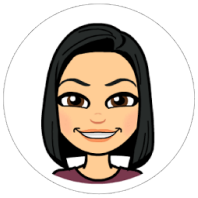
cheers

Designing for Personalized Safety in Bars

the team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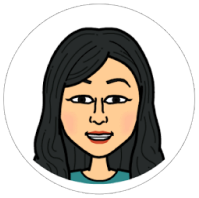
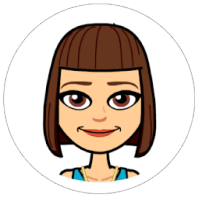

emily


jeremy


minna

Design Problem

We chose to work on improving safety in bars by harnessing friend groups to transform bars into a space that would encourage and catalyze safety enhancing interactions between users. We wanted to take a space associated with irresponsible, chaotic fun and turn it into a more customizable experience. This led to Cheers: our app for friend groups to keep tabs on one another's safety in a fun and expressive way.

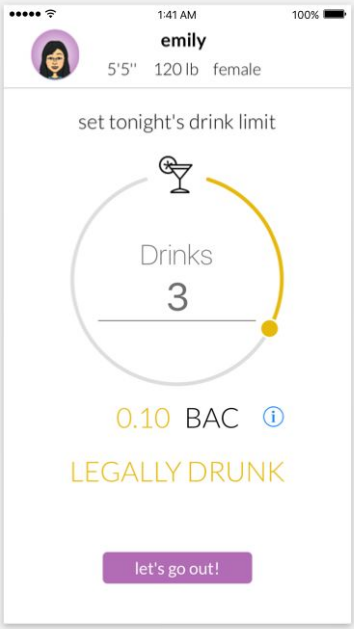
Final Prototype

On the next page we present our final prototype so that as we walk through our design process we can refer to how user feedback led to each final view. Our final prototype opens with the option to let users customize their drinking for the night and then takes them to the dashboard page (upper far right in first image set, also included in second image set). There they can swipe to one side to get to a drink page, swipe to the other side for a map view, swipe up for their own profile view, message the group, leave(and notify their friends), or perform actions/view their friends' profiles. From the other pages in the app they can manually enter more drinks, contact friends, or redesign their night. Overall the experience is meant to provide tracking of friends without feeling invasive or heavyweight. We interviewed a total of 12 people during the development of this app, 5 during the prototyping and concept iterations and 7 during the final prototype iteration (Part II). We also met with our design mentor, Ana Arriola.

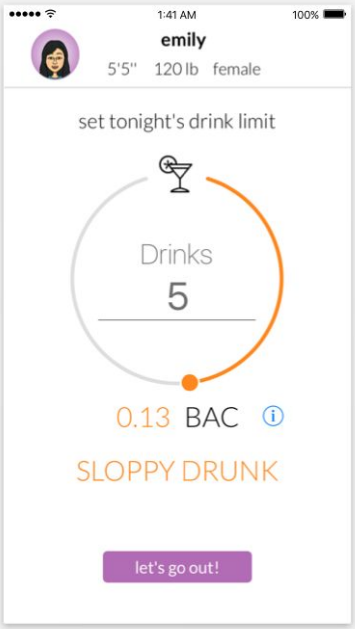
Pixel-Perfect Mocks

Launch Screen v1 Copy 3

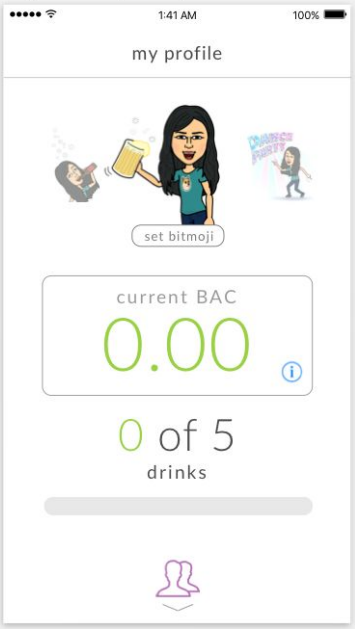
Drink Tracking (Home) Copy 4



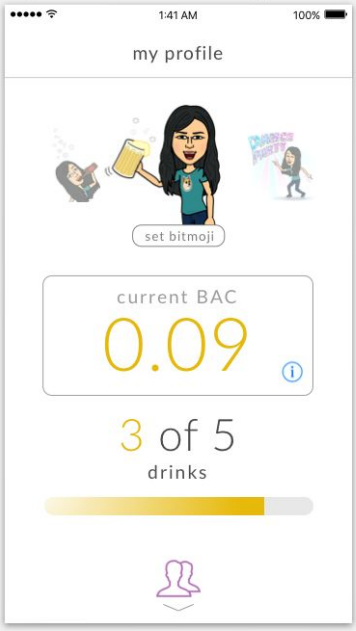
Drink Tracking (Home) Copy 3



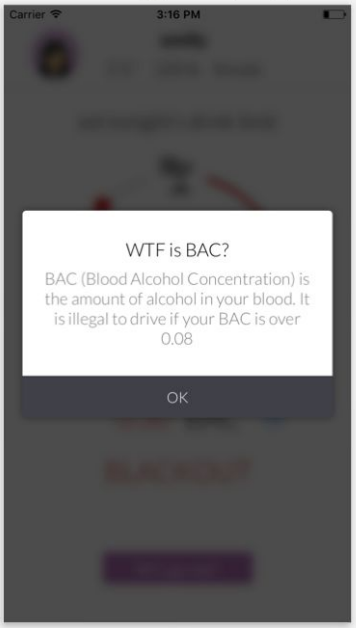
My Profile (Initial)



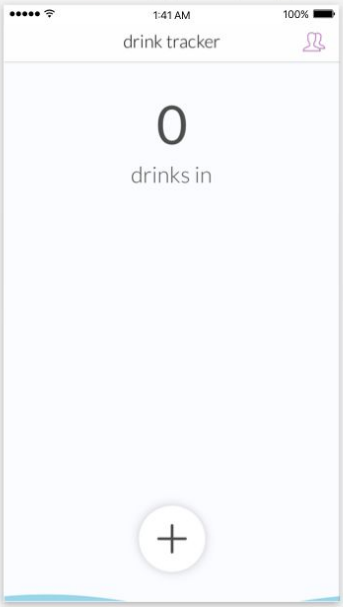
My Profile (After Drinking)



Drink Tracking (Home) Copy 9



Drink Tracking (Home) Copy 2



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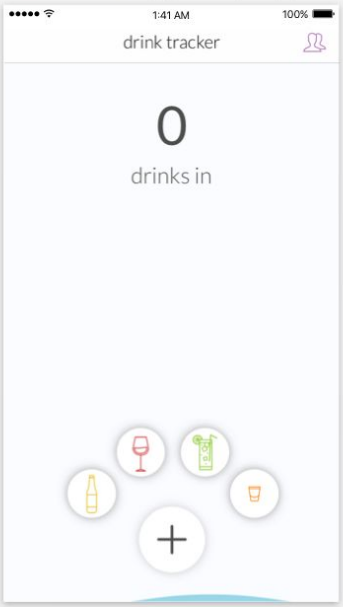
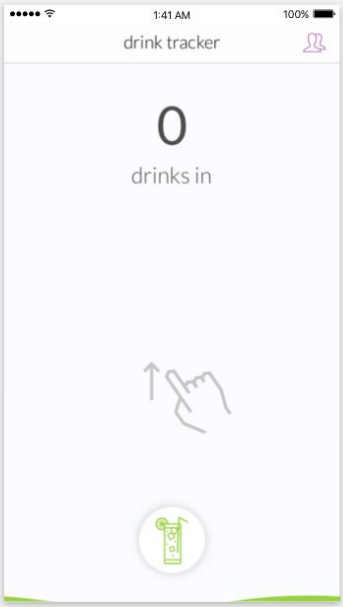
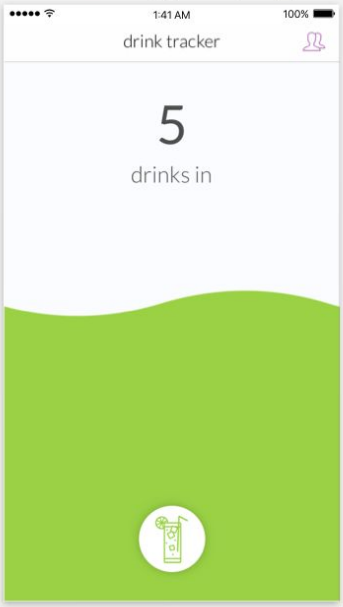


