

CS 194H

# Buckets Report

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## The Problem

All too often, we lack the drive to chase some of our most desired dreams. As months and years go by, even the dearest fantasies can often slip our minds. Moreover, it is sometimes challenging to find people with whom to share these new experiences. And who can blame us; with all the things we need to juggle in life, from work to errands to relationships, it can be difficult to find the motivation to try new things, even if they are potentially rewarding. How can we make the process of setting and achieving our lifelong goals as seamless and effortless as possible? How can we finally empower people to fulfill their dreams?

## Our Solution

To tackle this dilemma, we have created a mobile application called Buckets. Buckets taps into the power of group motivation to help people turn dreams into stories, and build and strengthen relationships along the way. By introducing a social community element into a private bucket list concept, we empower users to meet others with similar aspirations while collectively accomplishing personal goals.



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## Tasks

### Task 1: Create a Bucket List (complex task)

*We want to allow users the ability to manage lists of goals to achieve. After logging in/creating new account, our first task is for the user to populate their bucket list with custom items or items that are popular near them.*

### Task 2: Send an Invite (medium task)

*We want to leverage the power of group motivation and create a social environment where people can complete goals together. Our second task is for the user to invite someone to complete one of their Bucket items with them.*

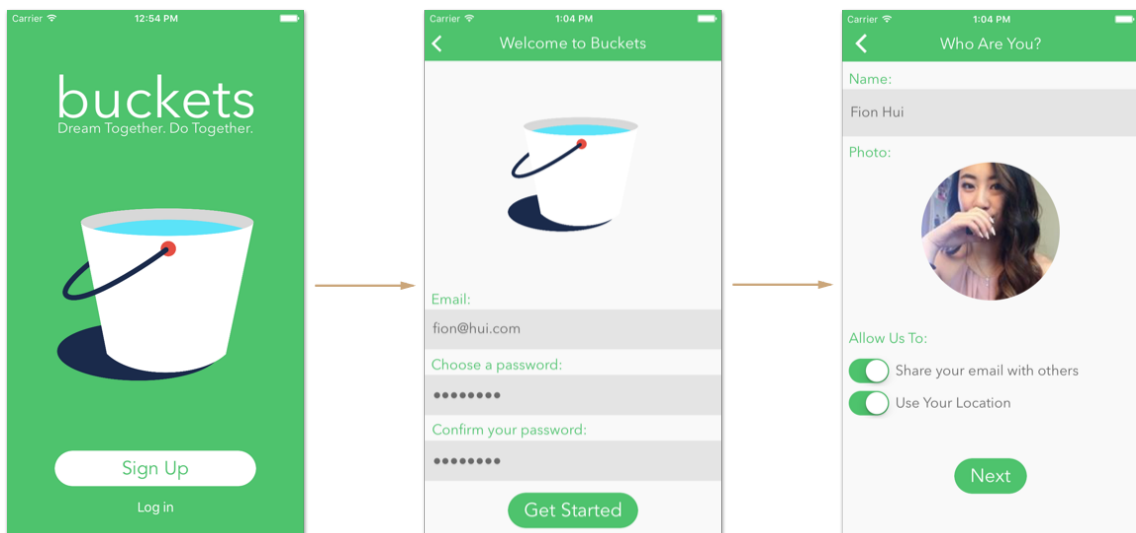
### Task 3: Respond to an Invitation (simple task)

*What good is an invitation if it's not accepted? Our last task is for the user to accept an invitation from someone who has invited them to complete one of their bucket items.*

## Task Flows

### Setup

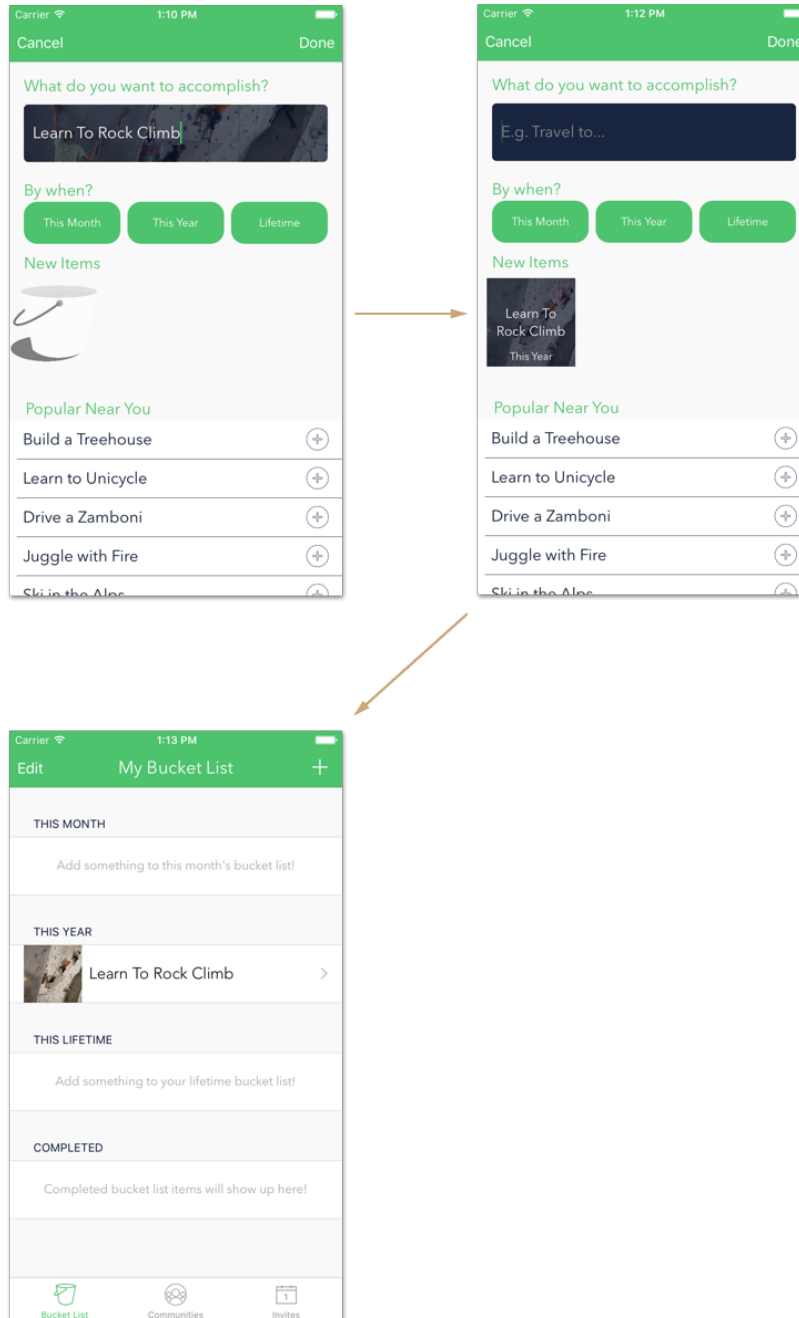
In order to create a bucket list, new users must first create an account. They will input their account credentials, and provide profile information to finalize their accounts.



