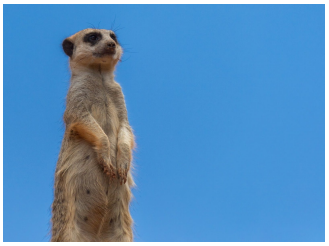
Meergaze

Extended Abstract†



Ivan Espiritu
University of California, Santa Cruz
Santa Cruz, California
icespiri@ucsc.edu

Eric Ventor
University of California, Santa Cruz
Santa Cruz, California
eventor@ucsc.edu

Figure 1: The Unreal Meerkat

ABSTRACT

This paper provides insight into the development and creation of a UC Santa Cruz based app. The discussion will be centered around the implementation of said app using the help of android studio and the many api's that are integrated part of the system.

CCS CONCEPTS

• **IntelliJ Idea** → **Android Studio** ; *Creation of an app*

KEYWORDS

CMPS 121, Mobile Application Development, Landmark location app.

ACM Reference format:
Ivan Espiritu, Eric Ventor. 2018. Creation of an app using Android Studio. Extended Abstract. In proceedings of The Hip Meerkat Landmarks.

1 Background

The app aims to solve the lack of campus awareness regarding scenic locations that is found in some of the student body. Other systems or resources such as the school website and student workshops tell people about places they should visit when they have the time or if they are interested, but some people need extra motivation – an incentive to go out and explore their campus. This incentive is presented with a point system which correlates to a leaderboard within the app. Competitiveness and the ambition to be the best amongst the person's peers is a major way to motivate anyone as it shows just how active they are. An example of such an app would be Pokémon Go. Pokémon Go motivated millions of people to step outside and explore their city to various historical landmarks which for many was their first time seeing the place. Although these people were going to special locations just for the game, they were indirectly experiencing discovery of a whole new geographical area. Our app aims to do the same with the ultimate goal of increasing the experience of attending UCSC to its fullest potential.

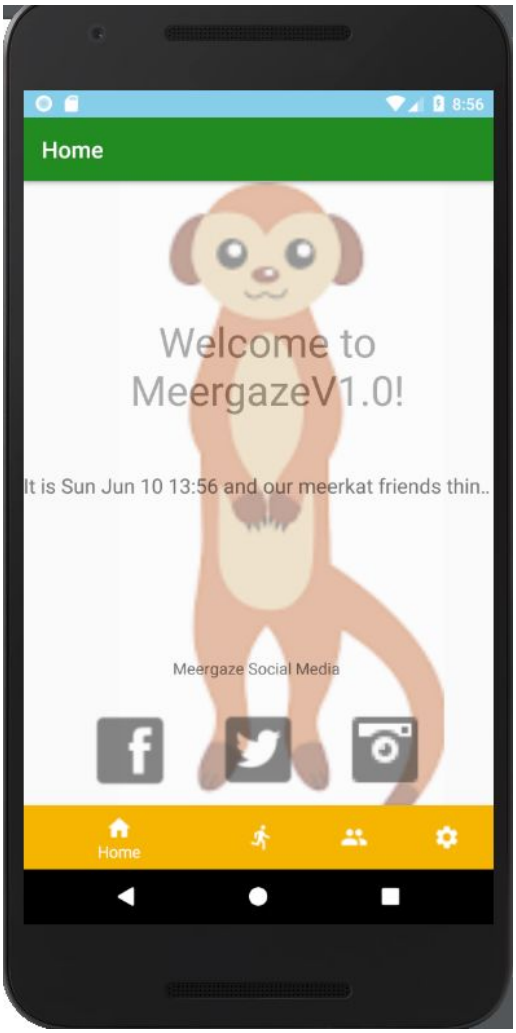
2 Objective

Surprisingly there is a good amount of UCSC students that do not know how much this campus has to offer. This campus is surrounded by beautiful nature and unique locations that no other UC campus has. Many students go through their entirety of college not knowing much of these unique spots. We want to minimize that, people need some sort of program that can help fill the gap between them and these beautiful scenic locations. This app aims to motivate its users to explore the UCSC campus by rewarding them with points after visiting a certain location. These locations will be selected and added by the team and put into the app with names on a map. Each spot will reward users with varying points depending on the obscurity of the location.

