

# 01.

## Introduction & Problem Statement

When University students initially begin school, they enter a new social environment which can be hard to transition into.

Struggling with new-found independence and responsibilities, students can fall into the pitfall of not forming and maintaining new relationships. Many of these students who have few friends attended the same University can experience isolation if they do not make new friends. This rings especially true for students who experience social anxiety (Camarda 2014).

Having no extracurricular activities to partake in, students who suffer from social anxiety can often feel no need to leave their rooms and interact with other people in real life. Furthermore with the wide availability of online classes and lectures, students have even less reasons to leave the comfort of their rooms, only leaving to get groceries or food. These students can use online gaming to connect with other gamers around the world (Gray 2012). While online interactions can be positive or negative, the fact remains that students who turn to online going may spend less time interacting with people involved in their daily lives.

This isolation can be extremely dangerous for a few reasons as a study at Amity University notes: “teenagers fall into isolation due to having to adjust to new social environments,” and that “there is a positive correlation between isolation and depression” (Tiwari et al. 2012) Being isolated affects not only their mental health, but their physical health as found by a study by Princeton (Waite 2009). Also, social isolation has been associated with increased risk of depressive symptoms, suicide attempts, and low self-esteem in young people (Hall-Lande et al. 2007). To make this cycle worse, “once [students] are in a state of isolation, it is very hard to get out” (Winch 2013).

**At its core, isolation in students caused by a lack of confidence, social anxiety, and the lack of resources, tools and methods to facilitate interaction and discussion with other students.**

Realizing the first two core problems would be extremely difficult to solve, we decided to attempt to solve the problem students face with finding interesting tools and methods to facilitate interaction. **Outr** is a mobile augmented reality (AR) application in which users interact with other users attending the same college with the goal meeting up with each other for events or activities at their college. Different group activities are listed as “goals” which the user can complete with one or more other users of the app. This can help create a clear path for college students to take when trying to form new relationships, giving them a goal to complete so they don’t have to be overwhelmed by choosing from the many options at hand. The fact that both users select to complete the goal creates an understanding that both users are trying to meet up with people, which makes it easier to first interact.

Our design uses augmented reality because augmented reality allows integrating game like objects into real life. **Outr** is meant to be played as a game while interacting with both game objects and real life objects. Augmented reality has also been shown to help in treating phobias as well as other psychological disorders (Botella 2005). This means it can also be used to help in treating social anxiety and isolation because it creates a virtual layer between two people interacting in the game. Other designs may involve using virtual reality over augmented reality which will not work for our design because we want to help integrate the user to social interaction instead of allowing them to escape social interaction.

**Outr allows university students to build and maintain relationships with others by gamifying the way students explore their University to facilitate interaction with their classmates and campus.**

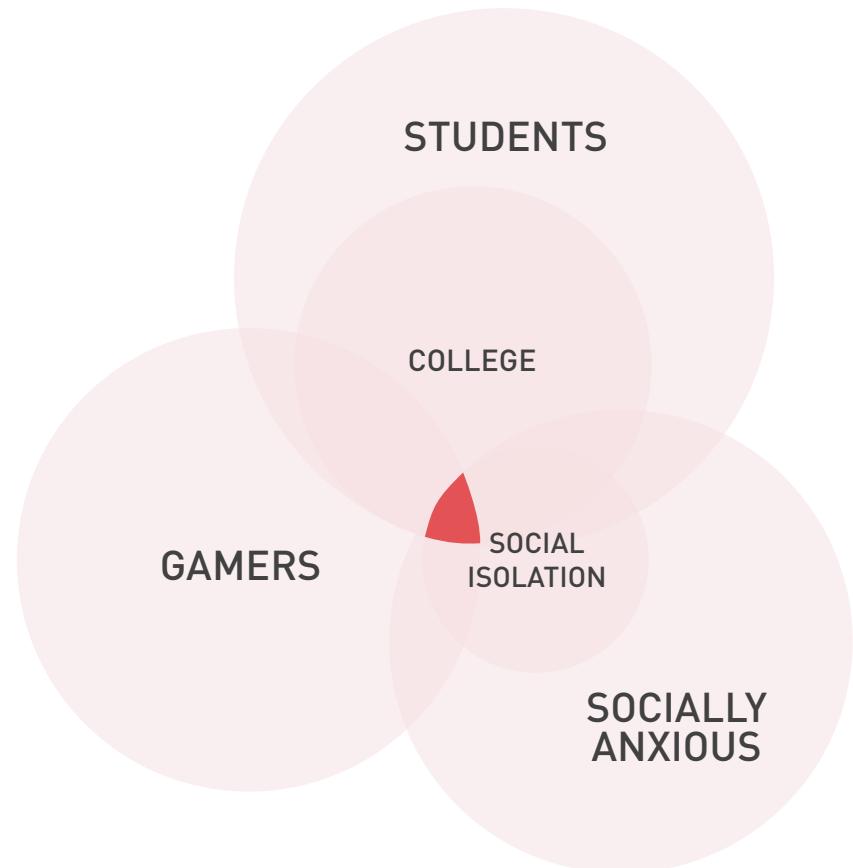
# 02.

## Scope

We wanted to design a game that addressed health issues. This meant our audience had to be gamers that had some sort of health problem. We chose to target students because we are students and we felt as if it would be easier to empathize with our audience. Then we decided to address the health issue of social anxiety because it is an issue that has the potential to be alleviated through gaming.

As such, **Outr** is a mobile app designed for University students who are having trouble adjusting to the social environment, play games on their off-time and suffer from isolation caused by social anxiety.

While we have specified a primary target audience, **Outr** is also aimed at students who want to socialize and bridge the gap between their virtual and physical lives, as **Outr** is designed generally enough so that other students may want to use **Outr**. We envision students who want to socialize in reality would also use **Outr**. This would allow our give our specific group of students to have a large amount of other users to interact with. Our entire target population would also want to form new relationships.



## Primary Audience

# Scope: What's In?

We are targeting students that are isolated but want to make relationships with other. **Outr** acts as a jumping off point to help get our target population to create relationships and interact with one another. This would give students a way to escape isolation and avoid the negative impacts that come along with it. However it is important to note that we are targeting University students particularly, as it is often when social isolation from social anxiety starts manifesting itself the most. Though there are multiple applications that focus on ways of dealing with social anxiety, such as Joyable, a mindfulness app, this app focuses entirely on improving the users' mindsets through journaling and meditation. This app doesn't focus on facilitating interaction between users, which is specifically what **Outr** is designed for. Popular multiplayer games such as League of Legends allow users to play with one another but interaction between other players is done through text based chatting and usually only last the duration of the game. Along with gaming, an orientation program may have been a viable option. However, orientation programs are difficult to organize and usually occur only once at the beginning of the year. The issue with this is that people transfer into university throughout the year so they would not be able to participate in an orientation.