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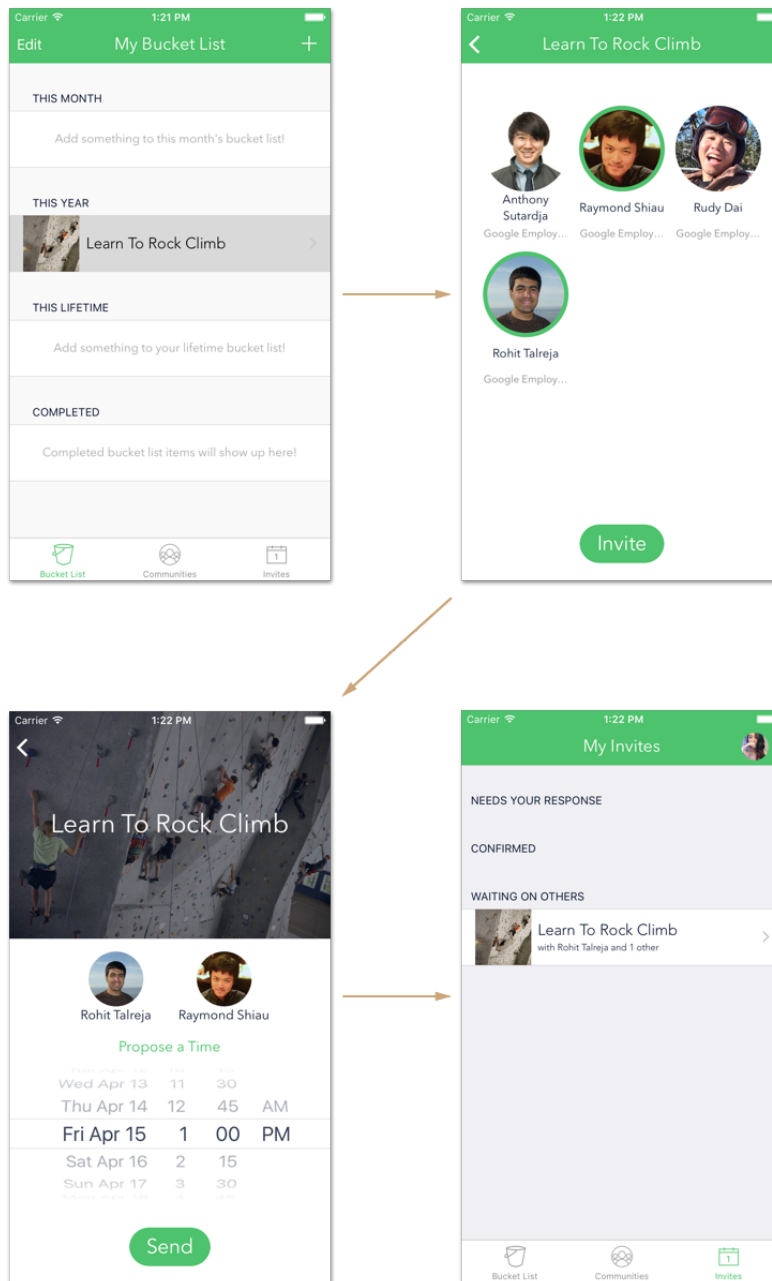
## Task 1 Flow:

Afterwards, users can then begin to populate their bucket lists. Users can either pick from our recommended items, or custom create something new and unique. After selecting an item, users can then choose the timeframe for which to accomplish said goals. With the expected time of completion set, the item(s) can now be added to “My Bucket List.”



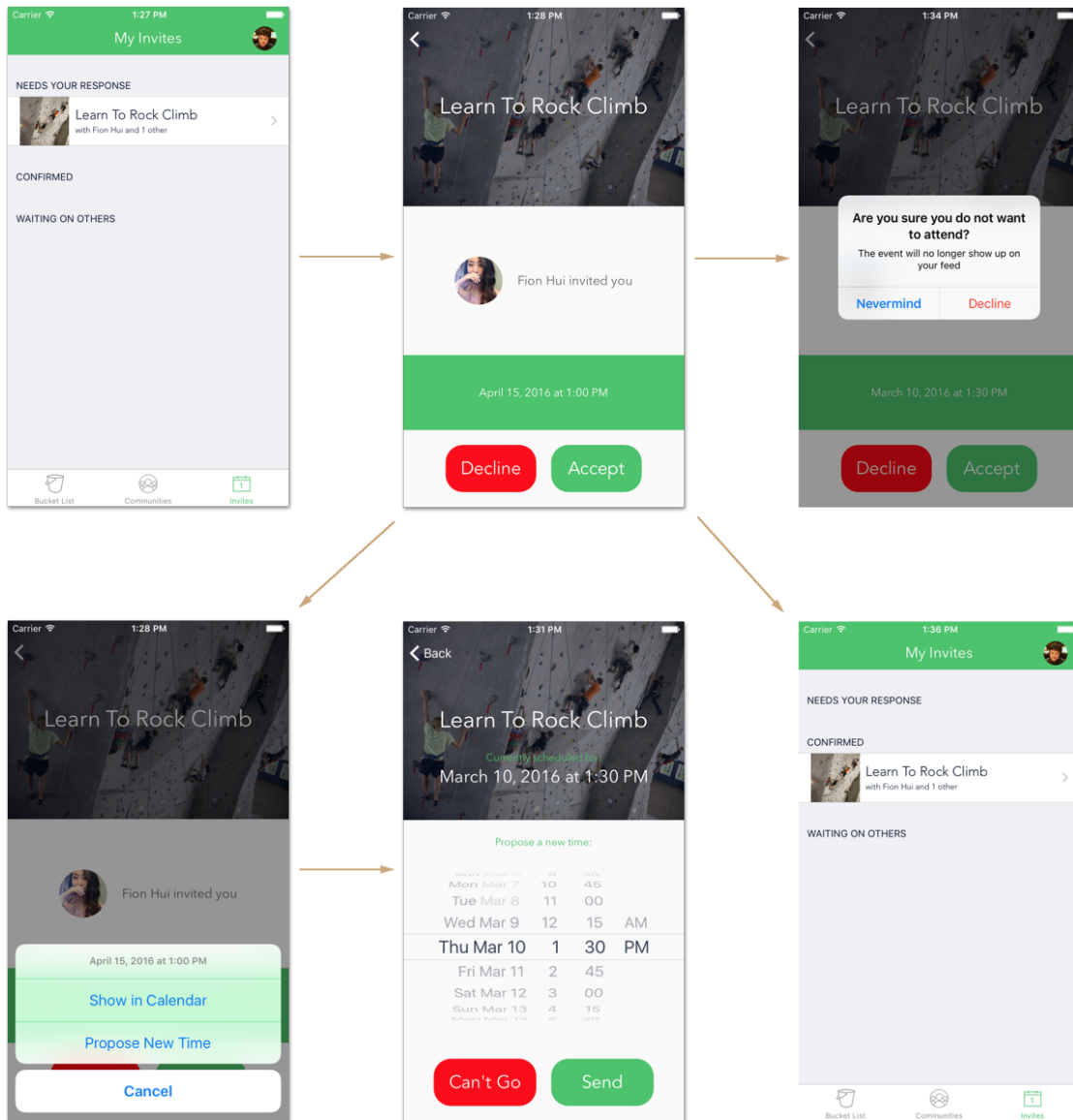
## Task 2 Flow:

Starting from “My Bucket List” page, users can select an item by tapping it. This takes the users to the invitation page, where the users can reach out to others who also share this mutual goal. From there, the users can then propose a time for everyone to meet. After the invitation is sent, the selected goal will be displayed on “My Invites” page as “WAITING ON OTHERS.”



### Task 3 Flow:

When others send an invitation, a notification symbol will pop up on the “Invites” tab on the lower left hand corner. Navigating to it, users can see all the pending invitations that require a response. When responding, users can either accept/ decline the invite, or they can elect to change the time of the event. In this case, the invitation will be returned to the sender for approval of the new time. After the times are approved by all parties involved, the invitation will appear as a “CONFIRMED” event on “My Invites” page.



