-user demonstration. In order for the “community” screen to show posts and updates from friends, we needed a database of these posts and “logged in” friends to exist. We created a number of fake posts and friends in order to get this to work, and stored the data on Firebase. Other than that, the app works completely.

## Tools We Used

We built our app using React Native, Redux and Firebase. The app is cross platform so it works for both Android and iOS devices. Additionally, we used Expo to build and debug. These tools were helpful in that they allowed us to build the framework and functionality for our app as well as provide a platform from which we could launch and demo our product.

Some aspects of Expo weren't the most helpful for our particular use case. With Expo, you can't link native libraries (i.e. libraries written in Swift for iOS and libraries written in Java for Android) without detaching the project. For this reason, we had to make sure all of the libraries we installed with Node had no native dependencies.

## Download

Our app is live on Expo. To use it, download the Expo app on your phone and scan the QR code located on this site: <https://expo.io/@brycetham/goFIT>.

## Making It Real

Our team is a team of people who have collectively experienced every phase of being a consistent exerciser, from novice to expert. Olivia has rarely gone to the gym throughout her life, and is a novice in her journey to start, this year, working out more consistently. She has felt very encouraged to do so through her friends, who are always down to go for a run with her and celebrate her small victories with her. Bryce has been going to the gym regularly since his freshman year (about 5 years now). He usually goes once or twice a week, and does so either alone or with a group of up to 7 friends. Chris works out so he can eat donuts the next day. CJ is probably the best example of our expert user: he is a football player who has regular workouts, but has been going to gym at least 4 times a week since freshman year of highschool (nearly 8 years) during the offseason. He hardly ever goes to the gym alone because of the fact that he is not pursuing solely individual goals but rather desiring to achieve the collective goal of improving his team as a whole.

Because of the diversity within our group, our customer segment is wider than most. We want to be a helpful tool for any mobile user who is trying to maintain a healthy lifestyle: whether it be an expert user who is *really* into working out, or a novice user who is new to working out. We considered the desires of every person in our diverse group as a starting point to figure out what would be most attractive to these users, and also gathered diverse opinions in our needfinding. As a result, we have created (and developed in mind) an app that truly has some value for every workout-er.

In the long-term, we hope to ultimately encourage a larger number of people to work out. In the end, we hope that for the novice user who may not feel comfortable working out as is, they will feel more comfortable doing it because their supportive friends (from novice to experts) are there encouraging them and perhaps offering tips, getting into working out will hopefully be a more seamless process and a more enjoyable, not-so-isolating experience. For the expert user, we hope to offer a product that lets them keep track of the data they need more quickly and encourages them to feel proud of their progress.

## **Business Model**

Because we really (wholesomely) just want people to benefit from our app, our current plan is for our app to be offered for free. Once we gain some traction, though, and would need to pay for R&D, backend maintenance, sales/marketing, software development, etc. there are a variety of methods we could use to profit from goFIT. We realized that our app could also serve as both a platform for advertisers and also a “freemium” model (i.e. offer the app for free, but offer more features to “premium” subscribers).

First, regarding advertising: we think we can easily market ourselves to advertisers as a platform worth paying for advertisement, since we have such a specific market within our app. Advertisers can feel comfortable knowing that the people using our app is nearly guaranteed to have health, working out, etc. on the mind. For advertisers who want to advertise any product in fitness and health, they have a very concentrated group to advertise to (versus, say, Facebook, where they may not have as many clicks because of a lower percentage of people thinking about fitness at the time). We also have the selling point that people using the app are also connecting with their friends in their workout journey, and could easily share an ad for a certain product in their community (a feature which we would include). We could partner with certain gyms as well: an idea we had was the ability to have users scan a QR code to get their workouts into the app, and we can partner with certain gyms to provide those QR codes/accept their codes, thus motivating users with the app to want to use *this* gym specifically.

In regards to a premium model, we think there is a lot of extra features we can offer, considering we have so much user data available to us: we know what exercises people do, when, how often, etc. We considered offering workout recommendations, based on their previous workout data. Going even further, we thought of the idea of offering personalized plans (probably partnering with personal trainers and experts), utilizing all this data to make it a plan that works

for them. We have considered allowing users to connect with personal trainers: just like they can connect with their friends through communities, we could build “communities” with personal trainers in them, who have access to all the user’s workout data (because they’re logging it all in the same app!).

At the moment, goFIT only tracks exercise, but we want to help the user maintain a healthy lifestyle overall. For premium users, we may offer food tracking as well, and from there offer calorie counts, macro counts, etc. This would be an ambitious pursuit at this point in our traction, but would offer the most value. Furthermore, we considered the ability to set weight loss/body fat goals in addition to how close you are to them: if we have access to all their workouts, we could likely either use an API or partner with calculators to determine certain metrics after a session. We could give the user articles and tips on their homepage to help them reach their goals!

Since our backend is limited, we would probably only allow regular users to go back so far to see their workout data. However, for *premium* users, we would let them see *all* their past data. We would also allow them to see timestamps: at the moment, we only display the dates of exercises, but we have access to the timestamps, and this might be valuable information to certain users.

We would offer priority customer support to premium subscribers. Lastly, if we ended up pursuing the advertising route, we would offer the ability to turn off advertisements in goFIT PRO.

As one can see, we have a lot of ideas for premium features, but, like the loyal D-thinkers we are, we would experiment and iterate regarding *which* ones to include before we rolled out goFIT PRO.

## Summary

At the beginning of the quarter, we found through our needfinding interviews that many people were excited about the idea of being healthier and exercising more, but few actually followed through. We iterated through the design process, determining what we could offer, and began crafting sketches and prototypes. We moved from brainstorming to having users test experience prototypes, redefining our ideas and creating a low-fi prototype, and, via layers of feedback, producing a medium-fi prototype that really represented our ideas. After sending out our medium-fi prototype to more evaluators, we got feedback in the form of a heuristic evaluation that allowed us to make design changes that focused on a more specific target audience, resulting in our initial high-fidelity prototype. After additional usability tests both in the lab and in the field, we refocused and redefined several features of our application to produce the final prototype design described in this report.

We believe goFIT is a fitness application that will revolutionize the way people exercise with each other. It is a platform that promotes exercise and social connection combined with the versatility of an intuitive activity logging interface that makes it possible for anyone to get started right away. We hope you enjoyed reading about our design process and hope you too will use goFIT to stay healthy, the social way!