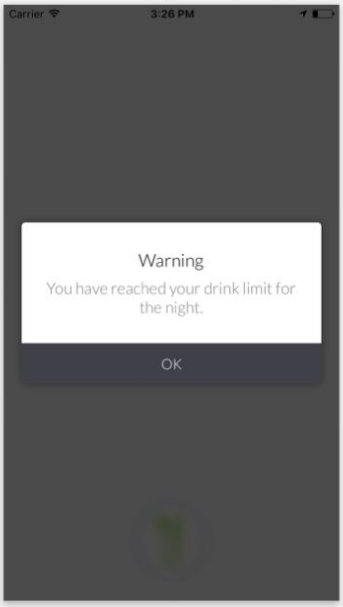
Drink Tracking (Home) Copy



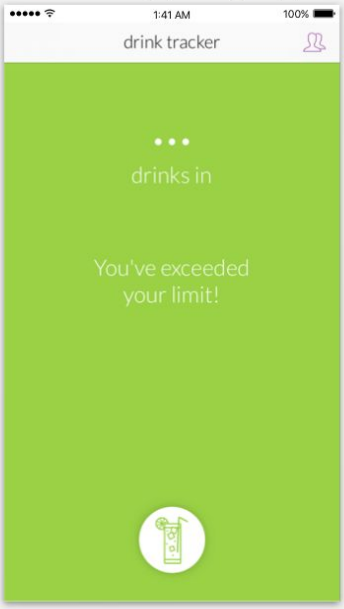
Drink Tracking (Home) Copy 6

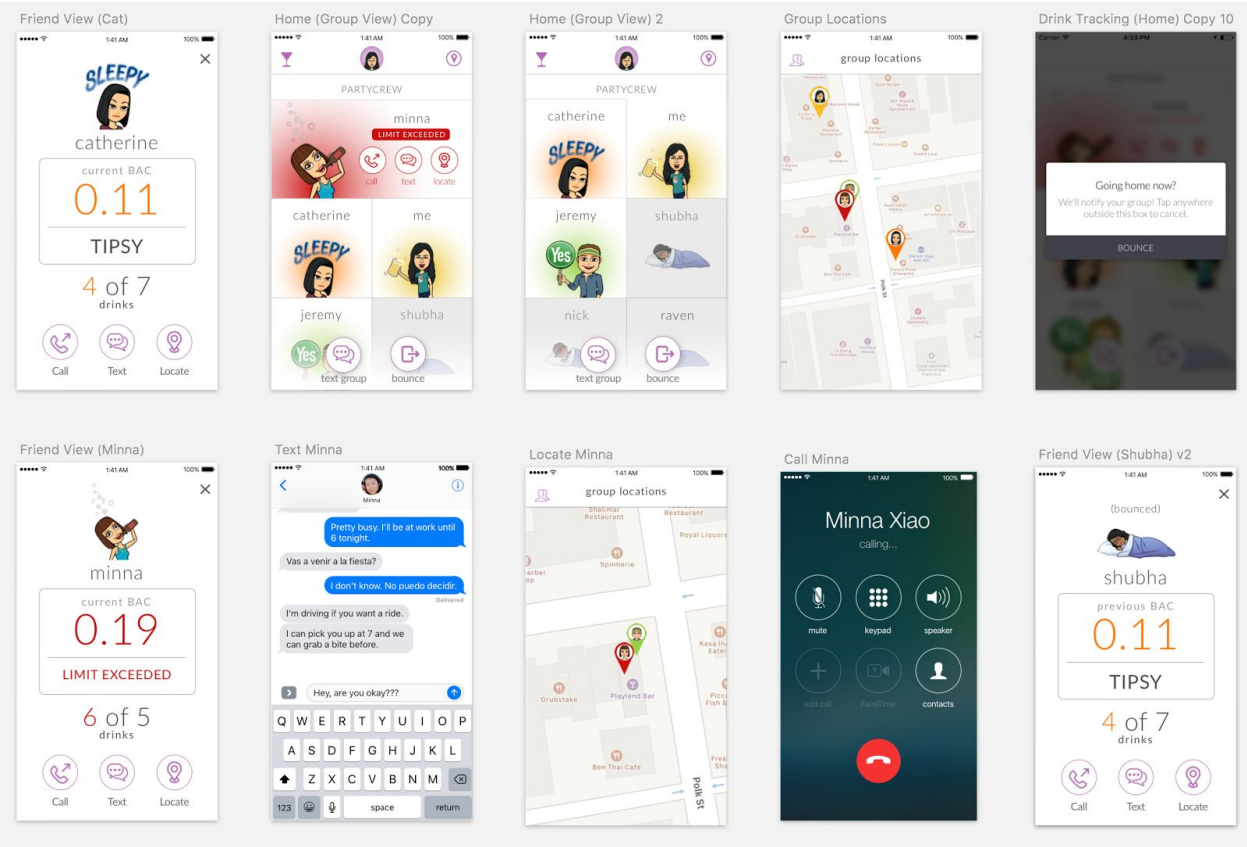


Drink Tracking (Home) Copy 7



Drink Tracking (Home) Copy 8





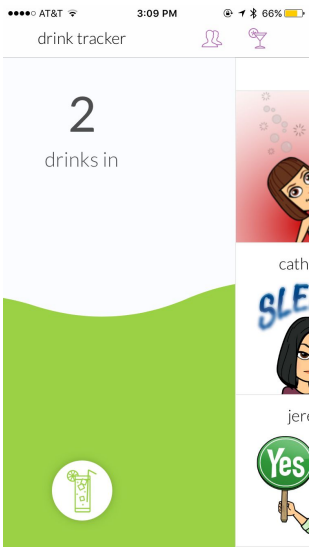
Functional Prototype

We decided to implement our product as an iOS phone app, because we wanted something portable and lightweight that the users would have access to for the entire night that they're out with friends. The functional prototype was implemented in Swift 3, using Xcode 8.

Interactive Features

We wanted to make our app as interactive as possible, with two main design goals:

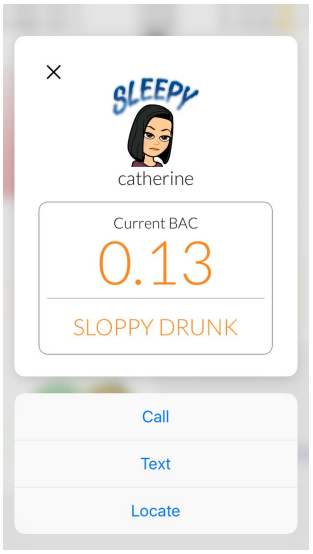
1) Fun and compelling
2) Simple and easy to use, even when impaired due to inebriation



- Swipe to view screens: Not only can the user tap on buttons to navigate among the screens, but he/she can also swipe in the left, right, and top directions to access the drink tracker, map view, and profile view, respectively.

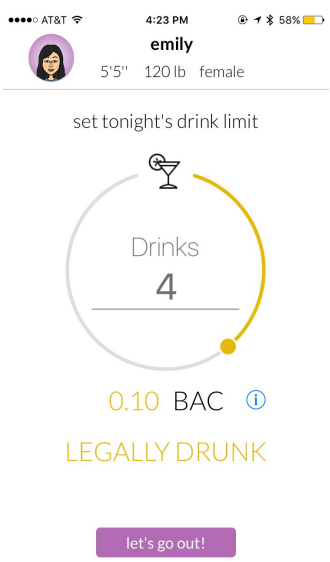
- Interactive gestures and animated graphics to track a drinks: The drink tracking screen represents a cup that would get filled up, with the animated graphic of liquid representing the alcohol

consumed. User can select the type of drink to add from a radial popup menu, and the liquid change color to represent that drink. To add or subtract a drink, the user swipes up or down to watch the liquid level rise/fall. Additionally, the app using the iPhone's accelerometer for a further layer of fun interaction - the liquid will respond to the tilt of a phone.

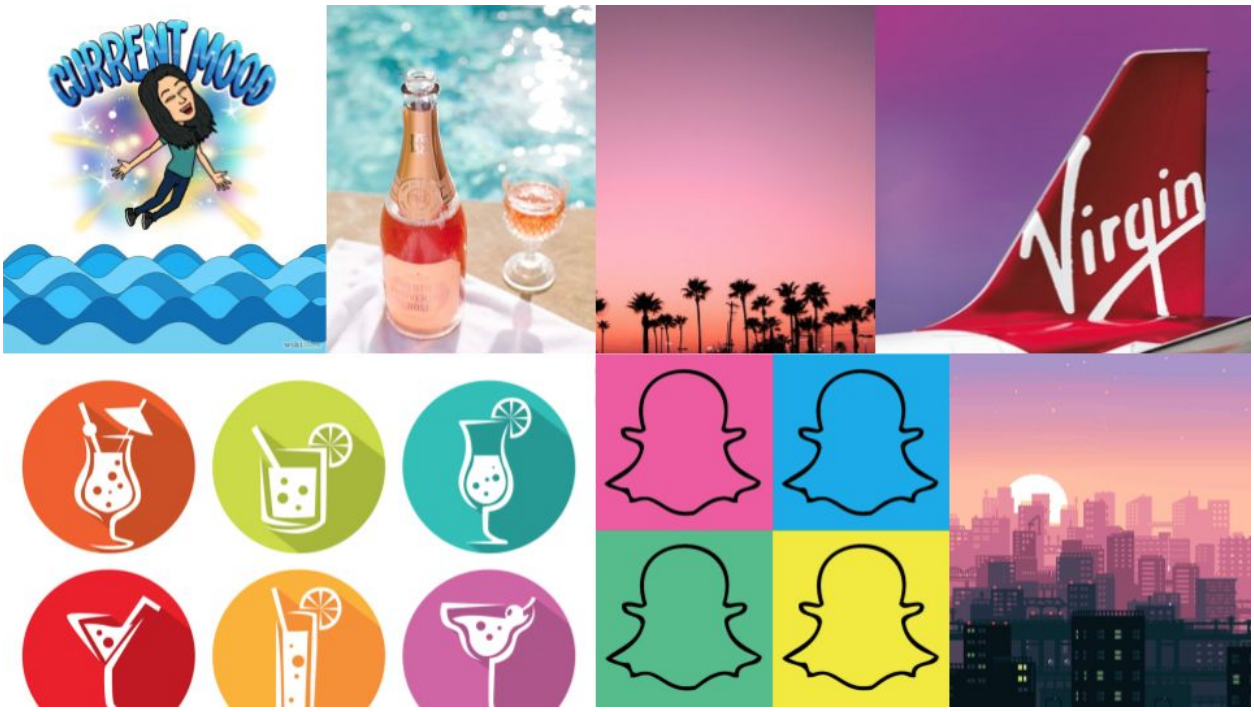


- 3D Touch Peek and Pop to view a friend's profile: Using the latest pressure-sensing technology from Apple, our app uses the 3D Touch feature so that if the presses down a friend in the main screen view, she can see a "popped" preview of the profile with the most important info - the friend's BAC and current state. Swiping up in this "pop" preview will show the three actions of call/text/locate. Pressing down harder will bring the user to the full profile view. The easier the access to information the better!