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## Design Evolution

We've come quite far since our very first low fidelity prototypes. Here's a look at how some parts of our app have evolved over time.

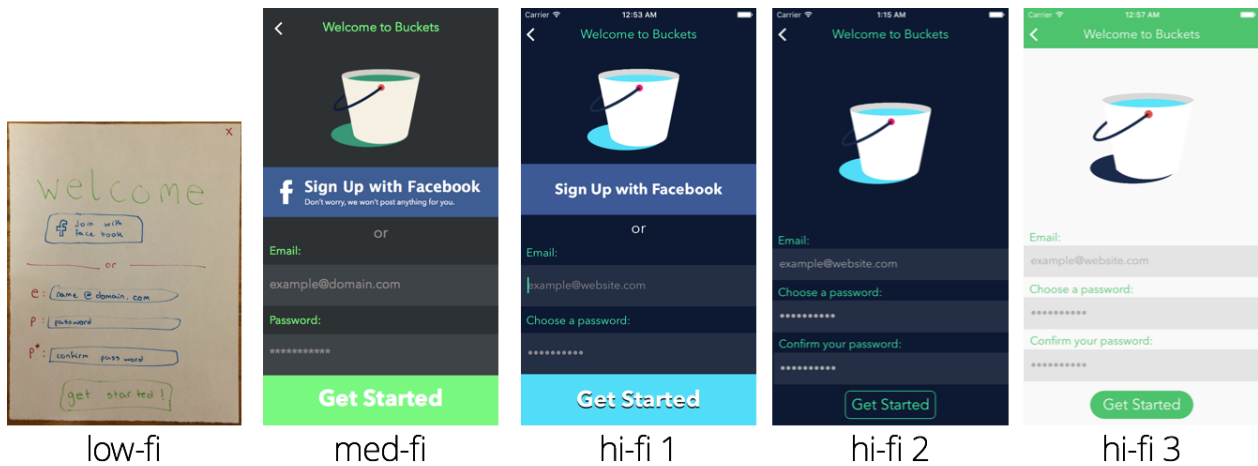
### Splash Page



For our splash screen, we had slight color change between med-fi and hi-fi1. Then, with hi-fi2 we introduced a new button layout that is less obnoxious. Hi-fi3 included our new color change, as well as our rounder sign up button.

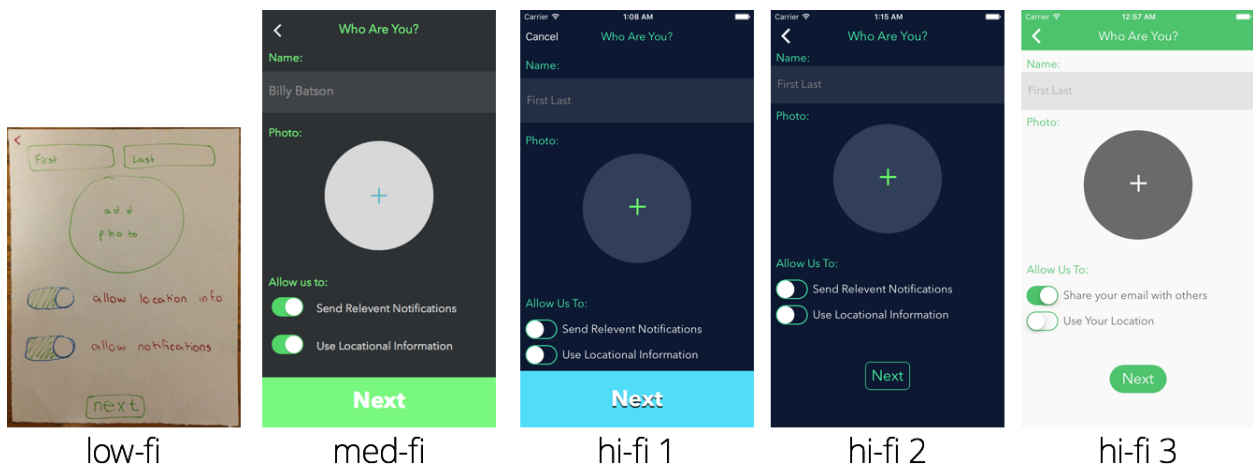
Our color change from hi-fi2 to hi-fi3 was prompted by the user feedback that the blue felt a too ominous and heavy. In response, we tested several brighter colors with more of a upbeat and adventurous feel. We settled on green because it was the most liked color.

## Login Page



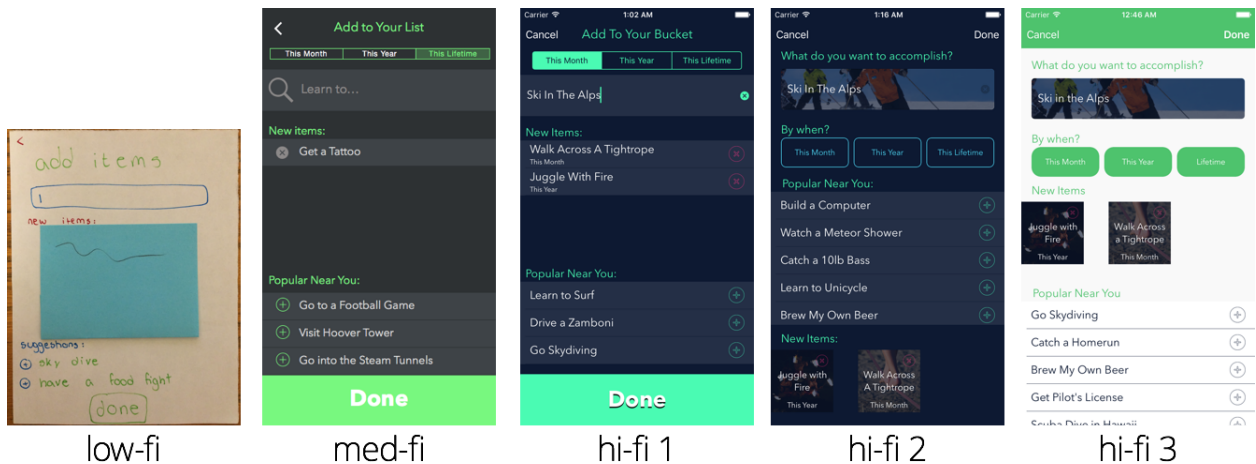
We removed facebook signup at hi-fi 2, changed the button, and added a “confirm your password” field. The colors and button also changed at hi-fi3.

## New User Sign Up



This screen has stayed pretty true to what was originally imagined in the low-fi prototype. Besides the color and button updates, the main change came in hi-fi3 when we changed notifications to “share your email”, so that users can have some way of contacting each other. (We also built profile pages in hi-fi3, which enabled this). We also initialized the switch to be “on” for share your email so unless the user changes it, they automatically make their email public.

## Add New Item



Our add new bucket list item page changed the most at hi-fi2. First, we changed the “This Month / Year / Lifetime” from a filter bar in hi-fi1 to buttons in hi-fi2. In our lab usability tests, users treated the date selection as a filter bar, similar to email apps. For example, they thought choosing “This Month” would only show the bucket list items to be accomplished this month. Changing the date selection to buttons in hi-fi2, alleviated this problem.

Another change in hi-fi2 was allowing the user to “edit” newly created items on click (a modal appears). In hi-fi1, if a user clicked anywhere on a newly added item, the item would be deleted. This confused users because they expected clicking the item meant editing it, thus we made that change for hi-fi2.