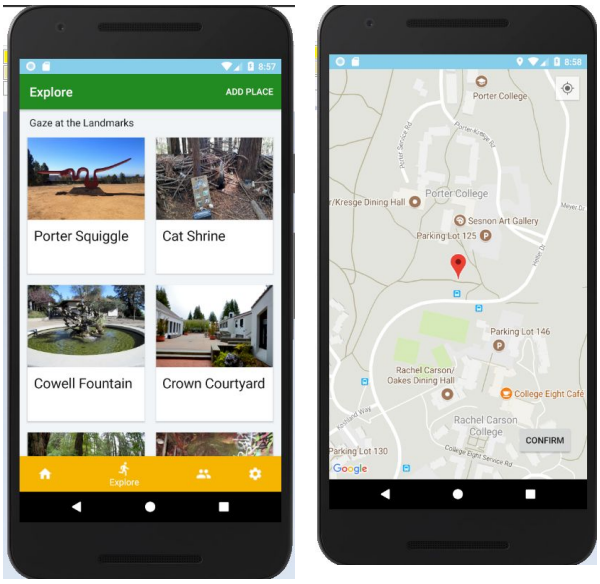
3 Component

This app is targeting the UC Santa Cruz student population, as well as staff members and even campus visitors. Users will be able to open the app, and check which of the popular landmarks to visit, and be able to decide locations they have never been to or possibly ever even heard of.

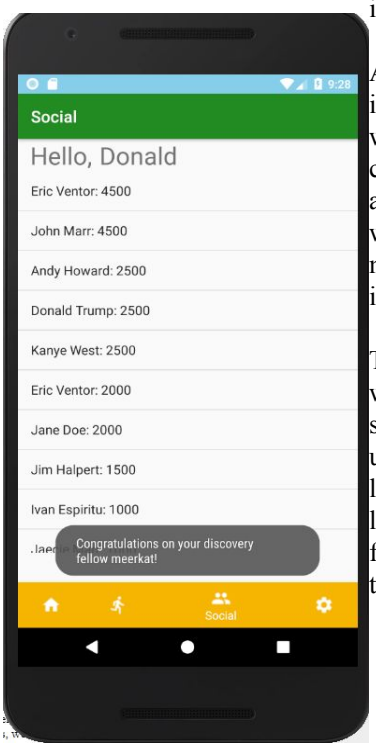
The user opens the app, and is presented with a very inviting home screen. This homescreen will give updates to the user on the current version of the app, and any news the TheHipMeerkat crew wants to gives towards the userbase. The app is mainly designed around the bottom navigation bar, to allow easy navigation through the apps fragments and back.



When the user wants to explore, they simply hit the explore part on the bottom bar and are taken to a grid view list of landmark locations. They can choose a location then are taken to a map. This map will show their current location and the location of that landmark.



Once the user reaches that location in real life, they can hit confirm and are awarded 1000 points (more or less depending on the location). The user can sign in to the social side of the app to compare there points with other users. The social fragment of the app contains registering, logging in, then a leaderboard of all the other competitors in Meergaze.



A competitive element is present in the app with the friends list as it creates a leaderboard amongst friends to see who has explored the most as seen in the image to the left.

The final tab or page within the app is the settings page where the user has the option to log out of the app. Once logged out, the social fragment changes back to a log in/register page.

4 Development

Since we only had two people in our group, we delegated the work 50/50. Eric started with implementing the Firebase backend which includes storage, auth, and database. Ivan created the actual face of the app and designed an easy to use intuitive interface. Implementing a taskbar to easily hop from one fragment to the next. After the skeleton was up Ivan and Eric dove into the main aspects of the app, explore and social respectively. Explore consisting of a recycler view of scenic locations on campus that also consists of a fragmented map view to find the location. While social has a registration/sign in page that leads to a leaderboard. After creating the main moving parts of the app we worked on increasing visual appeal and confirming the moving parts of the app were in sync throughout every fragment and activity.

The journey from start to finish of this app included plenty of frustration, hardships, and even the loss of a teammate. Throughout this journey ideas adjusted and timeframes shrunk, so we changed out tactics accordingly. I believe just as any project you start with hopes and expectations high. Truly trying to create an amazing piece of software that is able to do useful tasks for a user that has an extensive audience. Our hopes were of creating an app that somewhat replicated Yelp's interface of being able to add new locations, rate them, post photos, etc. We sadly weren't able to create such an app with the resources we had, but we do believe it's not too far out of reach for our future selves. In the end we are happy with the product we made.