- Circular slider on personalization page to select drink limit: In the very first screen (personalize your night), the user selects her drink limit via a circular slider that updates the drink limit, the corresponding BAC, and the physical effect associated with a BAC of that level. Additionally, we use a color mapping of green/yellow/orange/red to represent the inebriation/danger level of a corresponding BAC.



Mood Board



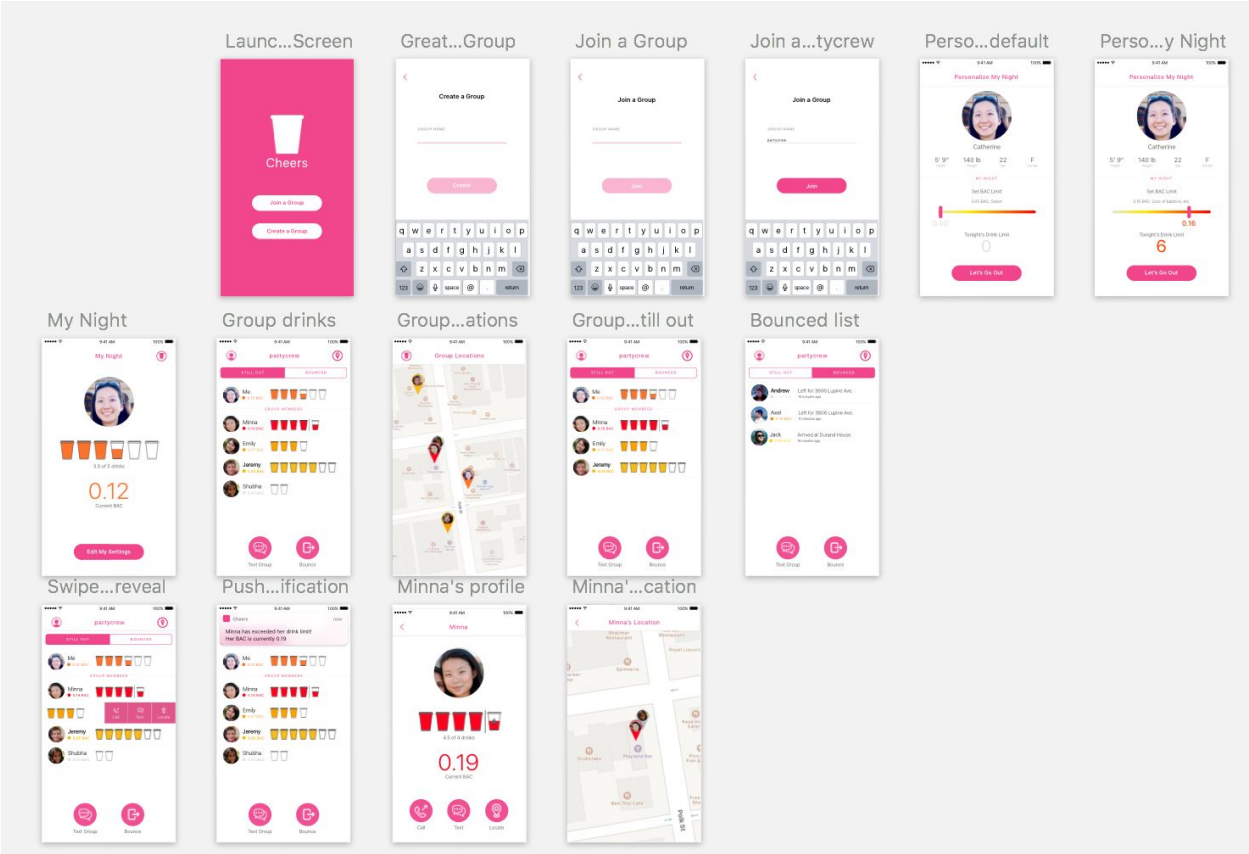
Iterations

Start of Part II

We began the final stage of this assignment having decided to integrate the two apps seen in Part 1. Please refer to that report for extensive coverage of our prototypes, testing, and feedback. To briefly recap, combining SafeNightz and DrinkTracker came after repeated user feedback that they liked both but thought that DrinkTracker served as a better hub and SafeNightz made more sense as a submodule within it. Our original user feedback was conducted out at bars with non-Stanford students and in seeking feedback we designed two separate marvel prototypes (SafeNitez and DrinkTracker) so that we could test each concept independently. Finally, we had also decided on a hardware implementation that makes usage of an experimental microptic technique for analyzing the alcoholic content of a drink by using polymers that change their refractive index in different concentrations of alcohol. This provides a baseline for a cheap piece of hardware, similar to a stirring stick, that can automatically detect the alcohol content in any cup (and be brought by the user to the bar). However, we now also have a built in manual input.

Integrating Drink Tracker + SafeNitez

Based on the user feedback in Part I we developed the sketches below and then created an integrated Marvel app in order to test users. We wanted to create a new prototype that provided functionality for both tracking friends' locations and their levels of inebriation. Our designs aimed to move bars away from being a space associated with danger of both losing each other and accidental over-drinking.



And finally, an integrated Marvel App: https://marvelapp.com/54a08b1/screen/25583786

Presented below is select feedback that we got from user testing our initial integration:

From Jenn/Shubha

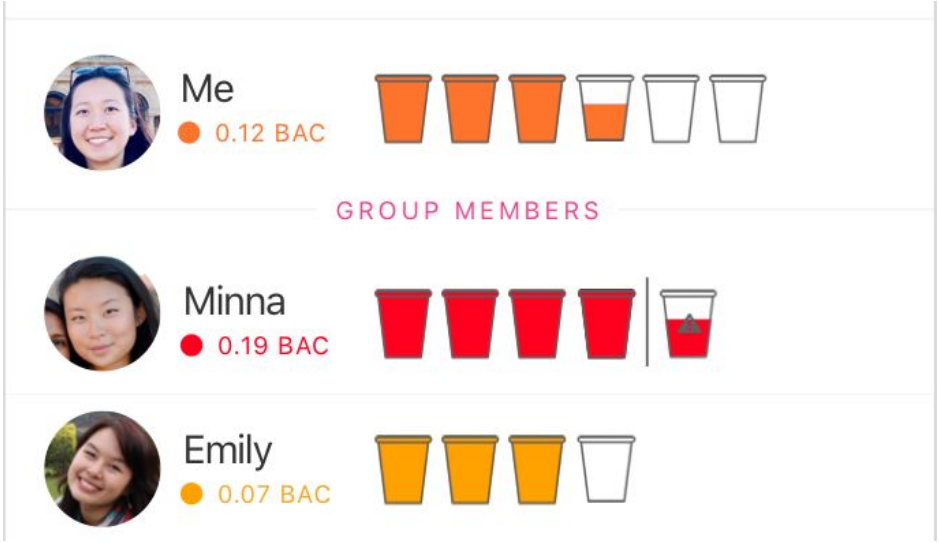
- home/group screen is a lot to process
    - is there a simplified way of representing the information
    - maybe need to be more simplified
- there's a lot of pink
    - can user test the colors and find a good one
- get rid of small text
- Incorporate more interactions into the app

James

- "Is this a trashcan?" (pointing at the cup icon) … "Not clear what the cup represents" (supposed to represent a drink list)
- "I think for me, the most useful feature would be being able to message the group" -- so definitely should keep the group message feature!