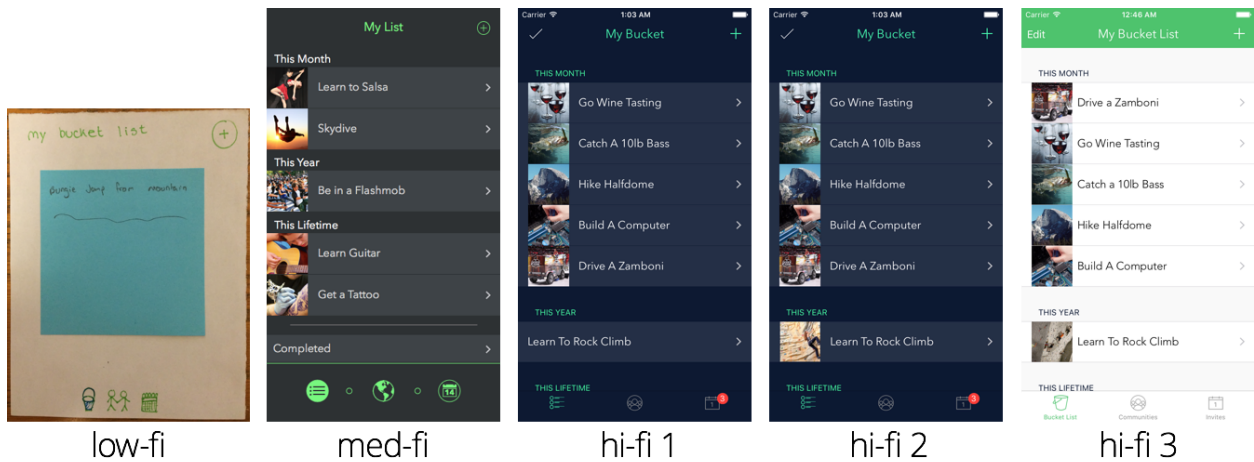
The last major improvement we made in hi-fi2 was with regards to visual design: we decided images should support the text. Thus as a user searches for items, an image representing the item appears. An image is also included for the newly added items.

In hi-fi3, we moved the new items section up, because a lot of users told us they couldn't see their newly added items when the keyboard was up.



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## Bucket List Page: Filled list



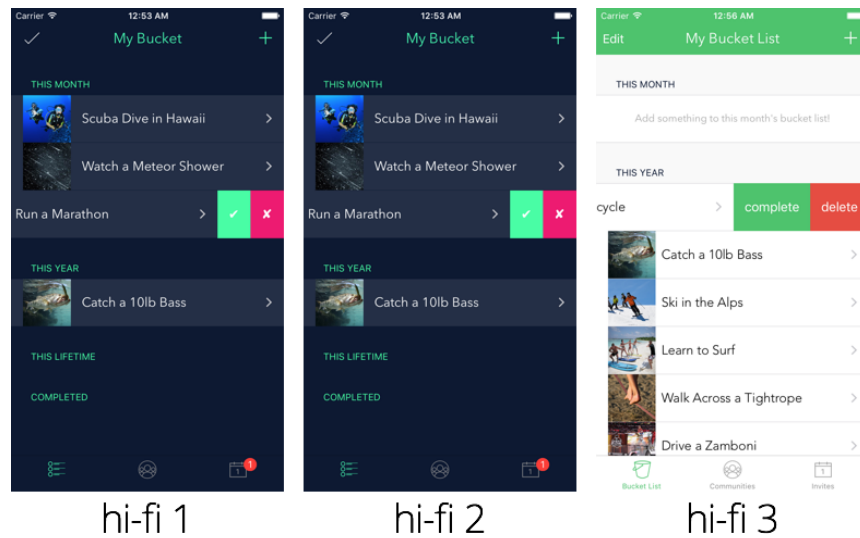
Up until hi-fi3, the bucket list page design has remained similar to med-fi, aside from color and icon changes.

Between hi-fi1 and hi-fi2, we implemented flickr image search so that when the user adds in their own custom items, an image will show up. From the screenshot above, notice that the custom item “Learn To Rock Climb” now has an image.

In hi-fi3, we updated the menu bar, namely changing the bucket list icon and including label below each menu item. During user tests, users did not readily understand what clicking on the icons entailed. Thus in hi-fi3, we clarified this by putting a label, like “Invites” under the calendar icon.

In hi-fi 3, we changed the “check” icon in the upper left corner to an “Edit” button. The “check” icon was intended to be a button that marks all your bucket list items as completed. However, during our field usability study, users did not know what the “check” icon represented nor what operation it entailed. Thus we replaced the “check” icon with an “Edit” button. Details of the edit functionality is discussed next.

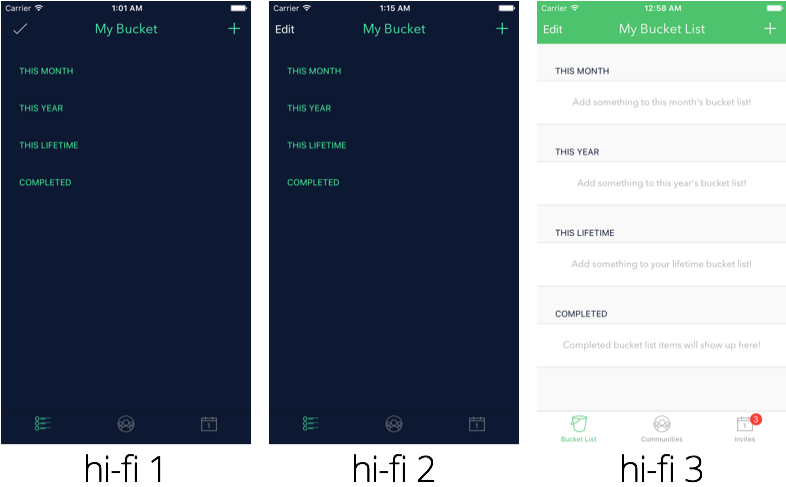
## Bucket List Page: Swipe



We learned from our users tests of hi-fi2 that users did not know how to edit their bucket lists. Users were unaware of the swipe left option that revealed editing options. Such was another reason to replace the “check” icon with an “Edit” button. After clicking “Edit”, the editing options would appear.

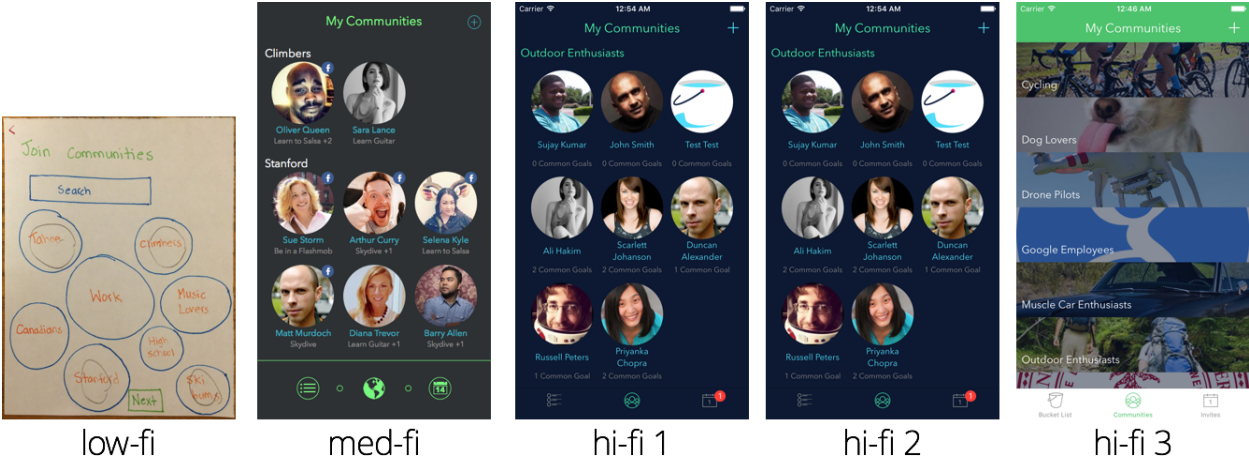
Additionally, from our users tests of hi-fi2, when a user accidentally discovered the swipe left capability, they did not know how to interpret the symbols. After clicking “Edit”, we changed the editing option from symbols to “complete” and “delete”.