As **Outr** deals with AR, users will have to use a smart device and its camera as the main interface. **Outr** uses augmented reality because it allows the user to interact virtually but at the same time in reality. This is important for helping with social anxiety because it is difficult for these kinds of people to immediately interact with another person in real life. Augmented reality slowly allows the user to start interaction through the virtual world first and then over time, they can interact without the augmented reality. This is why augmented reality is important for social anxiety because it is difficult for these kinds of people to immediately interact with another person.

By taking user's basic information along with information on their interests in video games, gamer tags for each console they own, the school they attend, and the classes they are currently taking, **Outr** will be able to intelligently pair you with other users who meet those criteria. Furthermore, as most of the application is location based, **Outr** has the ability to find other users of the application through geo-location and the camera feature. Along with interacting with other users, **Outr** provides the capability to interact with the real life environment, through our "Goals" feature. For example, a goal may ask the user to meet another user at a given location and then perform some activity such as playing a game they both play together. Last, there are Connect features, such as feature to add friends, build a public profile, and message others through the application. Included in Connect is the ability to connect the application with the user's gaming profile (Xbox live account, Steam profile), making it even easier to further relationships.

# Assumptions & Out-of-Scope

Along with defining our scope, we had some key assumptions in place about the technology that our users have, and the areas that they are located in. More specifically, users will be using a mobile device that has Wi-Fi or cellular data capabilities, and will be allowing the app to use their geo-location feature on their smart device. This is a requirement of the application, and as such, we request users to allow **Outr** to use their geo-location services.

## Assumptions

1. Users have a mobile-phone or smart-device with a touch-screen and camera
2. All users have access to Wi-Fi or cellular data
3. Users are located either on or nearby a University campus

We also realize that the scope is limiting in many ways. Users cannot use **Outr** unless they have some type of internet connection, and unless someone at their University is actively changing and adding goals. Furthermore, **Outr** is not capable of forcing users to meet in reality; it provides the framework and reward for doing so, but does not enforce the users to do anything outside of their comfort zone.

## Out-Of-Scope

1. Does not work without internet connection
2. Requires a local system admin to add/remove goals and locations
3. Does not enforce users to meet in real life
4. Cannot alter other game accounts (though can connect)
5. Needs access to smart device geo-location service

# 03.



*Persona 01: Sam Atman*



*Persona 02: Alexa Davis*



*Persona 03: Lindsey Daugherty*

## Target Personas

We created fictional personas representative of our real and intended users. They were created to help guide the scenarios and needs of actual users to help narrow down specific features and functionalities of our application, and are based off of real users that we have interviewed during the ideation stage of our design. Specifically, we made three differing personas. One representing a student who has mild social anxiety, and has difficulty meeting others. The second who is just beginning to transition into a new college social environment, and the last who is using the app entirely for social purposes.

# Sam Atman

## Persona 01



Sam Atman is a 20 year-old student from Portland Oregon. Sam is an avid gamer who enjoys playing story-driven games, and online games with friends. He moved to Seattle from Oregon in order to attend the University of Washington, and decided to try out the dorms. He lives in a cluster in McMahon where he has yet to break the ice with his roommates. Sam has mild social anxiety and finds it hard to reach out to new people at the University. As a result, he seeks social interaction through gaming with his friends from high school.

Sam begins most days by waking up and realizing that his roommate has already left for class. With a few hours to spare before his first class, he decides to complete a mission on Fallout 4. Fallout 4 provides Sam with a clear set of goals to follow and complete, which calms his anxiety before class. He gets to class early and decides to sit in an empty area in the back and catch up on some gaming streams his friends posted. During class, his professor announces their first big assignment, and suggests that students work together on it. Sam realizes that he hasn't yet interacted with any of his classmates and knows that this will mean a long work week.

### Scenario: Gamifying Social Interactions

At the start of a new quarter, Sam is determined to move past his anxiety some friends at college. As part of this he has installed the app OUTR. He hopes that this app will use the familiarity of goal-based gaming to create a safe environment for approaching new people. On the first day of the quarter, he is already seeing results as he gets a Goal notification from OUTR: Meet Brian at the HUB for Game Night. OUTR chose to match Brian because of their similar interests in League of Legends and Fallout 4 and because they both take Math 124; Sam can see these similar interests in Brian's profile. Sam still feels anxious about meeting Brian, so he decides to message him asking how far he's made it in Fallout. After some small talk about the game, Sam and Brian decide to accept the original goal. He receives directions to the hub via the app, and upon arriving, he gets a marker that tells him where to locate Brian. Sam feels comfortable using this interface as it reminds him of the interfaces used to direct goals in video games. Sam hopes that attending this event with Brian will increase his willingness to participate and hopes that OUTR goal system will continue to motivate his social interaction and sooth his social anxiety.

# Alexa Davis

## Persona 02



Alexa is 18 years old and in her second quarter of college at UW and was a direct admit to CSE. She has made a handful of friends throughout her first quarter who are all freshmen like herself. She met many of her friends in her dorm hall and maintained these relationships throughout the quarter. However, none of these friends are pursuing the same major as her. Alexa has had a great time with this close knit group of friends, but she still feels like a stranger in her major. Being a direct admit means that she is much younger than her fellow CSE students that she will be taking classes with, which causes some problems for her as she begins her core classes.

After catching up on prerequisites, she is starting a new quarter with her core CSE classes. As the class goes on, she begins to feel like an outsider in her major; most of these students have already made friends with each other throughout their pre-major years. These students have already had some time to figure out who they get along with and don't in the community, but Alexa was not given this opportunity.

### Scenario: Creating Relationships within Your Major

Alexa knows that making friends in the major will make her studies a lot more fun, and be crucial for when group projects start. So, Alexa turns to the app OUTR which she knows many students use for socializing on campus. The feature that attracts her is that it can be personalized to fit your class schedule. By uploading her schedule in the app, her goal suggestion now search for people who are in her major, or in the same classes as her. On top of that events related to her major now take precedence in the goals. After uploading her schedule, her first goal request is to meet with another CSE student, Ren, at the CSE club fair. Alexa has been interested in checking out the clubs and accepts the request. Ren also accepts the request and Alexa prepares to attend. Alexa hopes that her and Ren will have a fun time, and maybe even join a club together. She feels she will easily get in contact with more people in her major using OUTR, and that she will even become better acquainted with the CSE major as well.

# Lindsey Daugherty

## Persona 03



Lindsey is a Sophomore at the University of Chicago, and has lived in Chicago her whole life. Many of her high school friends also attend the university or still live nearby. She has roomed with her high-school best friend in the dorms, and is preparing to move into an apartment with her for the new year. Her friends and she always get along well and most of their interests align with hers. However, scheduling sometimes limits the amount of time they spend together.

Lindsey, has always been an efficient worker, and finishes most of her work before heading back home in the evenings. She's often been labeled as a night-owl, and when she gets home she is usually in the mood to go explore new places in the city, or check out events on campus. However, her friends tend to use the evenings to study. About a third of the time she can get somebody to come out with her, but the rest of the time she stays in. She feels unmotivated to explore new areas by herself, and does not want to go through the hassle for picking a place and finding directions.