Julia

- “When I saw the colors of the cups, the only thing I really noticed was the red. The other colors weren’t as clear, I thought maybe because there were 4 people, the colors might have been arbitrarily chosen, and weren’t really related.”
- “If you go out with a lot of people in the group, will you be able to see right away who has exceeded his/her limit? It seems like the list would be really long. And I would only really care about who has exceeded the limit.”
- “Oh I didn’t notice the warning sign”



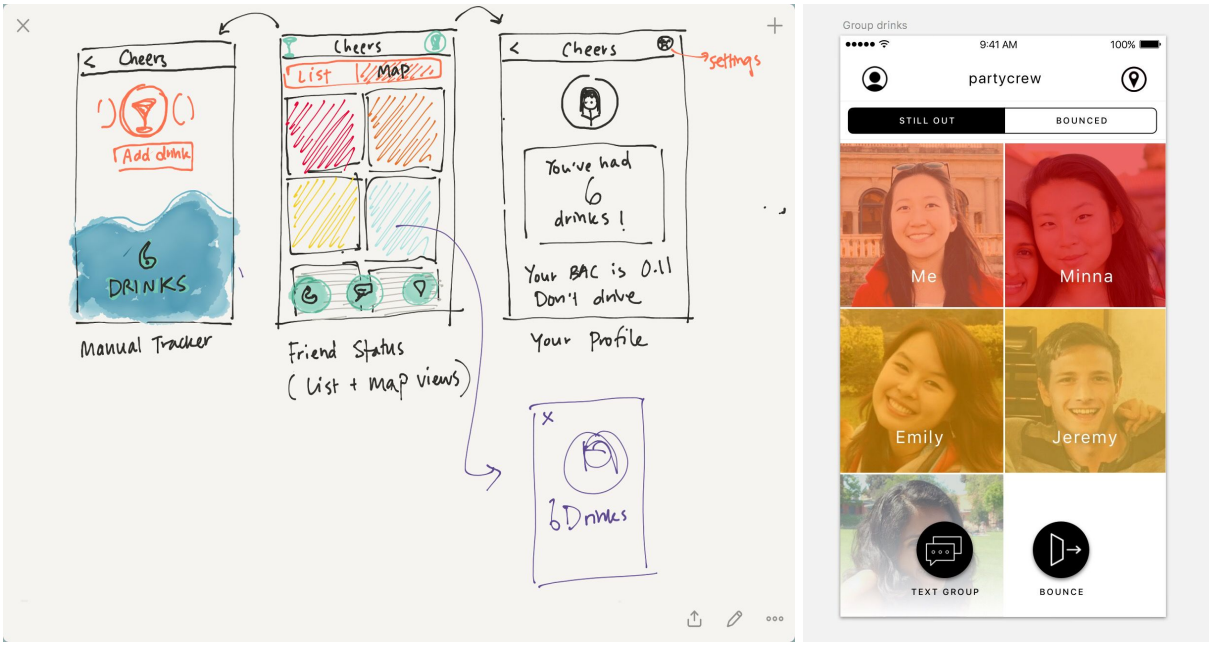
Design Choices/Iterations/Evolution

Designing the Navigation for Alcohol-Impaired Users

Motivating Feedback: watching users test out the app while out at bars we observed that people would hesitate over the icons before tapping. Furthermore, we were given feedback that it was hard to identify people based on their small text name and small photo. Users felt that the focus was solely on the number of drinks being had by the group instead of highlighting the state of each individual group member. This misrepresented our intention of helping group members identify their friends that needed help and monitoring. Finally, we realized that as dexterity decreases with drinks consumed users would need increasingly larger targets on which to tap. In short: we had to design our app to accommodate sloppy interactions with users who could no longer precisely interact with small icons and hotspots. Large margins of error in what a user would do had to be allowed.

Design choices: To fix this, we wanted to allow the most important interactions to be done with “big” gestures. Our home screen was our first testing site for this. We decided to do large squares because it gives more surface area for users to tap (rather than small rows) and thus

allows for larger gesture errors. From first glance, we want users to be able to identify WHO is in danger/has exceeded their limit and then quickly follow up by tapping on their profile. In order to further increase ease of identification and follow-up, we also sorted users by their current BAC so that friends in danger would be at the top of the screen. Below is our first attempt at iterating on this feedback.

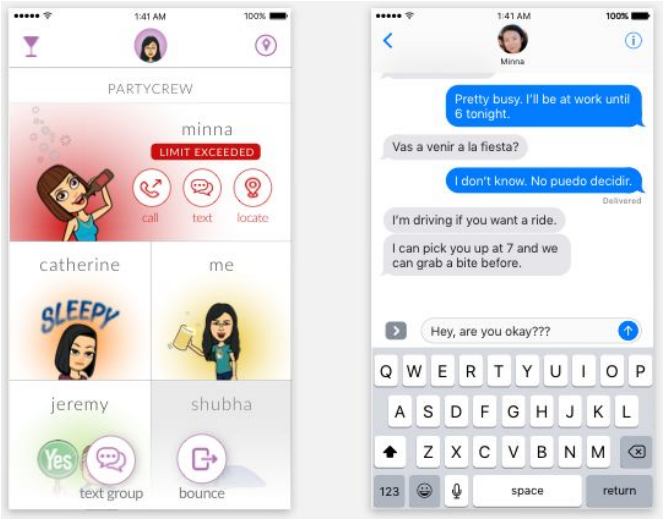


We were given the critique that this design was too elegant, lacked cheerful energy, and didn't go with our mood board. Also that it looked *too* pretty, almost like a shopping app, less of a drink tracking / fun app. This, in part, led to the insight that we needed to maintain a cheerful and energetic momentum in our app, which motivated our movement towards a more fun interface. However, users did like the larger squares and found it easier to quickly identify who was who and who was in danger.

Communication Facilitation

Motivation: user feedback initially showed us that people still had some difficulty identifying which of their friends were in trouble and what they could do about it. We also knew that we wanted to provide as flat of an interaction stack as possible where users can easily identify the actions provided to help out their friends. Without this ease, inebriated users seemed to care less about navigating deep into the app in order to message their friends in trouble. Thus we singled out this feedback as proof that we needed to provide ways that users could help their most at-risk friends through the home page while also making identification of these friends easier. Finally, we also got feedback in Part I that users would prefer to employ their own pre-existing communication modalities instead of using an in-app messenger. People wanted to return to prior threads of communication instead of shuffling between apps.

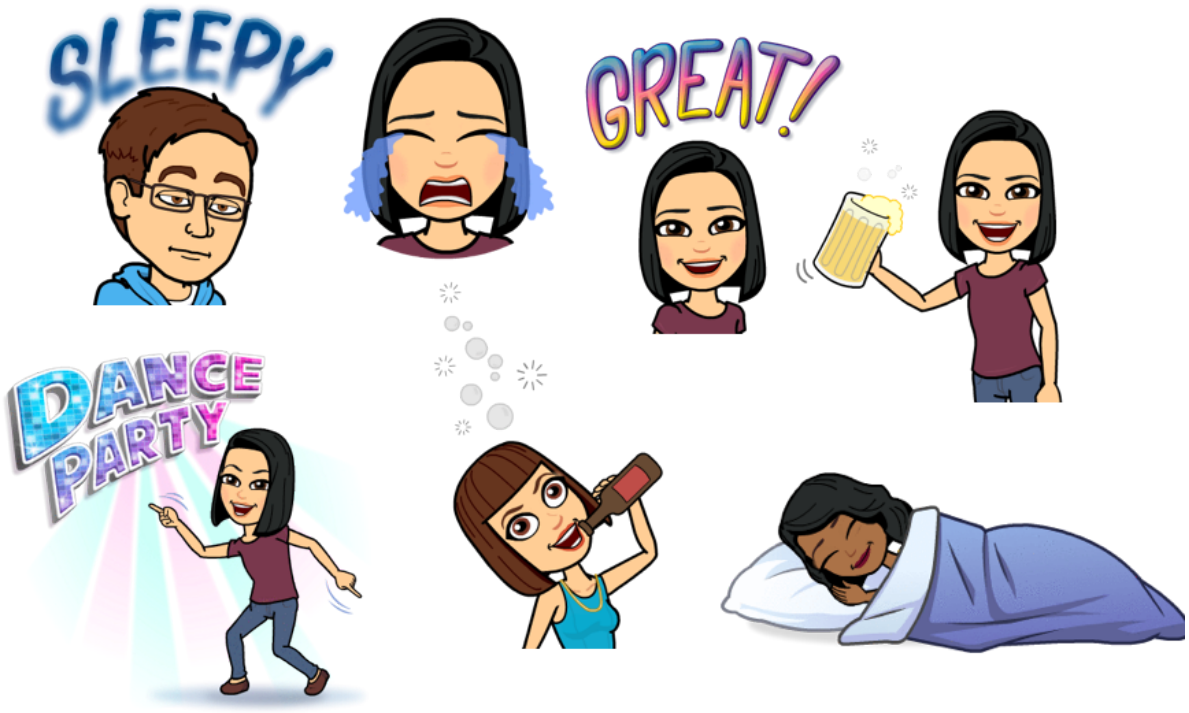
Design Choices: this led to two choices. Firstly, we realized that the tracking home page was most useful for tracking the highly inebriated friends--we could downgrade the visual importance of relatively sober friends if it allowed us to highlight the friends at risk. This led to better identification in subsequent user testing. In conjunction, we used the extra space provided by this spatial highlighting to include direct actions that could be taken from the dashboard to help friends, as seen below. Finally, the next screen shows how clicking on “text” pulls up existing communication on Apple’s messaging platform, allowing users to communicate in pre-existing message threads. Users responded positively to both although one user noted that they might message the group less as a result.