## Bucket List Page: Empty State



From our user tests of hi-fi1 and hi-fi2, when a bucket list is empty, users would click on the green headings (e.g. THIS MONTH) to try to add a bucket item. However, the headings are not clickable. To address this, in hi-fi3 we implemented an “empty state” that encourages the user to add item to their bucket list corresponding to the time period.

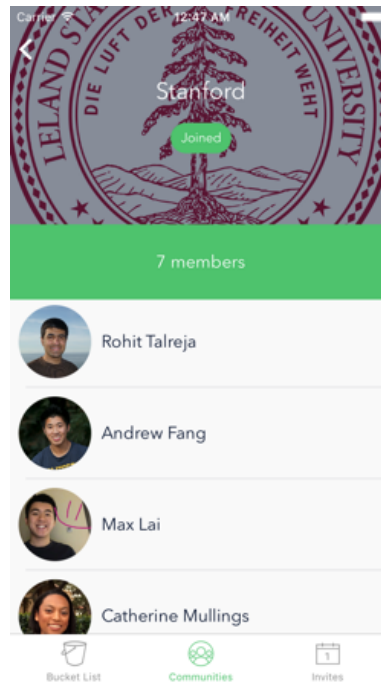
## My Communities Page



The biggest change here was in hi-fi3, when we introduced a new layout that showcased the community photo and hid away the members into individual community pages. From user tests, users had to scroll through several profile pictures to see what communities they joined. As a result, we agreed that the list layout of hi-fi3 would address the user need to simply see their joined communities.

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## Community Detail Page

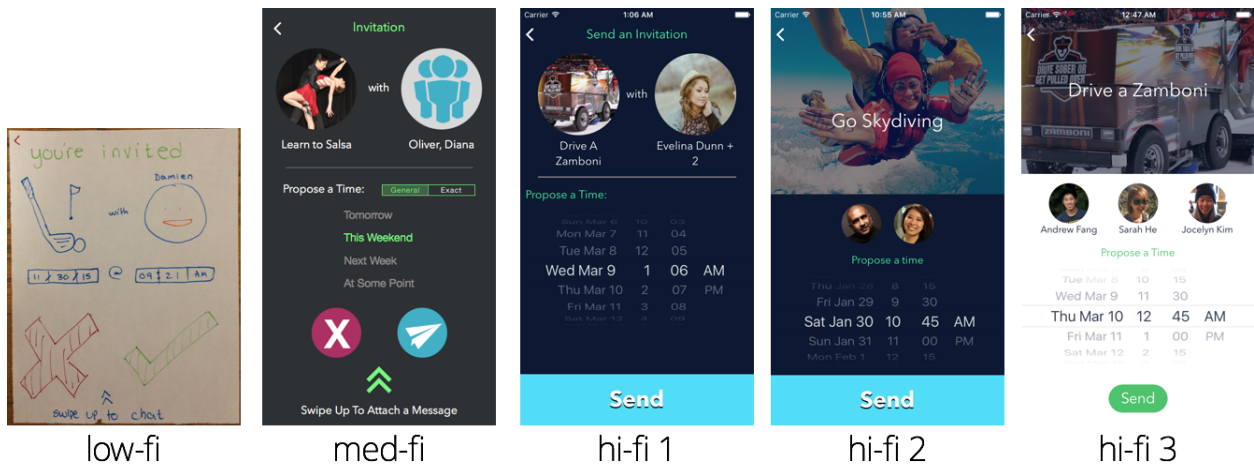


hi-fi 3

In hi-fi3, we introduced the idea of a community page, where the user was able to see all the members of the community. Clicking on a member opened up their profile page.

This page appears after a user clicks on a community item from the previous My Communities page.

## Event Page



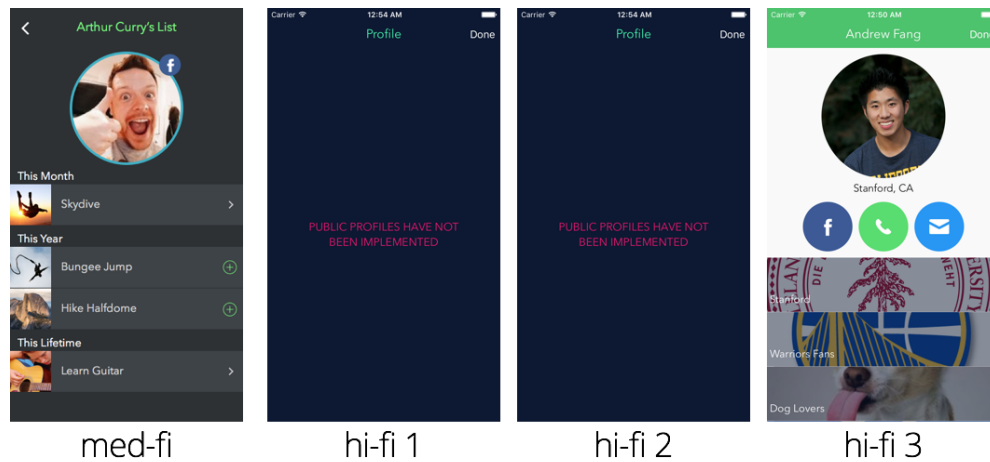
After our user tests of hi-fi1, we found that users were confusing the event photo with the profile photo because both were circular. We addressed this in hi-fi2 by making the event photo a rectangular banner and leaving the profile pics as circles.

Another issue we discovered from our user tests was that users wanted to see the faces of multiple people invited to event instead of a number (see the "Evelina Dunn +2" in hi-fi1 screenshot). Therefore, in hi-fi2 we included multiple profile pics below the banner image.

In addition to changing the color scheme and button style, in hi-fi3, we linked the profile pictures to profile pages built in hi-fi3.

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## Profile Page



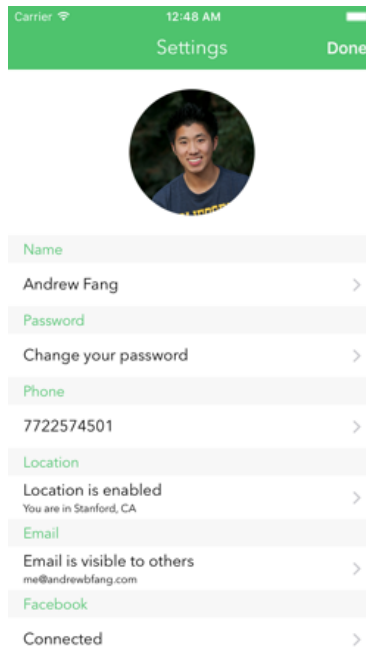
From our user tests people repeatedly clicked on profile pictures throughout the app expecting to learn more about who they were inviting or who had invited them. We had the idea to build a profile page in the med-fi prototype, but we didn't built it until hi-fi3.

In the final iteration of the profile page, we show the user's name, picture, and location (if they grant location permissions). At the bottom, we show all the user's joined communities.