### Scenario: Exploring Environments

Lindsey enjoys the time that she can explore with her friends, but wants to get out even more often. To accomplish this, she turns to OUTR. With OUTR installed on her phone, she looks through some of her possible goals. A goal labeled "Find the Jessica Stockholder Exhibition at the Smart Museum of Modern Art" catches her eye. She has not yet explored this museum on campus, so she accepts the goal. OUTR has saved her the trouble of deciding and researching many locations, which helps her stay motivated. On her way out, she uses the game camera to see the directions on the app which guide her to the Museum. Lindsey hopes she can use OUTR will continue to keep her motivated to explore new places even when her friends are busy.

# 04.

## Usability Testing & Observations

After initially ideating multiple ideas, we proceeded to create two different paper prototypes: one that focused on social anxiety, and one focused on bridging the gap between online and real life relationships. We split up into 2 groups to try and get a breadth of input on both ideas. After getting feedback on both ideas about the depth of features, we decided to combine the ideas together, choosing to still stick to paper to get a high-level idea of which features made sense and which didn't. As such, we just continued to revise our paper prototypes and receive feedback through tests on them.

### Sample Usability Test Script

Hi, thanks for agreeing to test out this prototype of an augmented reality game we're interested in building! We hope to allow people who play games to people in real life to help their feelings of isolation and social anxiety.

This AR game renders views on top of a camera view that rewards the user when they meet certain goals or quests designed to increase interaction with the user's college campus and other members of their cohort who also play the game.

In this usability test, we will ask you to complete a variety of tasks that involve moving your application view, connecting with other users, completing goals and assign new goals.

#### Task 1

Please message Austin and ask him where he is. Move your view and meet up with Austin

#### Task 2

Can you please show me how you might connect with classmates who share your interests in games? Can you please message someone and ask them about connecting online?

#### Task 3

How would you complete your current goal? Please add Austin after you meet him as a friend on your profile

#### Task 4

Please add a new goal. Now, please leave one goal.

#### Task 5

How might you connect an external account to the app? (Steam, PS4, Xbox One) Can you please access the information associated to your account?

# Paper Prototypes

Example of both original paper prototypes meshed together to have a larger breadth combined.