5 Contribution

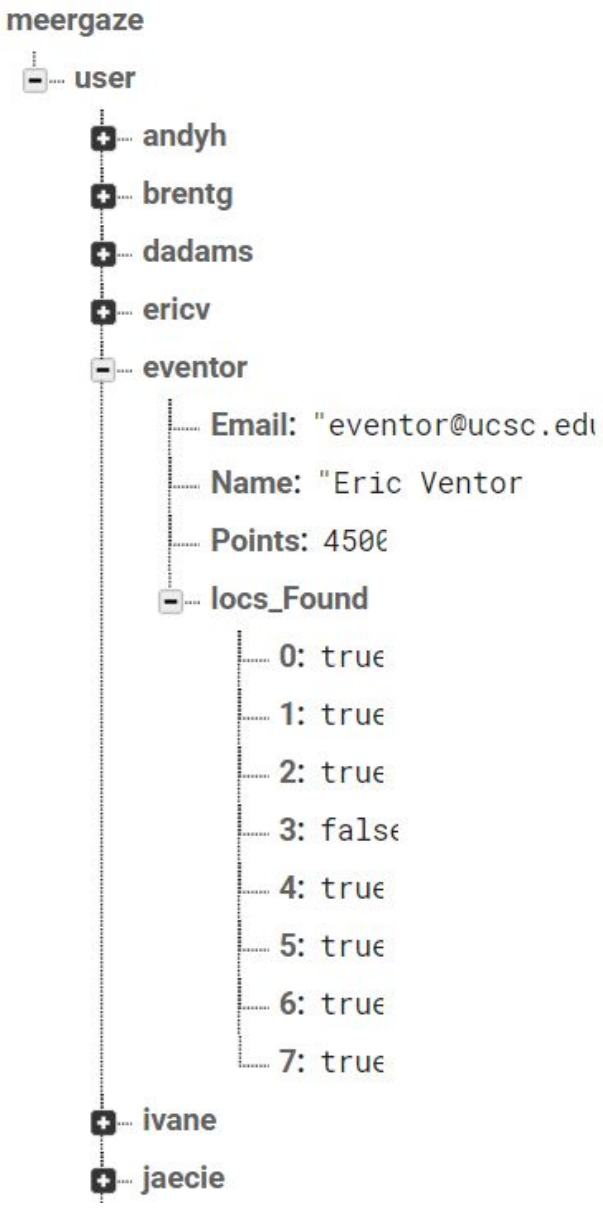
Development does skim over what aspects of the project Ivan and Eric did, but this go more in depth. Eric implemented the firebase backend which consisted of database, storage, and auth. Each of which served its own key purpose. Ivan took on the crucial role early on of creating a skeleton of the app so Eric could come in and start putting in the missing pieces. Thanks to this skeleton we were able to work on different aspects of the project simultaneously.

Ivan implemented the splash screen before the app loaded. He also did the majority of the Explore fragment, a crucial part to the project which consists of the list view of scenic locations on campus. The gridview was implemented through recyclerview, and each button click on each grid (data taken from firebase) shoots out a unique toast message to the data contained in that particular grid. It also directs the user to the map with the location of the

particular area that they click on in the gridview. Each grid is unique to each particular location.

For the ‘confirm’ button on the Map fragment Eric implemented an arraylist in a realtime Database for each user. The list keeps track of whether the locations had been discovered by the user already and added points accordingly.

The last crucial part was the Social fragment done by Eric, which consists of a sign in/register page that led to a real-time global leaderboard of all users’ points. The fragment was specifically made so that users already signed in went directly to the leaderboard page with a warm greeting saying, “Hello, [name_of_user].” An image of the real time database being accessed can be seen to the right



The Home and Setting fragment were contributed to by both of us and were for the most part just a filler/welcome message to the user.

Overall being a man down left us with a pretty heavy time constraint, but we put in our time and effort to make a product we are relatively proud of. Before this project we always believed creating an application that implemented a backend system (i.e. sign in/registration) was way out of reach, but this proves otherwise.

6 Future Work

Although our app does complete our mission of encouraging others to get outside and truly experience our beautiful campus, we believe that there is future developments that can be made to make for an even more positive experience.

Being able to restrict access of the confirm button unless the user is in proximity of the location is a future implementation. We currently have the app designed so users are able to browse already inputted known locations to find for themselves, but would like to increase the interaction with other users. Implement some sort of event page so users can go to these beautiful locations with others. Lastly, another contribution we’d like to add would be to make it so users are able to comment, rate, and even add new locations. With this addition to our project we could even potentially have our project at multiple campuses all around the globe. That way people everywhere can truly get to know their campus and the secrets it holds.