Also in the profile page, we chose to give users the options to communicate with each other. If the user links to facebook, we also show a facebook button that links to their facebook profile. If they provide their phone number, we show a phone button that links to both SMS or telephone. If they make their email public, we show a email button that brings up the native email client.

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## Settings Page



hi-fi 3

We built a settings page to allow the user to change their profile picture, name, and password. They can now also add their phone number, location, facebook, and mark their email as public or private. These changes allowed us to let users add more to their own profile pages and truly made the app social (as users now had ways to contact each other).

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## **Most Valuable Evaluation Technique**

Over the two quarters, the most valuable evaluation technique has been heuristic evaluation because it has helped uncover the problems with our user interface design that prevented users from accomplishing tasks in the app.

For example, “Flexibility and efficiency of use” was a heuristic that we regularly evaluated. As discussed above, during our user tests, users did not know how to edit their bucket lists. The swipe left to edit feature on a bucket list item catered more to expert than novice users. When realized that, we added an “Edit” button to support novice users.

Another heuristic we regularly referred to was “Recognition rather than recall”. This was the case with our menu bar under every page to navigate from Bucket list, Communities, and Invites. Until hi-fi3, users noted that the Bucket List and Invites page looked similar and the icons for Bucket list and Invites, did not help clarify this distinction. As a result, users had to remember which icon lead to which page and afterwards, take a few seconds to determine which page they were on -- Bucket List or Invites. “Recognition rather than recall” served as a guide as we addressed this issue in hi-fi3.

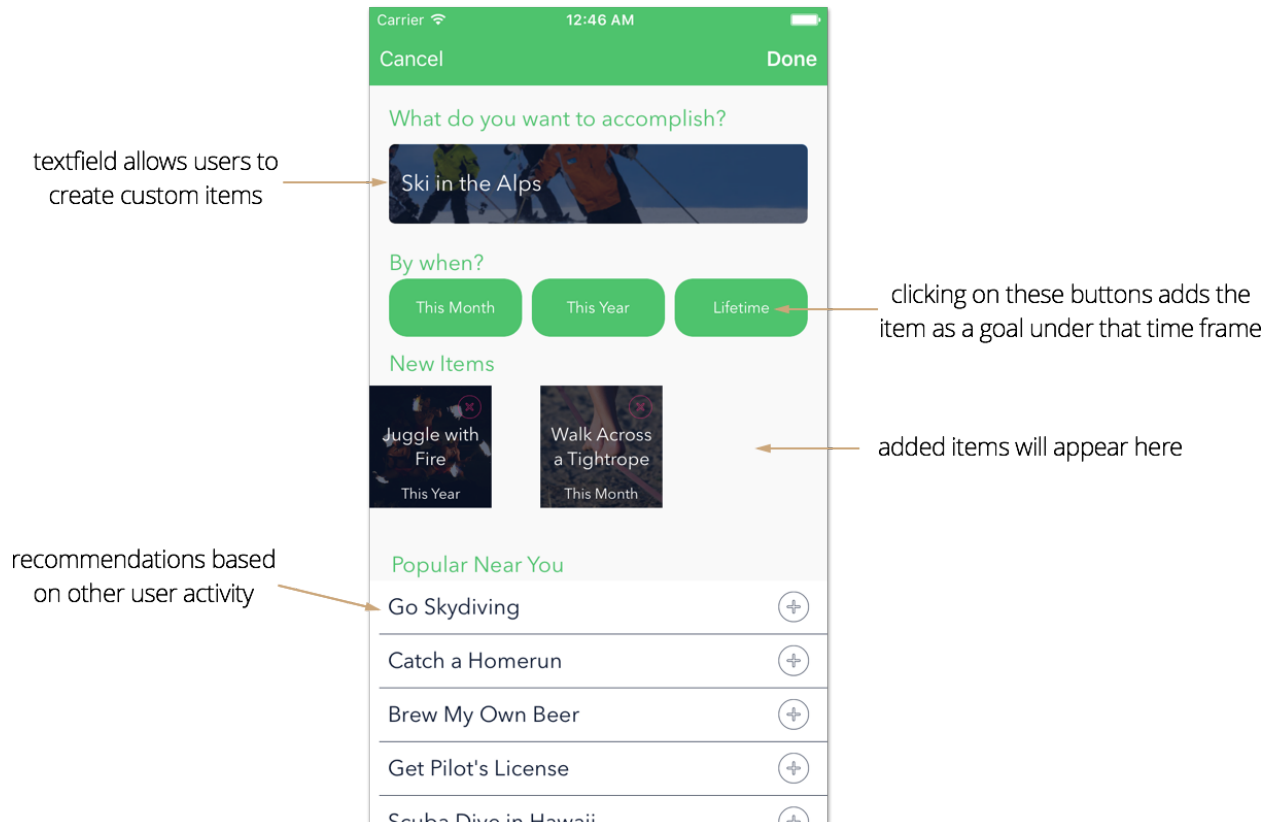


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## Final Interface

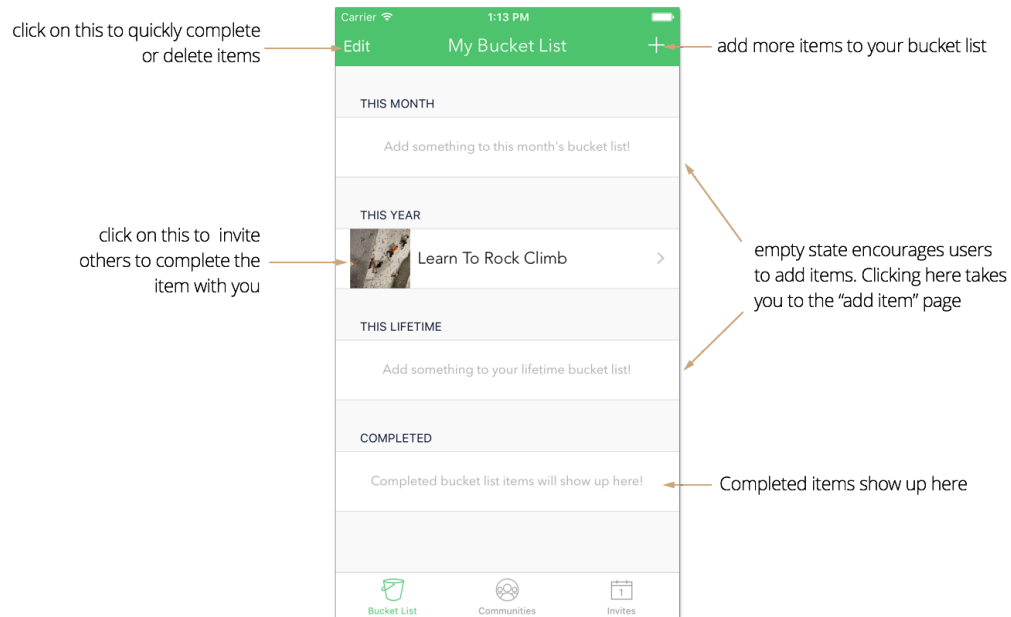
As one of our app's primary focus is to provide a seamless experience of exploring fun activities to do, and adding them to a personal bucket list, we have designed our interfaces to make these processes intuitive and enjoyable.