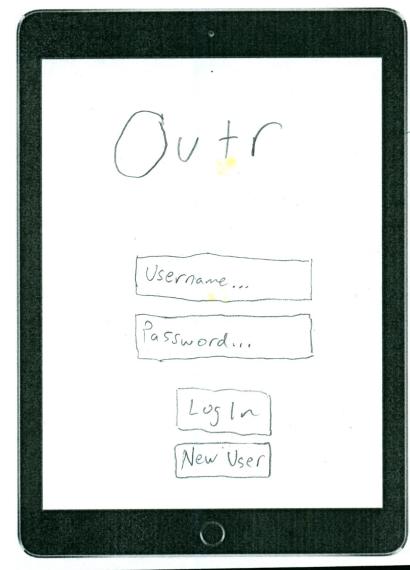


Fig. 01  
Login

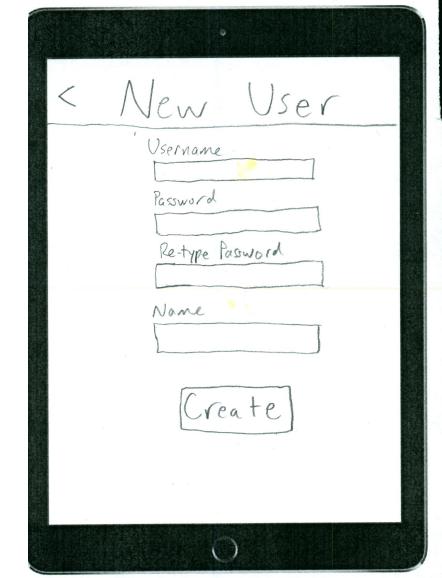


Fig. 02  
New user

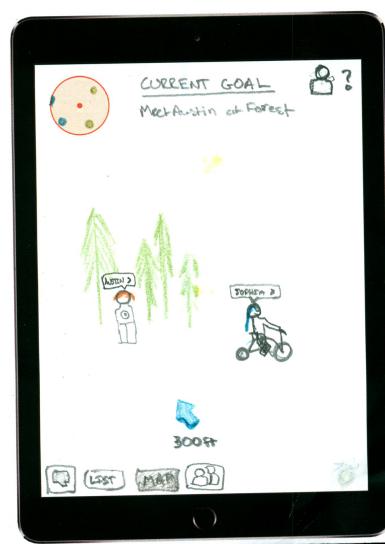


Fig. 03  
Map, Far View



Fig. 04  
Map, Close View

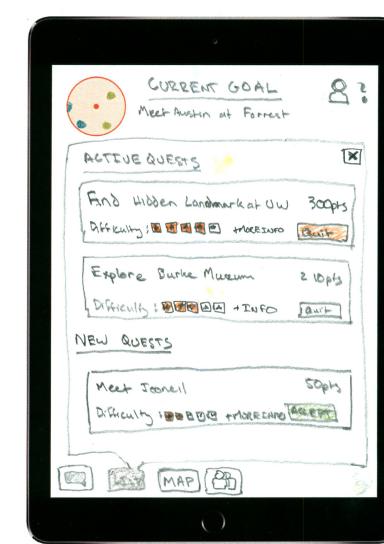


Fig. 05  
Goals

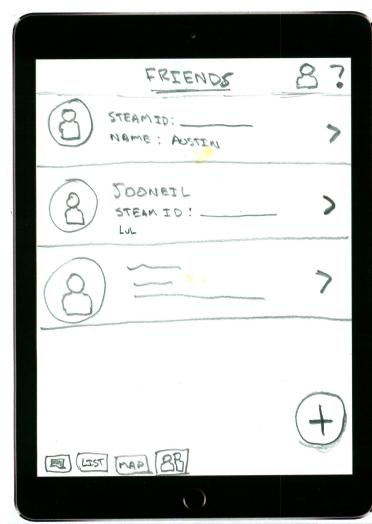


Fig. 06  
Friends

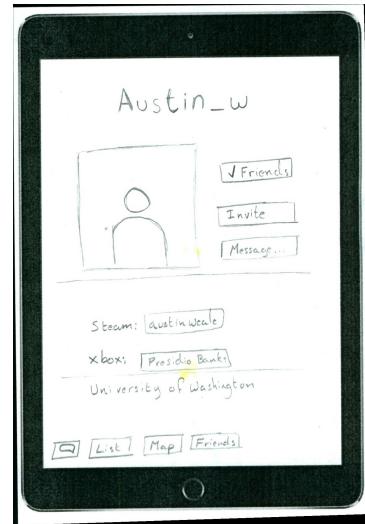


Fig. 07  
Friend Profile

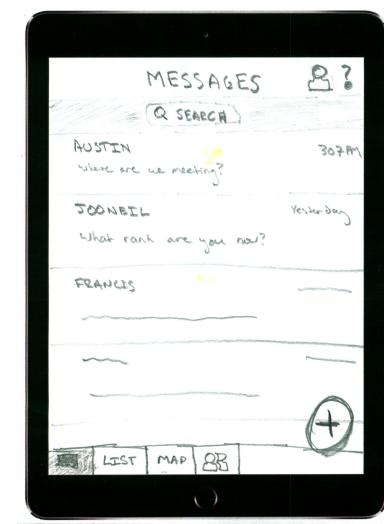


Fig. 08  
Messages



Fig. 09  
Conversation

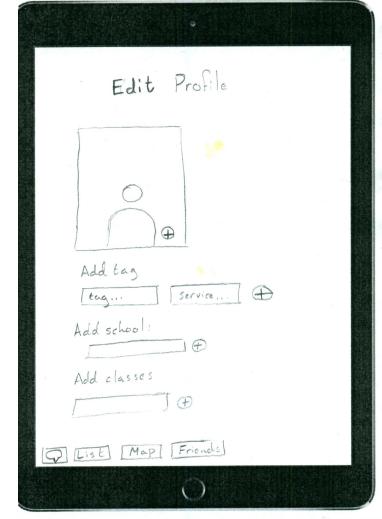


Fig. 10  
Edit Profile



Fig. 11  
Settings

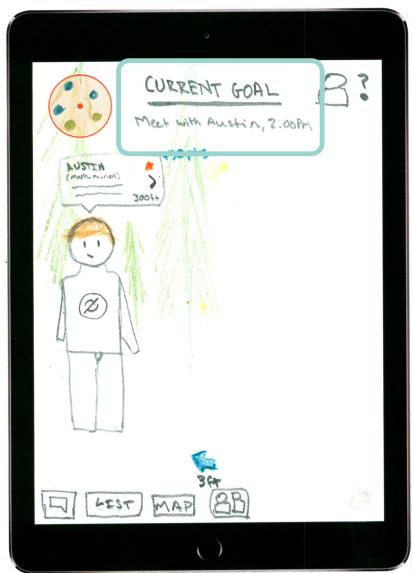
# Usability Test Results

Through our usability tests, we gained valuable insight on how to improve our paper prototypes. One task that participants found really difficult was the ability to navigate through our different menus. One user noted that “having the profile icon on the top separate from the rest of the menu was confusing” (Fig. 04), and that he expected that the icon above Austin’s head could bring up the messaging page for new messages. In general, users were confused on the navigation of the prototype: they weren’t sure what icons stood for what and why the tabs lead to where they did (Fig. 04). We addressed this issue by adding text to our icons to give the user more information as to the navigation, as our icons seemed pretty arbitrary to users.



Another key issue was that users were confused by the various pop-ups that appeared on the map view (Fig. 04). They weren’t sure what exactly each of these features did and were confused to see that they received less information than expected. For example, a user tried clicking on the circle in the top left representing a map (Fig. 04), expecting a larger map to show up with more descriptions about each of the dots that they saw depicted, but were disappointed to see that it didn’t do anything or lead anywhere. Related to this was general confusion about the goal feature. Users tried to click the “Current Goal” field on the map view (Fig. 04), but it wasn’t a button, nor did it lead to anywhere. When asked about what the user might include on a page, they noted that information on the location, people they would meet, process and steps of the goal should be included. We took all of this into consideration when creating our “Edit Goals” view of our final digital prototypes.

# Usability Test Results cont.



Another important insight that two users pointed out at the end of the test was that while the app would increase motivation to explore new areas, for people with social anxiety, it can still be daunting to interact with people even with the aid of the app. One user observed that they were confused as to why their goal was meeting with a stranger they didn't know yet; she thought that in real life if this was happening, she would feel very uncomfortable actually meeting someone in real life, and thought it was more tied to a Tinder for gamers rather than something to soothe social anxiety. The other user made a similar observation: having the quest to meet up with someone could be scary because then you have to think of something to do after meeting. After bringing up this important issue, and more questions, the users gave us valuable advice and feedback as to what might improve this process.

They suggested that meeting in groups instead of individually would make them more comfortable, though still not entirely okay with meeting another group of strangers. They also mentioned that increasing the specificity of the goals, and creating small group goals might help. One of our users in particular suggested to have friends who were online meet in real life and continue doing their common activity physically together instead of meeting virtually. That way, when two users were meeting, they wouldn't be "strangers" necessarily as they had some type of prior relationship.

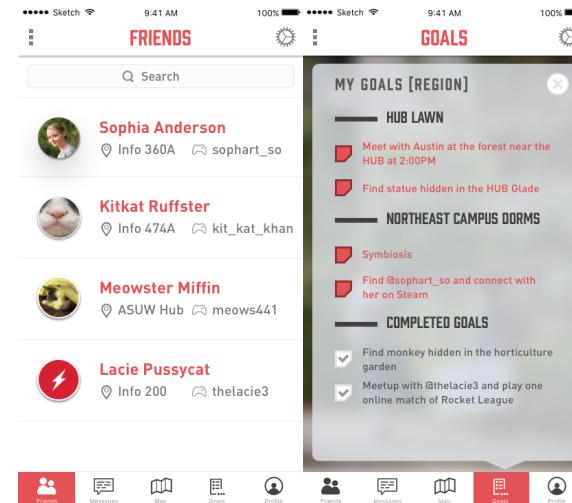
From this feedback, we tried changing a lot of our goals in our UI and in our scenarios to be more oriented towards meeting in groups settings, such as joining clubs, or in situations where a user may feel more comfortable, such as a video game tournament, where everyone there has the same interests and may have already participated in something online together.

# Heuristic Evaluation

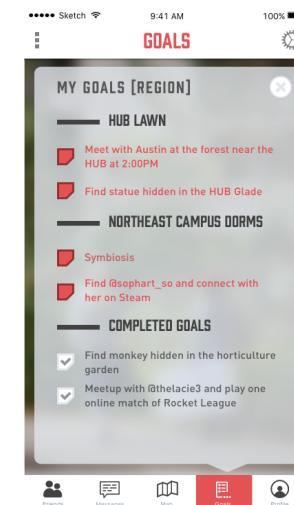
After a second iteration of our paper prototype, we gave our digital prototype to another set of users in order for us to perform a heuristic evaluation based on Nielsen's 10 heuristics rules. While we noted multiple issues with our design, we decided to focus on two specific violations that were the most severe due to time and scope. In particular, most of the users noted that we had inconsistent screens between the the goals and the rest of the sections, and a lack of user control to edit goals.

In evaluating the Goals menu item, we also noticed that it was inconsistent with the rest of the menus. All other screens on the bottom nav-bar fill the entire screen when they are selected, and the goals screen is the only one that shows up as partially covering. We want to keep navigation consistent, so on the next iteration we have the goals screen filling the entire page.