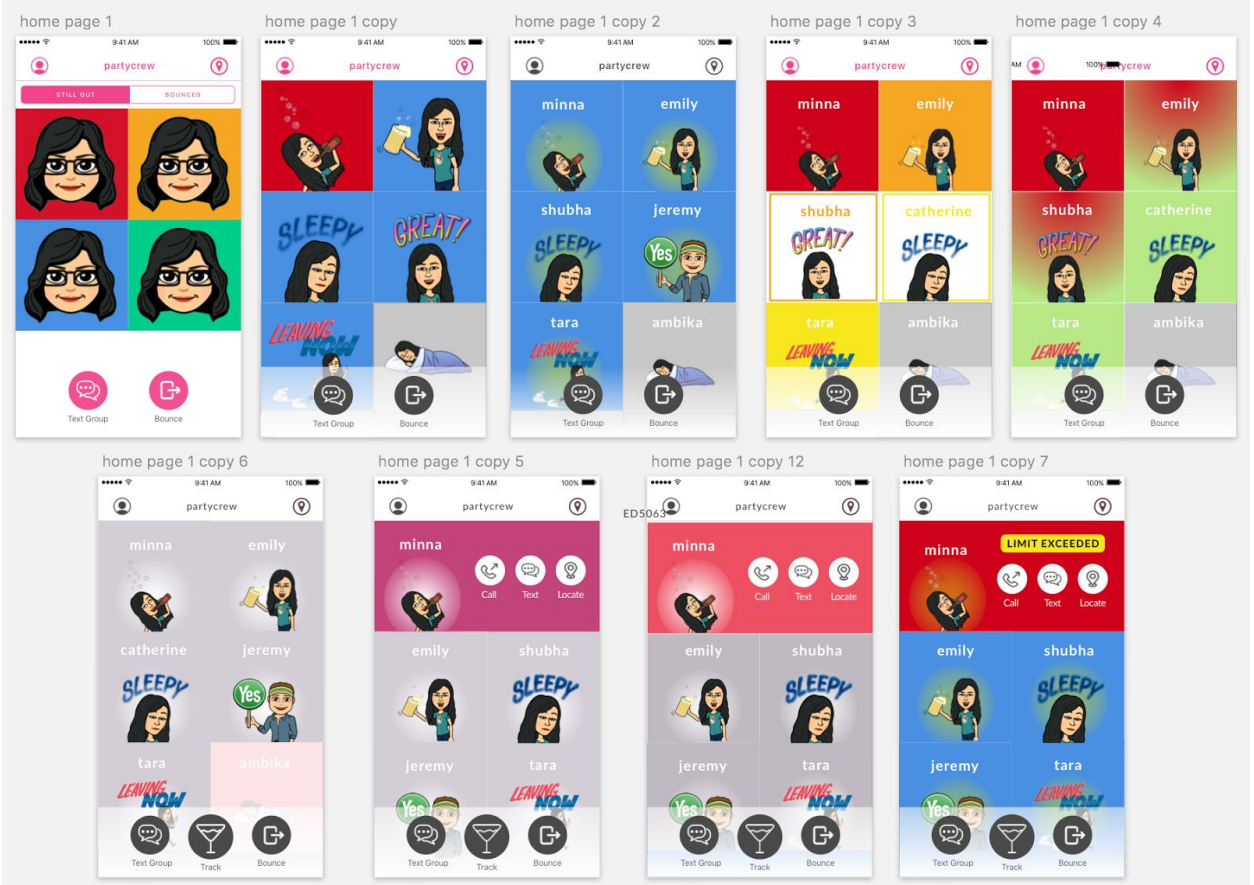


Bitmojis Are Life

Motivation: As we noted in designing the dashboard navigation, users critiqued our initial redesign of the app as too serious, elegant, and cold. It felt, one person observed, like a retail app. At the core of what we were trying to do with users was make safety fun and hip.

Design Choices: Thus we took inspiration from companies viewed as edgy, hip, and fun like Virgin Airlines and Snapchat. We wanted our app to feel expressive and engaging, thus we chose to make use of Bitmojis. They’re fun, expressive, and have strong followings all of which motivated them as a way to both individualize and enliven Cheers. We were hesitant at first but we received overwhelmingly positive feedback from users after the switch, people enjoyed having bitmojis that looked like their friends. They also wanted to be able to change their bitmojis and for their bitmojis to reflect their current state so we added such support in later iterations. Pictured below are a number of bitmoji choices, and below those is an image of the iterations of dashboards that we went through.


SLEEPY
GREAT!
DANCE PARTY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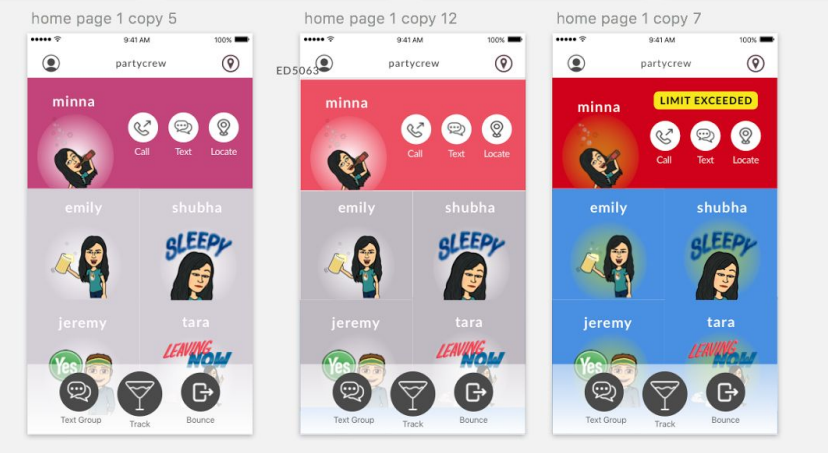
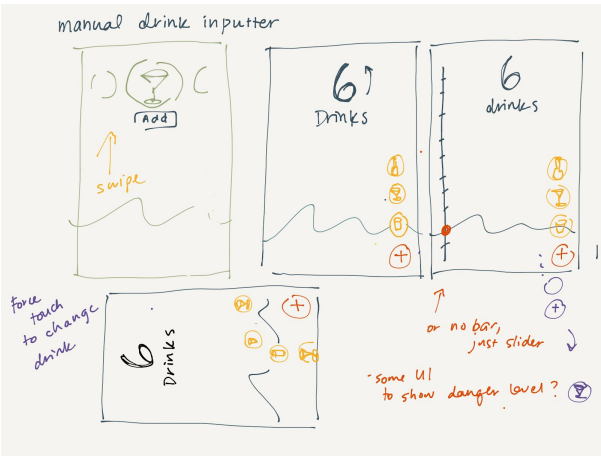


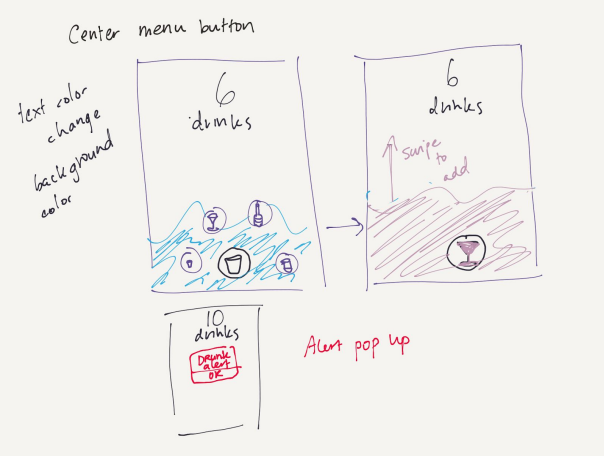
We had to balance use of color for fun with information flow and visual clarity. Our first couple of iterations with bitmojis lost focus and it became hard to identify at a glance who had exceeded his/her limit. In order to increase visual ease we went full width to help draw even more attention and to allow users to take action immediately.

Manual Tracking

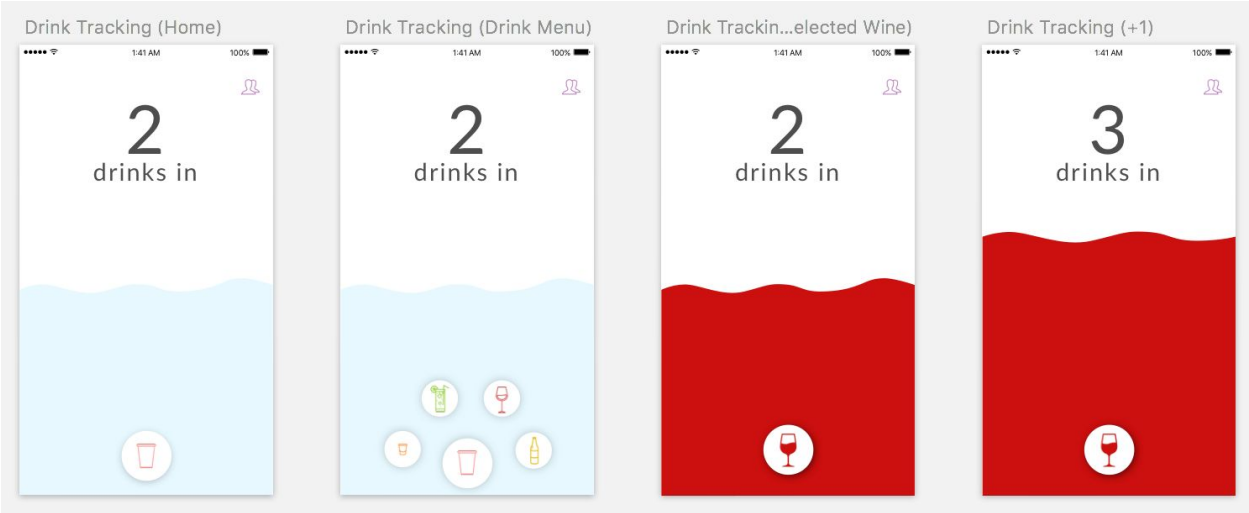
Motivation: even though our initial design focused heavily on hardware that could track drinks, we decided to implement a manual drink tracker to accommodate all of the times when hardware could not be used or was not owned. We did not want to require that everyone in a group have a fully charged piece of proprietary hardware in order to use our app. Our design mentor, Ana Arriola, suggested that we model our hardware requirements such that any hardware would be a nice add-on but never required. Users also directly asked for a way to manually input, even after being told at the start of their interviews that their drinks would be logged automatically.