### Add New Item Interface



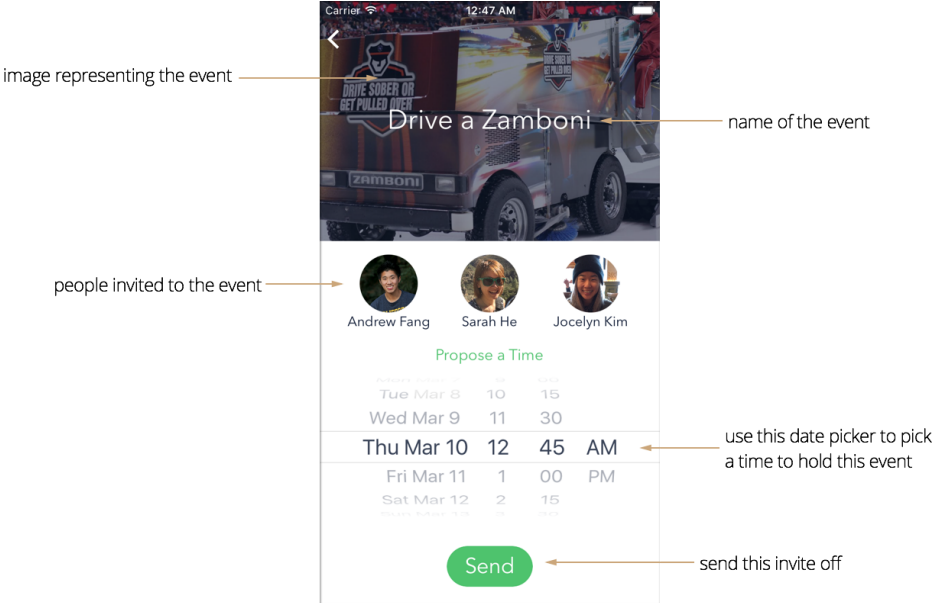
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## Bucket List Page



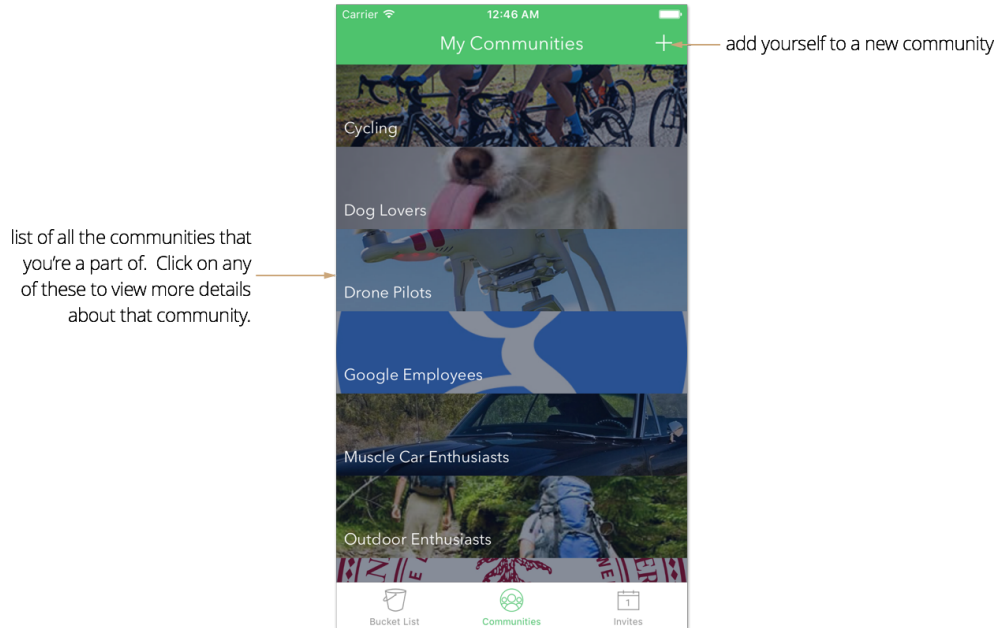
We also encourage social interactions between the users. Namely, we grant users the freedom to achieve their goals with each other. Therefore, by tapping into an item in the bucket list, users can send invitations to other users who share the same goal, and at least one mutual community, which will be discussed next.

# Invite to Event Page

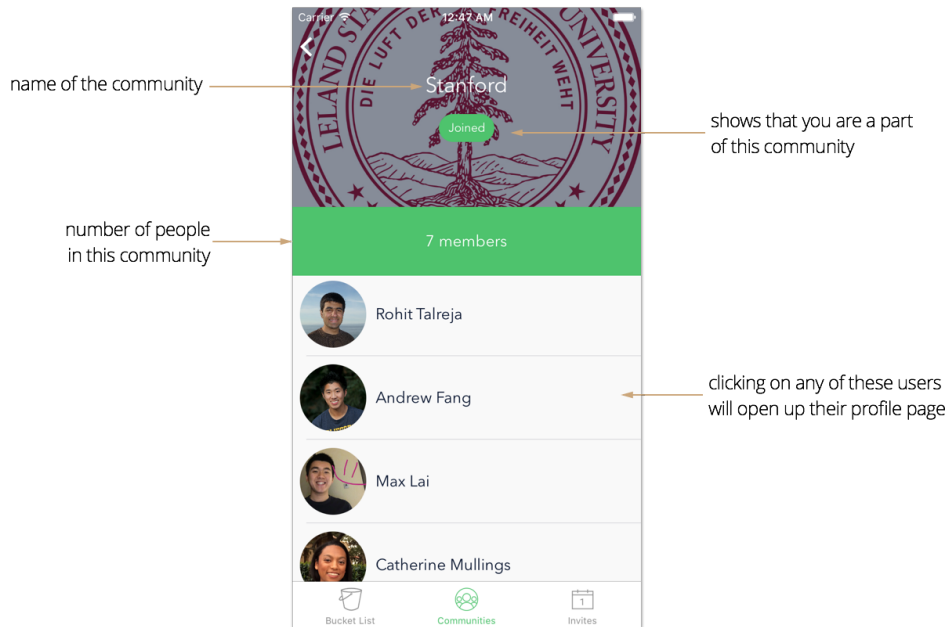


Another concept we have incorporated is “communities,” which associates users within close proximity, or with similar interests. By electing to join certain communities, users can more easily connect with others who also identify by some common attribute. It may be daunting to invite complete strangers to join in on bucket list items; communities establish an effective baseline level of trust and understanding between users, which further encourages intermingling. For example, a Stanford student may feel more comfortable inviting another member of the Stanford Community simply because of this shared commonality. User testings and the theory of homophily indicate that people are more likely to interact with others who are similar to them; therefore, to optimize user interactions, we've made mutual communities a criteria for bucket goal invitations.