We also noticed that the user is not able to pause or cancel goals in progress. We saw this a big issue as we want to give the user as much control as possible. So for the next iteration of the design we added “Edit Goals” page.



Inconsistent Screens

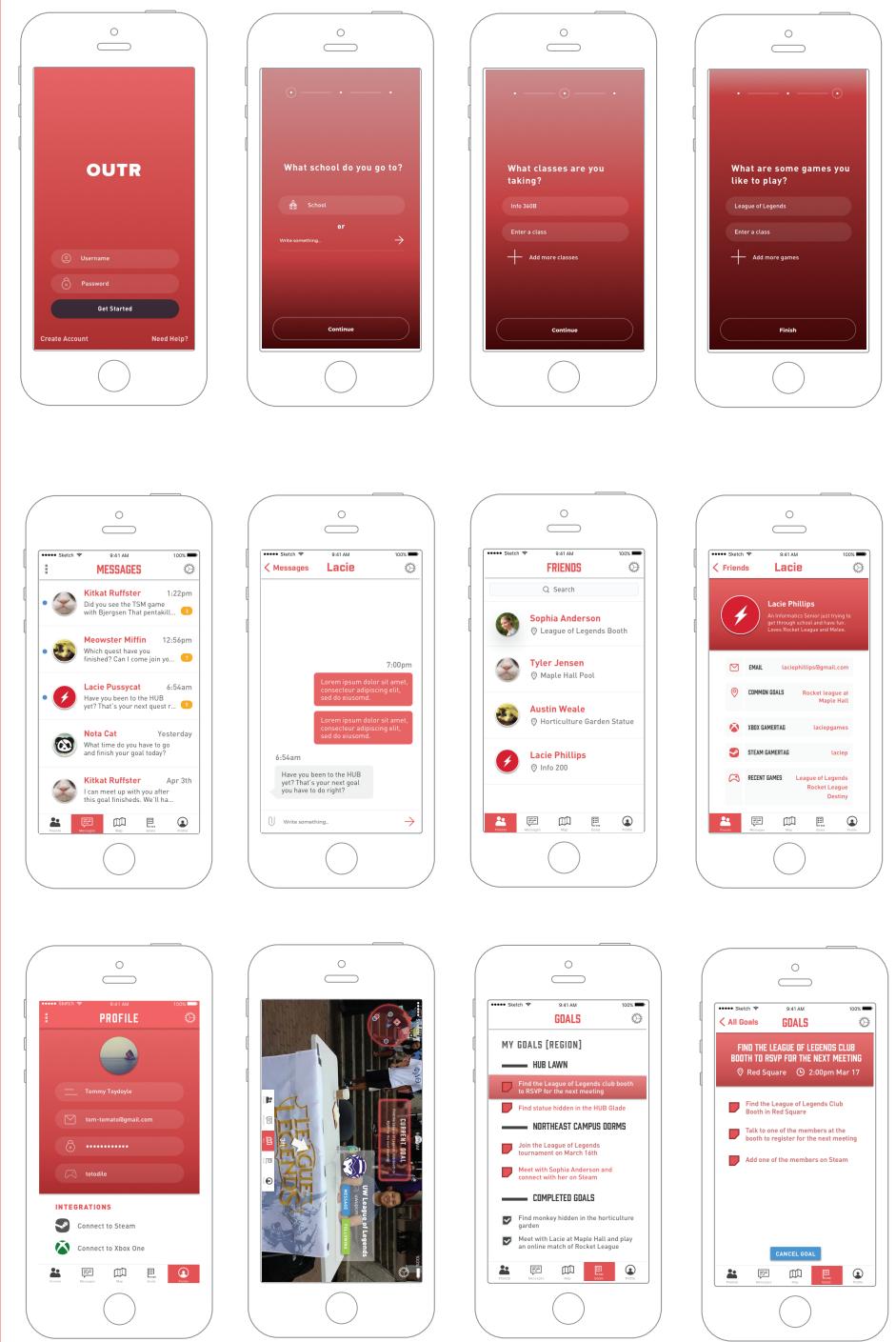


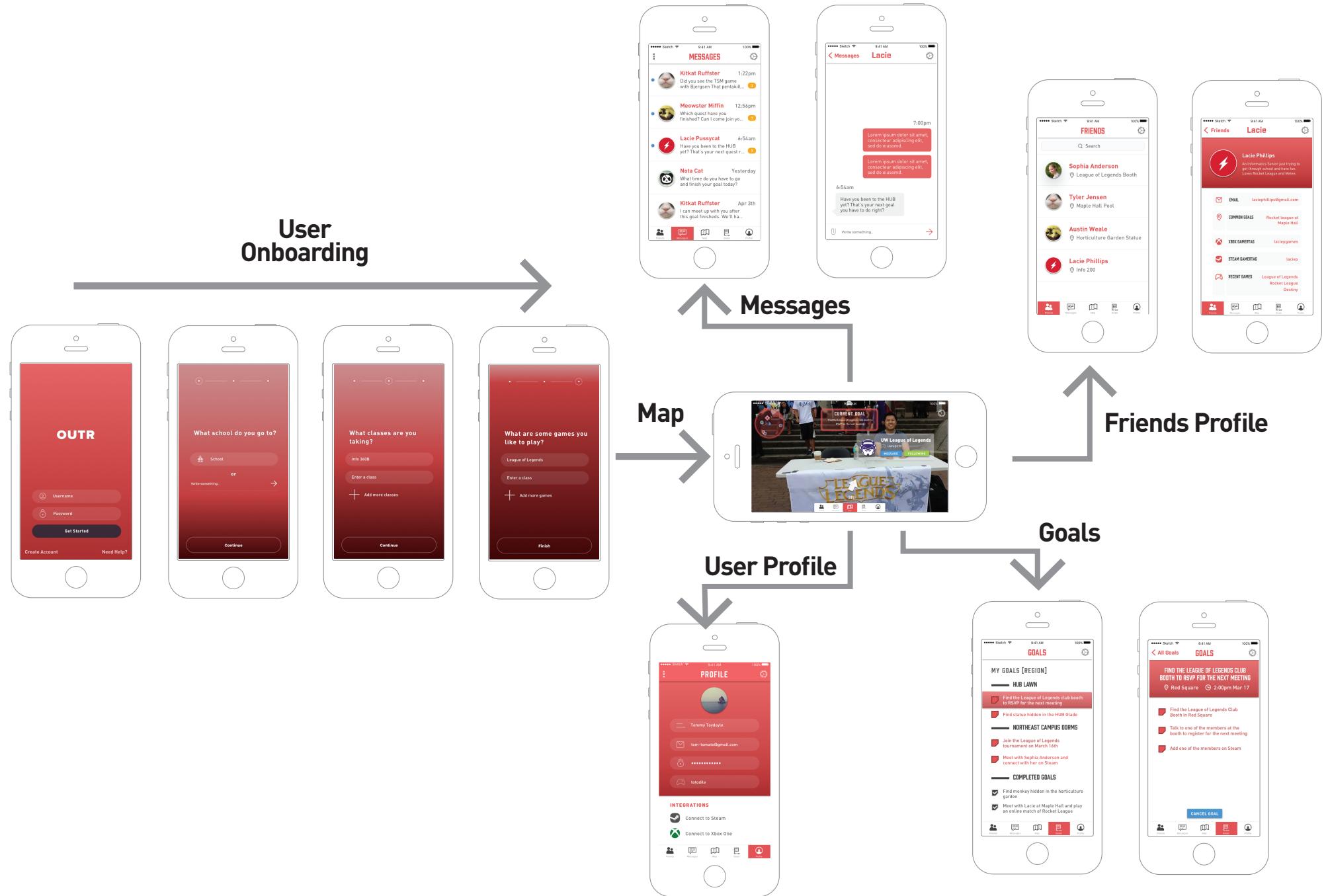
Lack of user control

# 05.

## Application Details

We decided to mock up the most important screens as a part of our application. Deciding on each of the most important features, we took fleshed out those sections of the prototype, showing how a user might interact with it. Since the vast majority of our app has to do with the camera and the user interacting in real life with various other users or objects, it was difficult to show how precisely the camera function worked. In another iteration, we would've liked to include storyboards, as they provide a good sense of a particular scenario to frame Outr into.





## Login/Sign Up

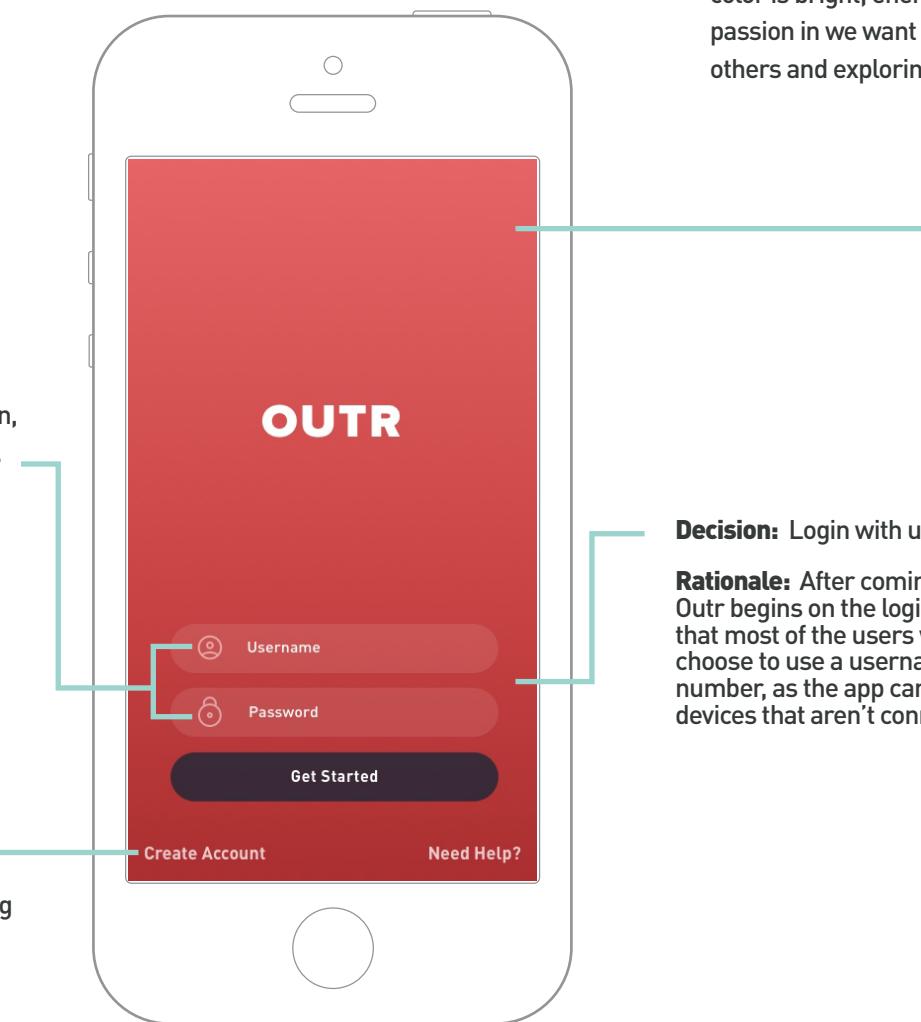
This screen is shown the first time the user runs this app. It allows the user to create an account or log in using their username and password if they already have an account. They also have an option to get help in case the user does not know what to do.