- *Justification: we wanted the drink tracking feature to be as compelling to use as possible so as to motivate the user to continuously update her drinking over the night. Additionally, we wanted this interactive/animated feature to in a sense physically manifest the act of consumption - as the user adds more drinks, the liquid level rises higher and higher towards the limit, creating a feeling of warning and urgency.*



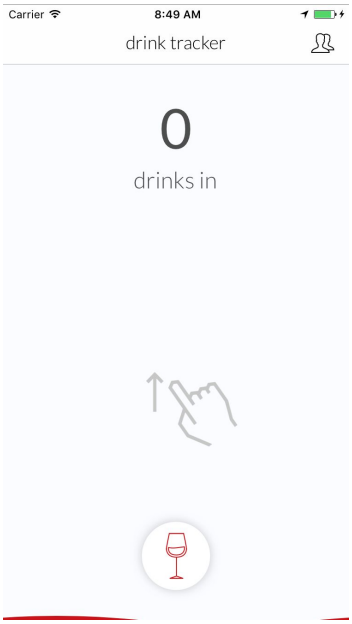


Design choices: We knew this manual entry would be the crux of the app (barring hardware) as without it the app would provide little functionality. Thus we had to get people to continue logging their drinks as the night progressed. In order to encourage this, we focused on making the drink adding interaction fun and evocative. Additionally, as noted earlier, we wanted to work with big gestures--such as swiping--instead of tapping on small buttons because the former can accommodate larger errors in dexterity and precision (e.g. a drunk person trying to tap a small button is less likely to succeed than one who just has to swipe in a general direction). This led us to the designs presented below, wherein the liquid can be sloshed about as the phone moves (using the iPhone's accelerometer) and users can pop out the drink button to pick their drink before swiping up to add it to their count. Moreover, we wanted this interactive/animated feature to in a sense physically manifest the act of consumption - as the user adds more drinks, the liquid level rises higher and higher towards the limit, creating a feeling of warning and urgency.



Users generally really liked this interaction, and two of them made comments about how much fun they thought they would have playing with it while drinking. However users sometimes

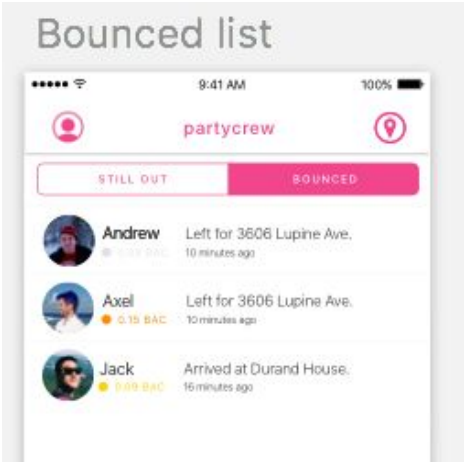
struggled to discover that swiping up was needed to actually add the drink to the total. This led to the enhancement shown below, which disappears after the first drink is added.



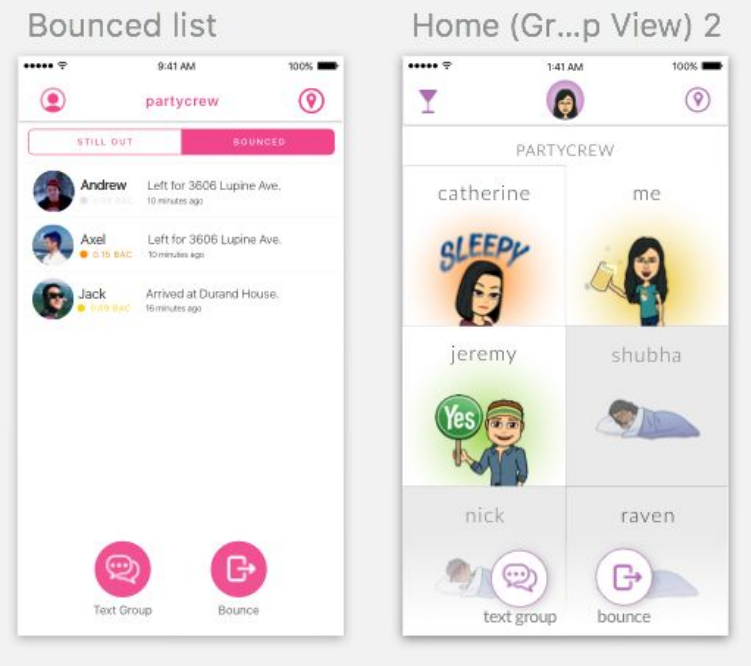
Redesigning the app flow

Since we decided to include manual drink tracking, we now had to rethink the flow of our app and include a way to navigate to the Drink Tracking screen.

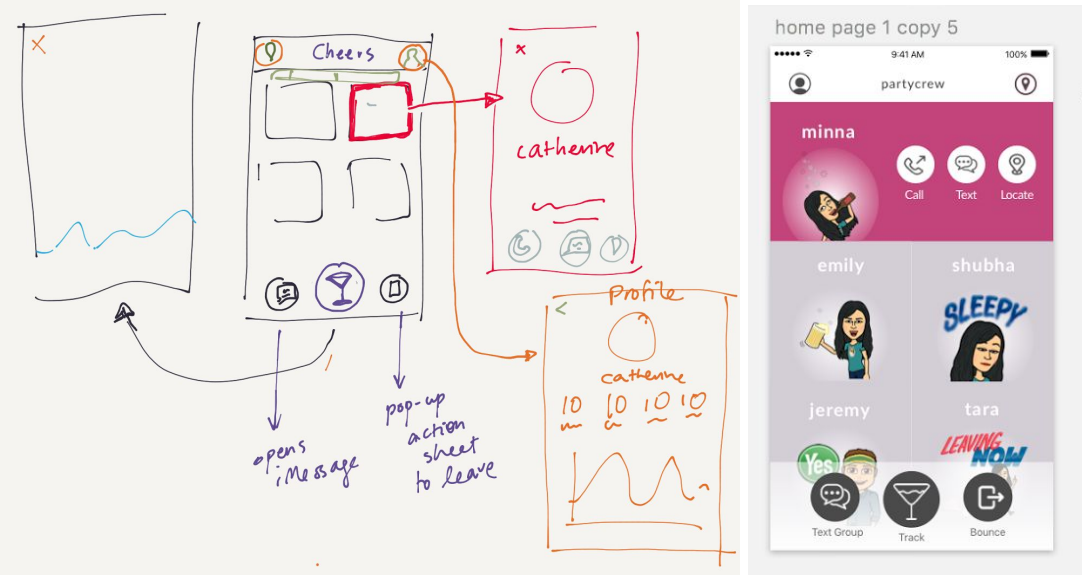
In addition, we found that some users felt that the toggle bar (between friends who are “Still Out” and friends who have “Bounced”) was confusing and unnecessary. In addition, we felt that friends who have left after a while are no longer important (once you know they’ve gone home, which you can track using the Group Locations page), since they’re most likely sleeping.



Thus, the first redesign in our app flow we made was to remove the toggle bar and have everyone show up on the List of Friends screen, with those who have gone home grayed out and identified with the sleeping bitmoji as we can see in the figure below.