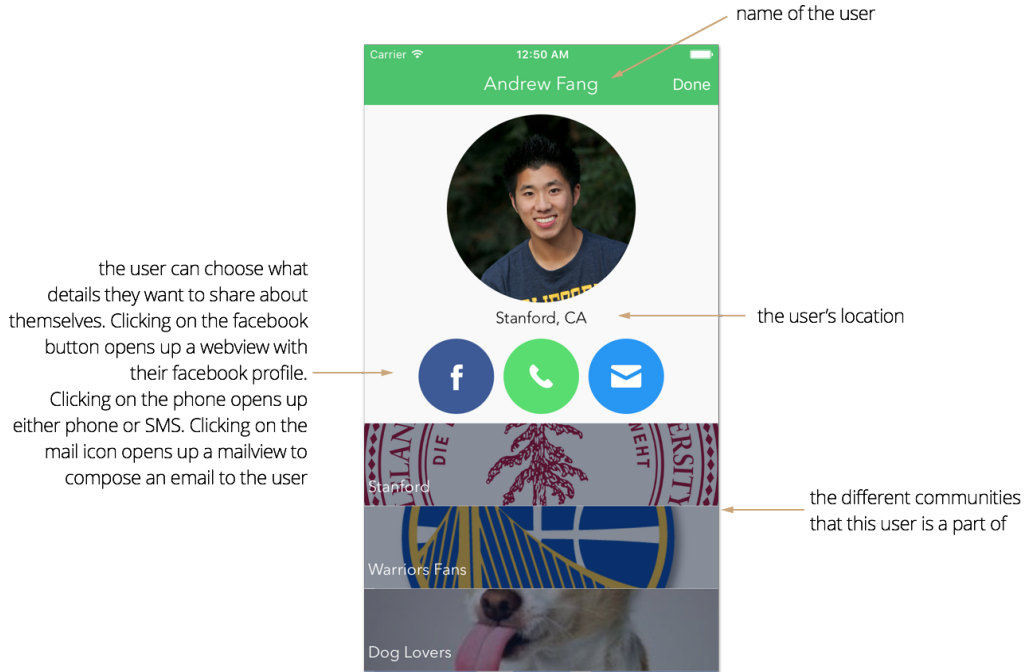
## My Communities Page



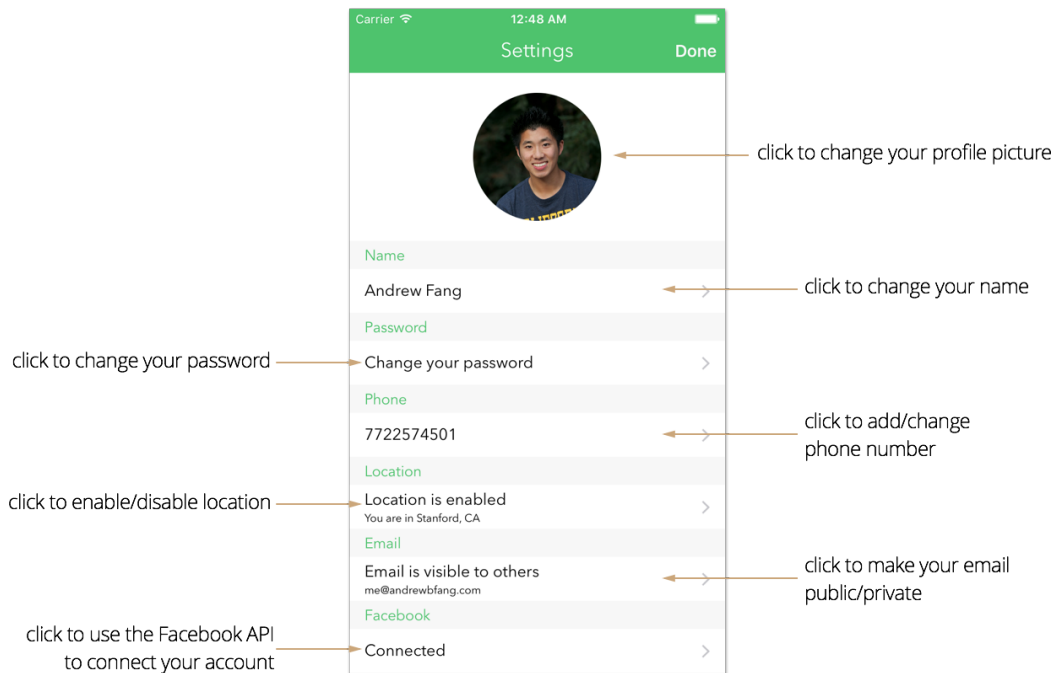
## Community Details Page



## User Profile Page



## Settings Page



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## What was left Unimplemented

- Add a custom community
  - Due to the complexity of maintaining custom communities, we have chosen to skip this for the current prototype, although it is definitely an interesting feature.
- Send notifications to the user
  - There were technical challenges for push notification implementation that would cost us time for other more pressing features.
- Fuzzy matching for bucket list items
  - Implementation of this feature would have been way too time consuming, and quite possibly require manual tagging of bucket items to make matching easier.
- Search functionality
  - At the current scale of our app, a search functionality is not necessary. Once the amount of data becomes substantial, the search feature is definitely imperative.

## Tools we used

- Xcode (iOS - Swift + Objective-C)
  - Instrumental in building our iOS app
  - The app was built with Objective-C in cs147, and we used both Swift and Objective-C in cs194h.
- Parse
  - Data backend for the iOS app
- Sketch
  - Interface design, quick way to iterate on our prototypes and come up with new design changes. Also used to put together the figures in this report
- Marvel
  - Used for the medium fidelity prototype
  - Great for quickly showcasing the interaction design

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- Slack
    - Great for team communication
    - Used to share files and chat with each other
  - Lookback
    - Good for recording short (8 minute) user tests
    - Problematic for recording longer (15 - 30 min) user tests. Often the recorded videos would not upload to the Lookback server and therefore be lost.

## Making it Real

### Who are we?

**Rohit Talreja** is one of the founding members of Buckets from CS147. He is a Computer Science Masters student with a strong background in software architecture and backend development. He built a persistent data storage and integrated Buckets with Parse.

**Andrew Fang** is a Computer Science Master's student with extensive experience in iPhone application development. In CS194H, he served as Bucket's front-end developer and guided its UI & UX design.

**Catherine Mullings** is a BS/MS student in Computer Science with experience in product management and user experience design. In CS194H, she handled the project management of Buckets and guided its UI & UX design.

**Raymond Lin** is a Computer Science student with a background in Human-Computer Interaction. He conducted user tests and took care of design and documentation.

As ambitious young adults who inhabit the crossroad of academia and tech, we all understand the struggle of balancing work with our personal desires for excitement and adventure. Therefore, we definitely see and appreciate the value of an app that pushes us to get out and make memories with other people. And with solid foundations in design, development, and overall problem solving, we have the experience, know-how, and drive to make this mobile app come to fruition.

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## Business Model

Buckets is targeted at college students and young professionals, people who have many to-do's and goals, are open to new experiences, and have growing network of friends. Yet all face the problem of never prioritizing nor accomplishing their personal goals. Therefore, we are looking at a healthy market comprised of men and women from the ages 20-38. Since this demographic of people is typically well versed in mobile devices and applications, we do not need to be as worried about bridging the "tech gap." Given this, we can safely estimate that our market size is substantial 30 million potential users.

Buckets can be profitable in several ways: by charging users the standard \$0.99 app download cost, allowing travel agencies or hospitality firms to "sponsor" a bucket item for a set fee, or even showing ads for specific retailers/airlines/hotels depending on what users have in their buckets. For example, "Scuba Dive in Hawaii" sponsored by Hawaiian Airlines, or "Lose Weight" sponsored by a weight loss company. At this point, we're most interested in the sponsored/featured bucket items because they're the least intrusive to users. We imagine that featured items would be distinguished by a company logo and show up in the "recommended for you" section when users go to add items to their bucket list.

We expect to transform the way people view bucket lists. No longer will bucket list goals be an individual undertaking; people can now come together and collectively accomplish their plans, from wild dreams to lifelong aspirations to simple wishes. And for us, our goal is to confidently say that no goal has to be a solo endeavor.

## Summary

The key innovation for our app is the concept of a social bucket list. We take a bucket list of goals, something traditionally personal and unshared, and integrate it with the ever popular phenomenon of a social network. By leveraging the benefits of community support and motivation, Buckets reinvents the bucket list concept while at the same time, encourages people to go out and "just do it!" We hope that with this app, personal wishes are no longer burdens overshadowed by busy lifestyles, but memorable events that can be celebrated with others.