### Decision: Icons in input fields

**Rationale:** Icons accompany each input selection, clarifying at a glance what each input field is for. Each icon is intuitive yet adds to the overall aesthetic of the app.

### Decision: Create account as text, not button

**Rationale:** As most users we assume are coming back to the app, the create account is tap-able text instead of a button. Buttons create a larger tap target, so we avoided this so that the user doesn't accidentally tap "Create Account" when meaning to login.



### Decision: Salmon red as primary color

**Rationale:** Our primary brand color is bright red — which our team calls a "Salmon Red." The color is bright, energetic, and embodies the passion we want users to feel about meeting others and exploring their campus.

### Decision: Login with username and password

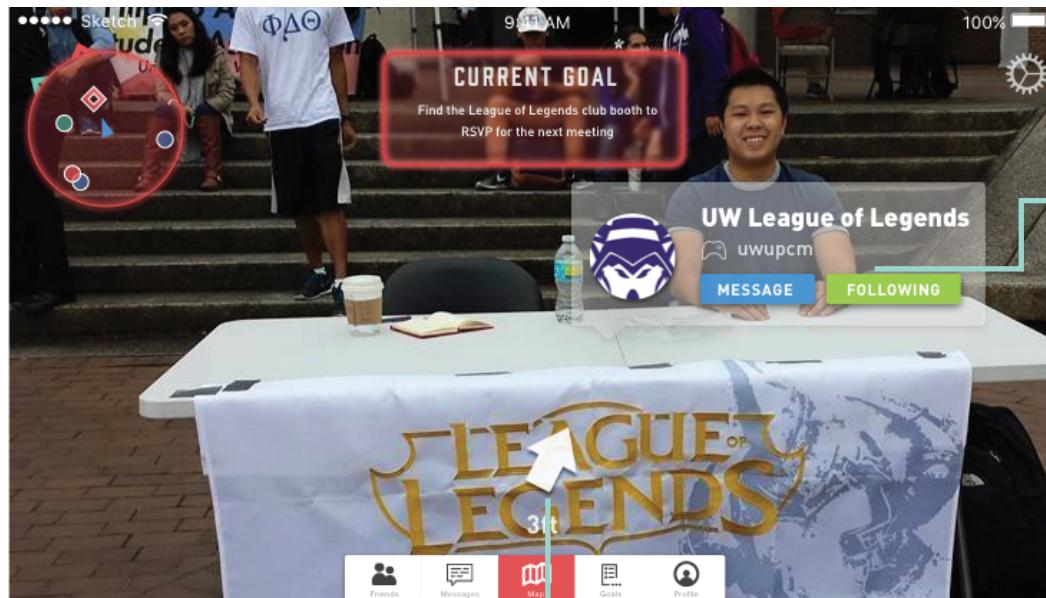
**Rationale:** After coming from the splash screen, Outr begins on the login page, having assumed that most of the users will log on. Here, we choose to use a username over a mobile phone number, as the app can still be run over smart devices that aren't connected to a cell provider.