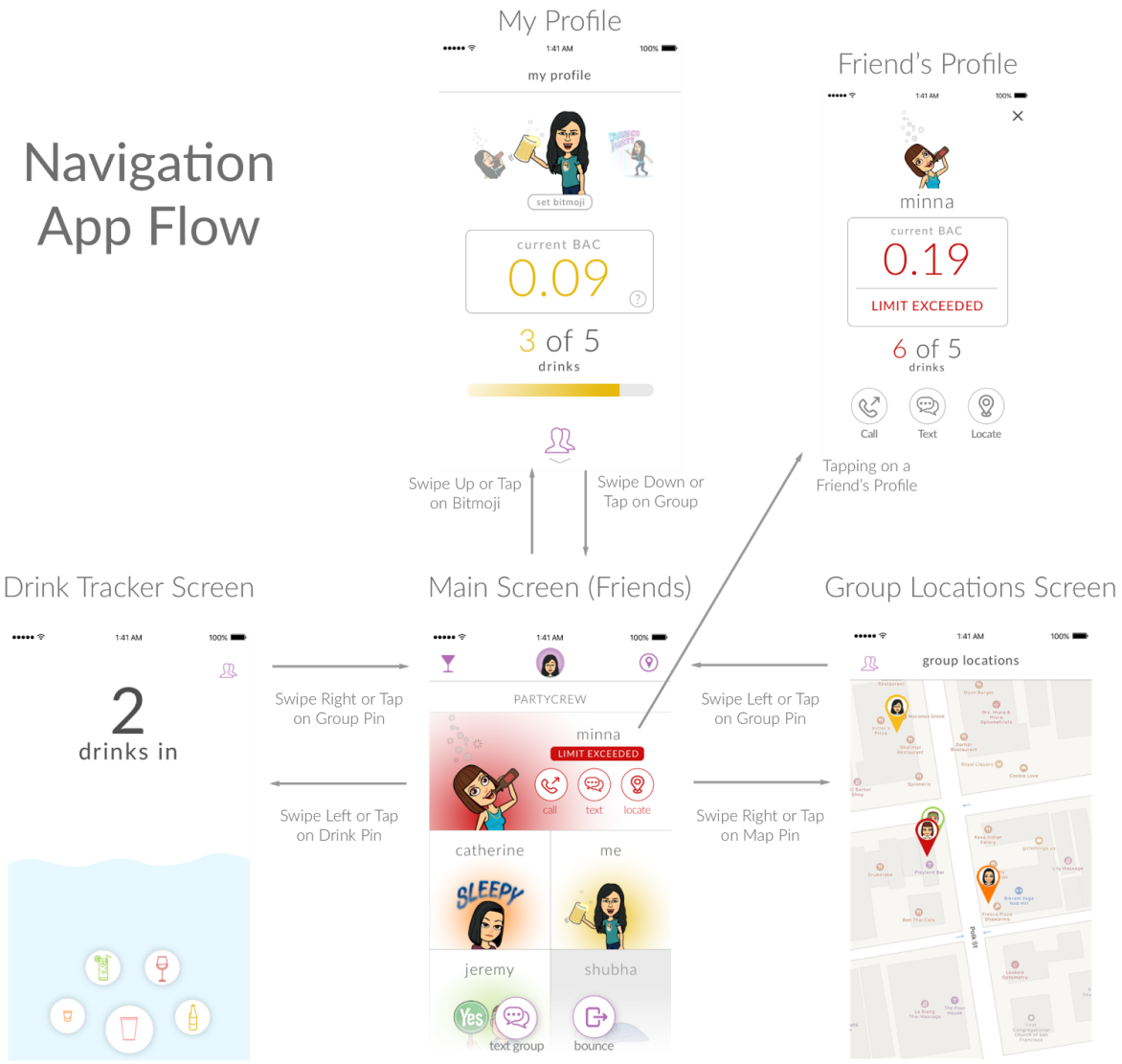


We began to sketch out potential app flows, as you can see below. We had an actionable Track button floating on the home screen of the drink list.



But in this app flow, we realized that it was **nonintuitive** to place Track with “Text Group” and “Bounce” on the group home screen, since “Text Group” and “Bounce” were both buttons that **did not** lead to a new screen.

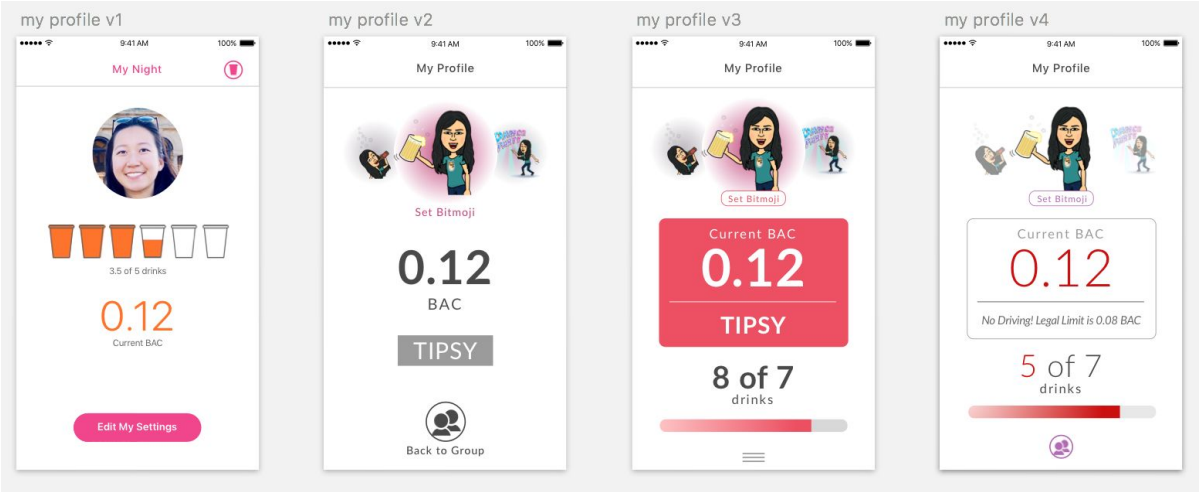
Thus, we iterated and came up with our final app flow, that is a shallow stack, and really emphasizes being able to use your phone with just one hand (because at a bar, most likely your other hand will be holding a drink). It's similar to Snapchat's flow, and relies on 4 main screens and swiping up/down/left/right, as described below:



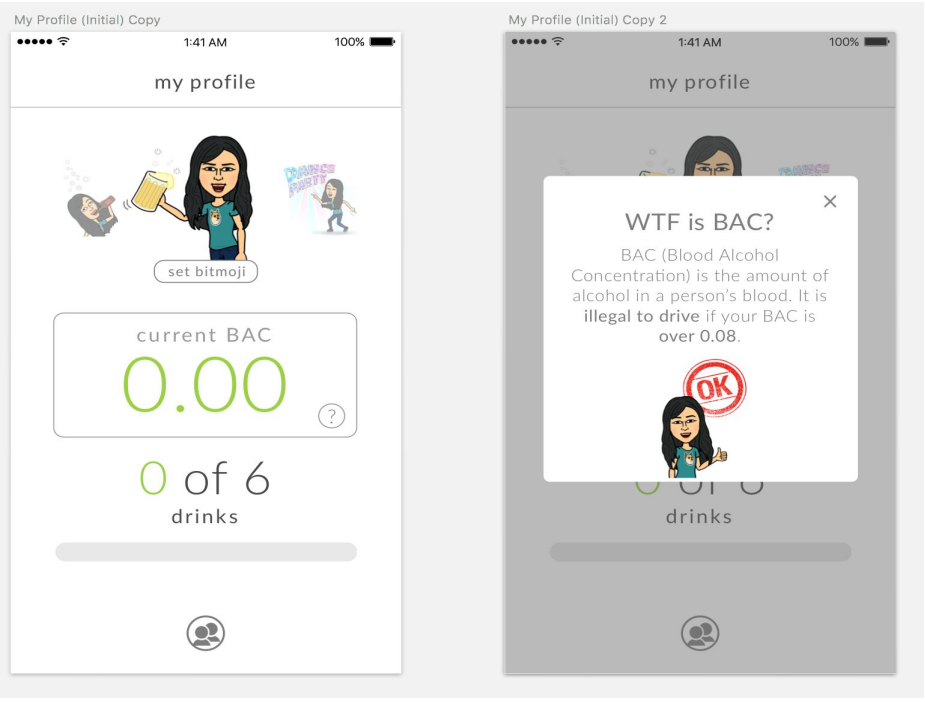
Redesigning My Profile

We wanted a lightweight profile that clearly communicated how drunk the user was. User testing revealed that people also wanted a level of customization regarding what their bitmoji looked like, so that as their mood changed they could change what the rest of the group saw (other than just their drink count). User feedback on our initial designs also revealed that while the cup graphic provided clarity on how many drinks had been consumed, users sometimes viewed

“filling the cups” as the goal. However we wanted to encourage safety, not drinking competitions (though if users decided to partake in such efforts that is an interesting use case for our app). Thus we iterated to a design that users didn’t feel as compelled to push towards the limit. In this case, we settled on a less central progress bar that accompanies a central BAC estimate. User testing indicated that people felt less of an urge to drive up a number with no discernible end goal.



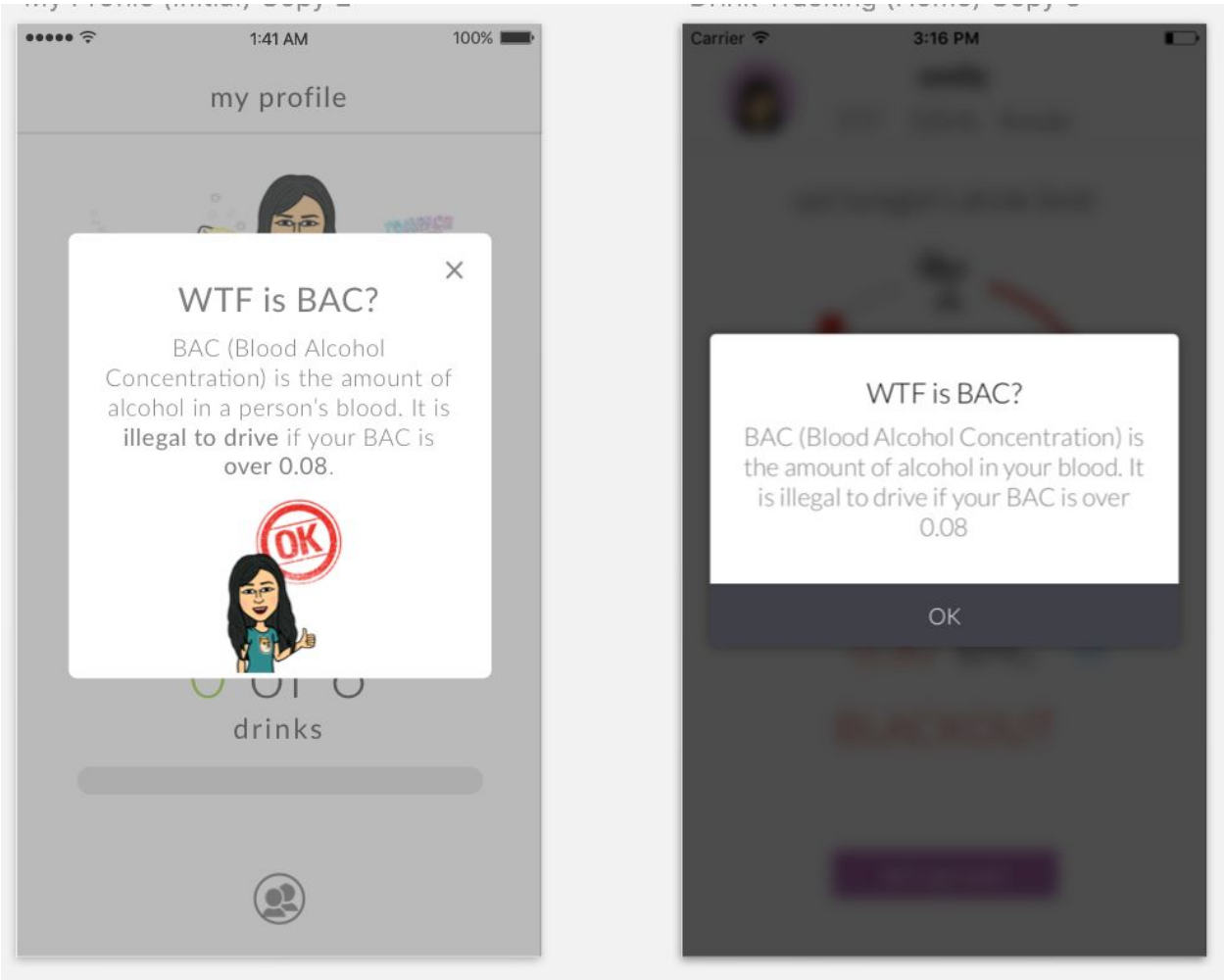
Final design:



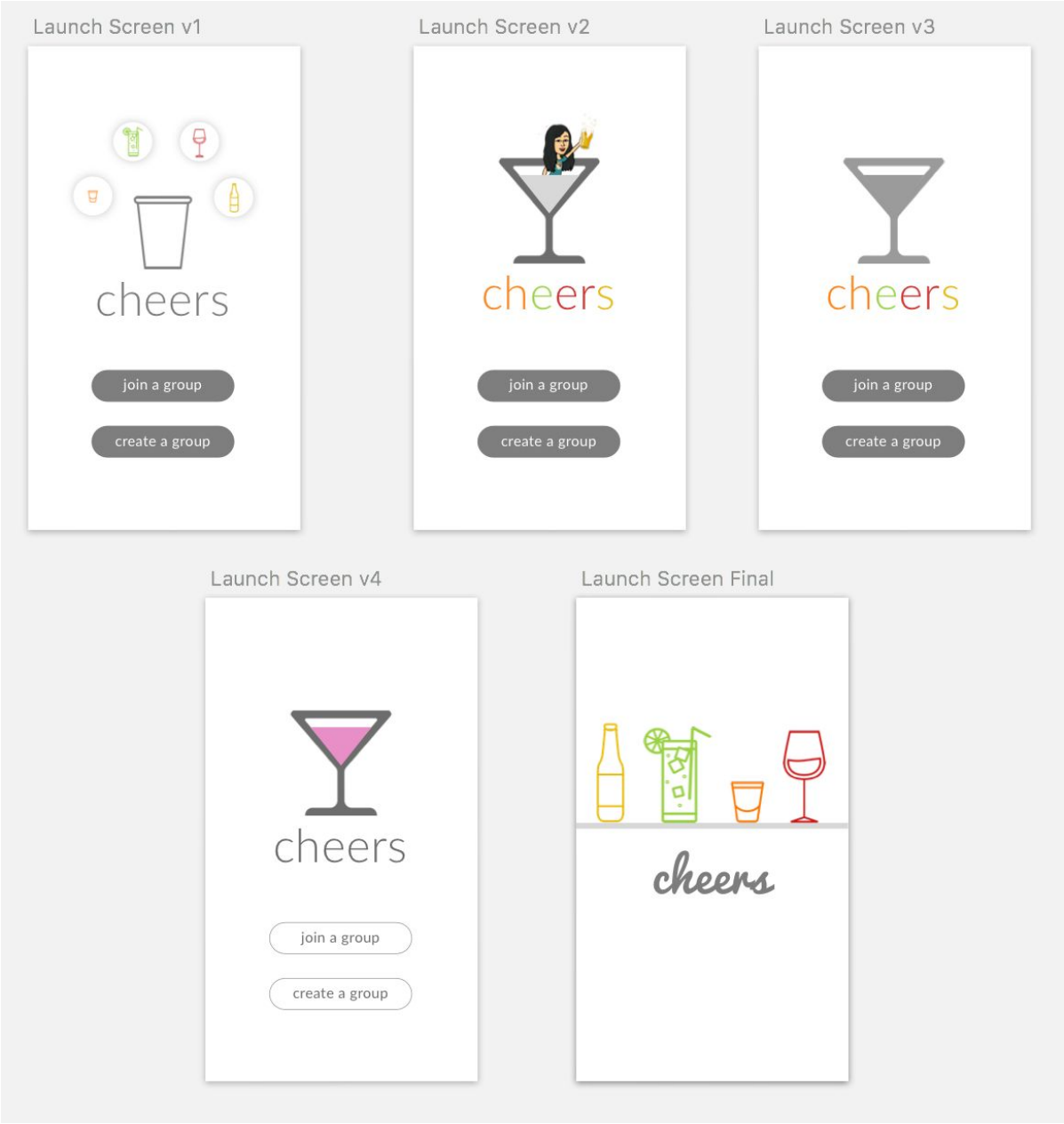
Contextualizing BAC

One of the critiques we got from our first User Feedback section (from submission Part I) was that BAC was confusing, and not something that people know right away. Many users did not know what the legal limit was nor, when pressed, what levels of a BAC were dangerous. However we wanted to standardize drinking across users: a 250lbs user and a 110lbs user shouldn't be compared on just the number of drinks that they've had. Thus we decided to use BAC but also to try to contextualize the number so that people could have an easier time understanding it.

Design choice: in an effort to avoid cluttering the home screen, we chose to contextualize the BAC by providing a pop-up. That way someone could learn about it and then never again look at the pop-up, preventing the contextualization from cluttering the profile view. Most users didn't find the pop-up but the one who did thought that it was a great touch (as they didn't know what the legal limit on BAC was)

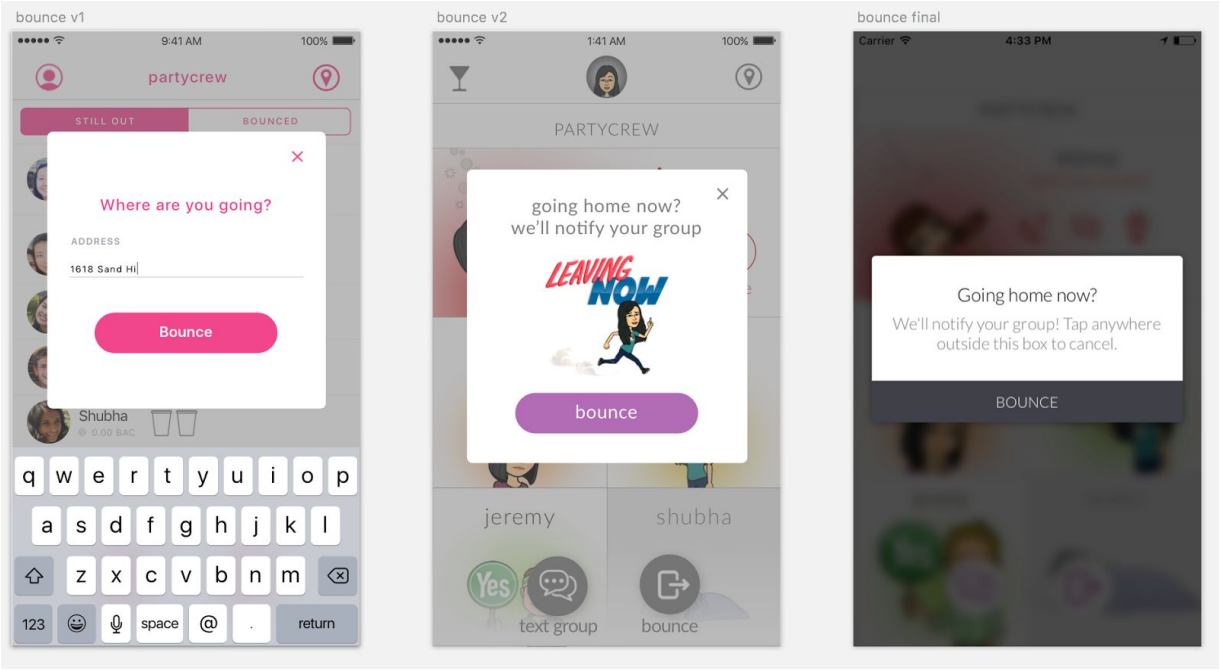


Finally, Our Launch Screen Iterations:



Leaving

When testing our departure feature, we received feedback that people didn't want to have to manually enter an address every time they left the bar. Users want a quicker interaction that also is less invasive (i.e. doesn't require either not leaving, giving a fake address, or broadcasting your home address to your group). Especially because it seemed that at least one user was wary of entering their address into an app without knowing what the information was used for. We also decided that users would be too lazy/drunk to enter their address in. So instead, we just track their location until they leave and then have it be a simple one-click interaction.




Cheers