## Map/Camera View

This is the primary screen the user will interact with. It allows the user to view the world through the phone. A map and a message showing the current objective is shown on the screen. Other users of the app will be highlighted. From this screen the user can navigate to different parts of the application through the menu at the bottom of the screen.

**Decision:** Mini-map representing nearby people, objects and goals

**Rationale:** Since the camera can only show about 165° in front of the user, we added a mini-map so users can get information about their surroundings at a glance. We use different colors and shapes to separate other people, friends and objects. This is also placed in the top left hand corner as not only is it most often what users first see, their eyes are trained to return to that spot.



**Decision:** Arrow indicating direction and distance of goal

**Rationale:** The arrow is placed at the bottom so that it doesn't interfere with the user's view, as they may accidentally run into things in their environment. It also guarantees user's know where they are headed at all times, when paired with the mini-map.

**Decision:** User's current goal gets displayed on the main camera HUD

**Rationale:** As the user walks around campus trying to achieve their goal, it is most useful to have that information at the top of the page, next to the map. Being at the top of the screen means users will generally see it first before other information. It is placed next to the map, as the map, along with the camera, provides indicators to the current goal's location. The goal is on a blurred overlay, so that it is legible on top of the camera.

**Decision:** Holographic overlay of profile of users and objects display when camera views them

**Rationale:** We chose to have information on holographic pop-ups hover over the camera, so that users can interact with them. This is so that users know precisely what they have to do, as well as view other user's personal profiles in order to more easily approach them. The information is on a blurred overlay, so that it is legible on top of the camera.

The phone background was removed for legibility issues on this page

## Goals

This screen shows the current user's objectives along with information regarding each objective. Completed objectives are also shown on this screen.

**Decision:** Red text and un-filled boxes to show state

**Rationale:** Using the salmon red color on the overlay forces contrast between the two, and allows the user to easily focus on which goals they have not yet accomplished. It is also positioned at the top, so that it has higher visual priority than items at the bottom.



**Decision:** Industry as primary typeface and Din Pro as secondary typeface

**Rationale:** We chose Industry as our primary typography of choice. Its industrial, futuristic vibe is perfect for an AR game. Industry will be used in our Heading, Display, and short-form body copy. For long-form body copy, however, we needed a type that's more legible than Industry. That's why we chose Din Pro, which is highly legible, yet preserves the industrial, modern feel that pervades throughout the app.

**Decision:** Goals split by regions

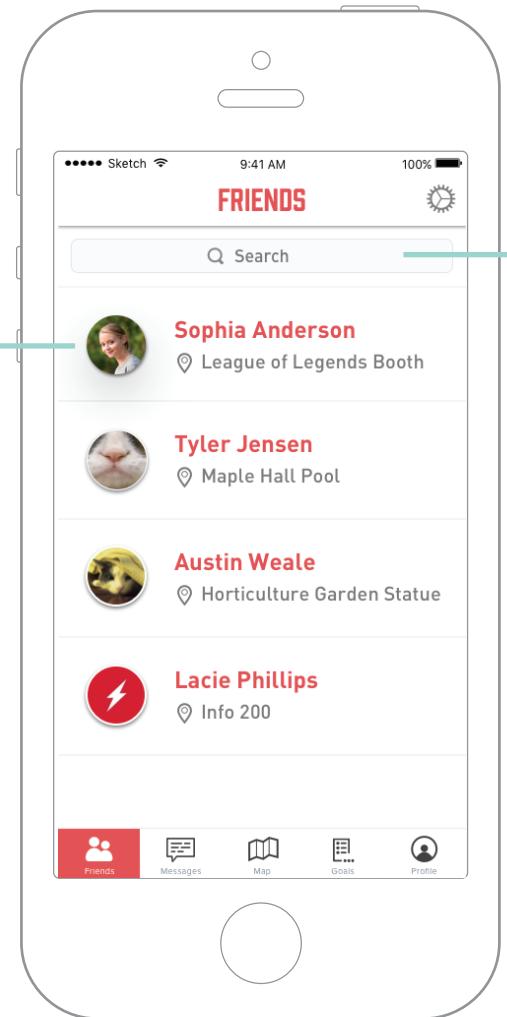
**Rationale:** It is the most useful to focus on geographic location for context rather than types of goals in this context, as the user goes to a place, rather than focuses on types of tasks. When in an area, it is more important to know all the other active goals in a particular area. Therefore, Outr auto-sorts regions based on where the user is geographically, placing goals where a user is higher on the list

## Friends Screen

Displays friends made through the app. For each friend a profile picture, where they met and their gamertag is shown.

**Decision:** Each friend split into different cards showing information about that friend

**Rationale:** In order to identify friends and where they come from, we chose to visually split each card by lines, as well as display the friends' profile image and background where the current user met them. This allows users to quickly parse which friend they're looking for, related to a common goal.



**Decision:** Search bar to easily filter friends

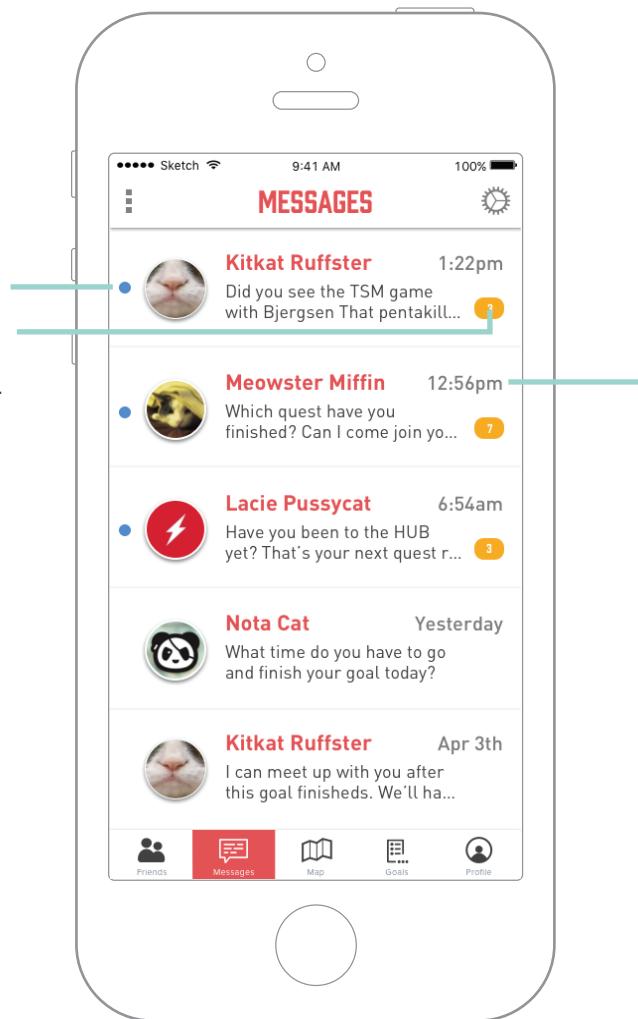
**Rationale:** Though the list is sorted alphabetically by name, the search bar allows the user to quickly input what they're looking for without having to scroll through their entire list of friends. It also allows user's to easily search for which friends are related to a particular goal.

## Messages Screen

On this screen the user can view messages from friends they have made through the app. Each message shows a picture of the sender along with a preview of the message.

**Decision:** Using blue dots and number of messages un-read to indicate state

**Rationale:** There is a decision to rely on dots and pop-ups rather than other card background-color or fills allows users to quickly see, at-a-glance, which messages they haven't read yet. This small indicator of state is used as un-read messages since while they are important, users may go to the messages screen to look at old messages.



**Decision:** Sort messages by time arrived, having more recent messages higher in the list

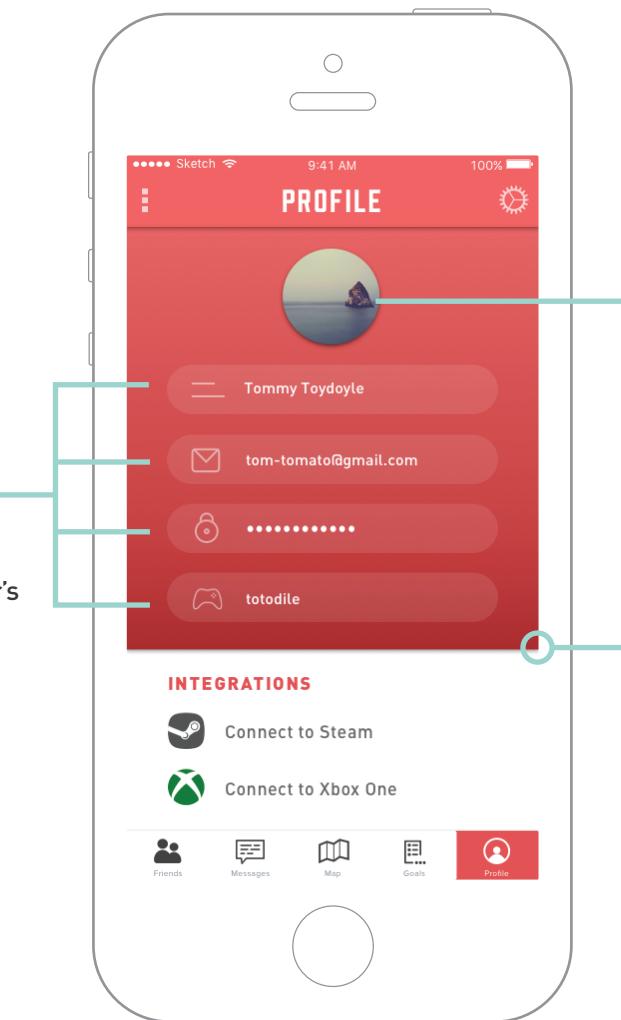
**Rationale:** We have more recent messages at the top of the list rather than sorting by who the message is from. This is to show user's the most relevant information in a timely manner.

## Profile Screen

This is the profile screen for the user. The user is allowed edit their e-mail, password, and gamertag from this screen. The user is also given the option to integrate Steam and Xbox One information into their profile.

**Decision:** Profile inputs are ordered in a precise  
ly in terms of importance for the public profile

**Rationale:** Profile inputs are ordered in name,  
email, password and gamertag. This order is  
placed in this order as it is in the order of how  
other people view their profile (minus the  
password). The most import of these inputs  
therefore are the name of the user so that other's  
can identify them, then their gamertag last, as  
connection outside of the app online isn't as  
important as physically meeting with someone.



**Decision:** Profile image placed at the top of the  
screen

**Rationale:** The current user's profile picture is  
displayed to give a sense of individuality to the  
profile section. It personalizes the user's app, as  
well as lets them at a glance how their public  
profile is represented.

**Decision:** Profile card separated from integra-  
tions

**Rationale:** The separation via color puts the  
profile at a higher visual importance. It also uses  
visual contrast to separate the two sections.

# 06.

## Trade-Offs & Limitations

A big limitation for our application is that while our provides features to promote social interaction, we are not able to force our target population to use them. However, this gaming application is appealing to users because it allows the user to interact with other users somewhere between a virtual environment and reality. This allows users with social anxiety to take a step helping alleviate the anxiety by providing a middle step between virtual interaction and real life interaction. This application revolves around having a large enough user base to make it useful enough to make friends with others. We are relying on the users to continue using the application even after having made friends in order to maintain a large enough user base. Another limitation is even if two users agree to be friends there is nothing to force them to interact with each other in real life. We are also making the assumption that our users are able to read and communicate in English and own a device with a camera so that it is capable of running the application. Our final limitation is that we are assuming our users have both the physical and mental ability to use the application.

This application currently uses its own login and create user system instead of using facebook, google or microsoft account credentials. While this reduces the complexity of creating the application, it requires the user to have to remember another set of credentials to use the application. The application also allows the user to connect their account with their gaming profiles. The tradeoff here is that while it presents another feature to the user, it decreases the simplicity of the application and requires more information about users to be stored. A decision we had to make was figuring how to integrate a menu system without taking up too much space on the screen with the camera. We ended up opting to show the menu on each screen. The tradeoff is that while the user is able to easily navigate and see where they are at in the application, it takes up a small portion on every screen.

# 07.

## Impact & Significance

Outr is a one of a kind application that attempts to help treat social anxiety within students through gaming and augmented reality. This application will help further show the usefulness of both gaming and augmented reality in the field of medical therapy and treatment. Because the game is modular with different features of the application having the possibility to be removed without affecting the overall application, Outr can be modified to help treat other health conditions such as phobias. For example, people that are afraid of spiders and other insects can have these insects appear in Outr and have the goals involve having a certain number of insects on the screen. Outr can also be modified to be used as a platform for a outdoor type of game that promotes exploring outside instead of playing games at home.

Smart phones and devices are starting to become ubiquitous among college students and Outr takes advantage of this by being a mobile application which gives a large population of college students the ability to use our application. Outr is a game and games are meant to entertain and be fun. While many treatments that currently exists for medical conditions are usually done because there is no alternative. However, Outr hopes to be a form of treatment that people suffering from social anxiety use because they want to not because they need to.

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