Udacity Android Nanodegree Capstone

Sepideh Miller, September 1, 2018

GitHub Username: baghaii

Alumni Connector

Description

Alumni Connector is a tool for alumni of the Mississippi School for Mathematics and Science to stay connected with each other. This app offers a chat feature and a proximity search so people can see other alumni nearby.

Intended User

The alumni of the Mississippi School for Mathematics and Science

Features

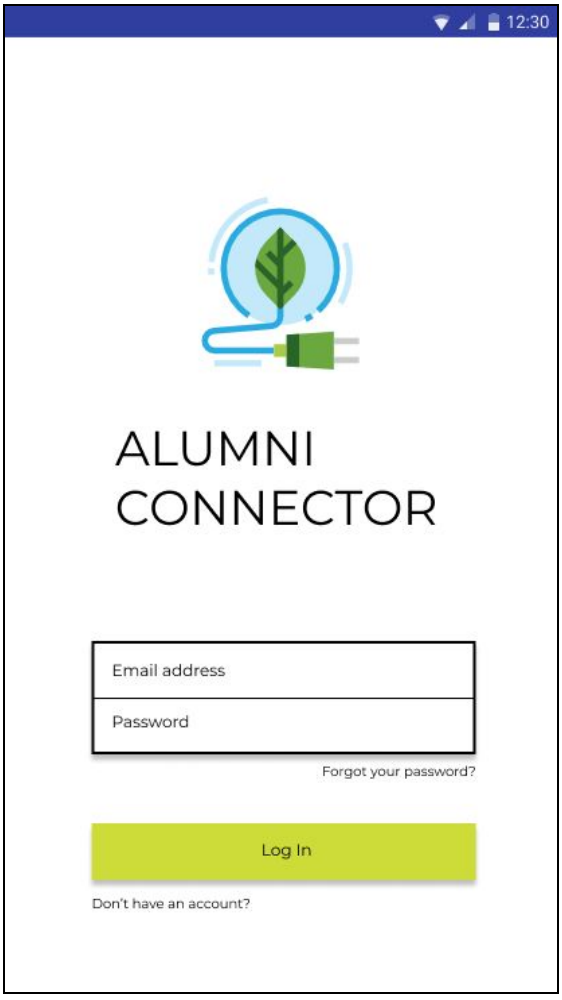
List the main features of your app. For example:

- Saves address information
- Provides chat feature.
- Uses an API to determine lat/lon value of a location
- Possibly also uses the GPS to determine location of a user
- Calculates who is the closest.

User Interface Mocks

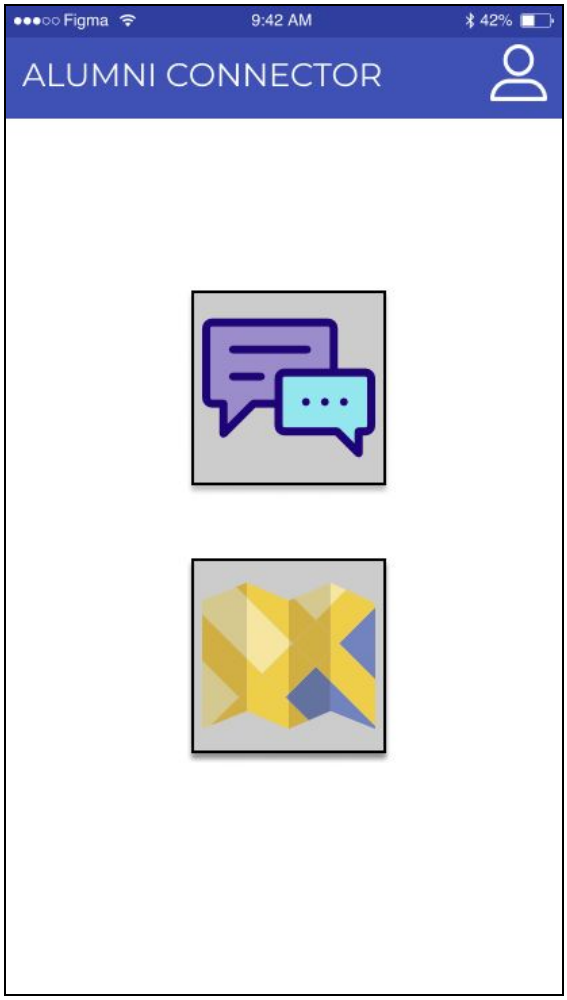
These mocks were created with Figma. This was the color palette from Material Pallette.

Login Screen



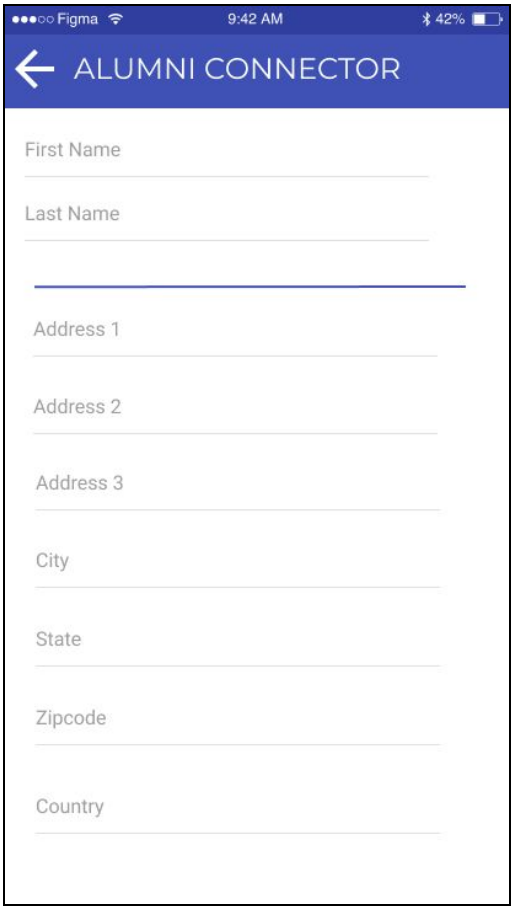
This is the login screen. I am considering using firebase to make this happen. The image is by Nhor Phai for Flaticon.

Selection Activity



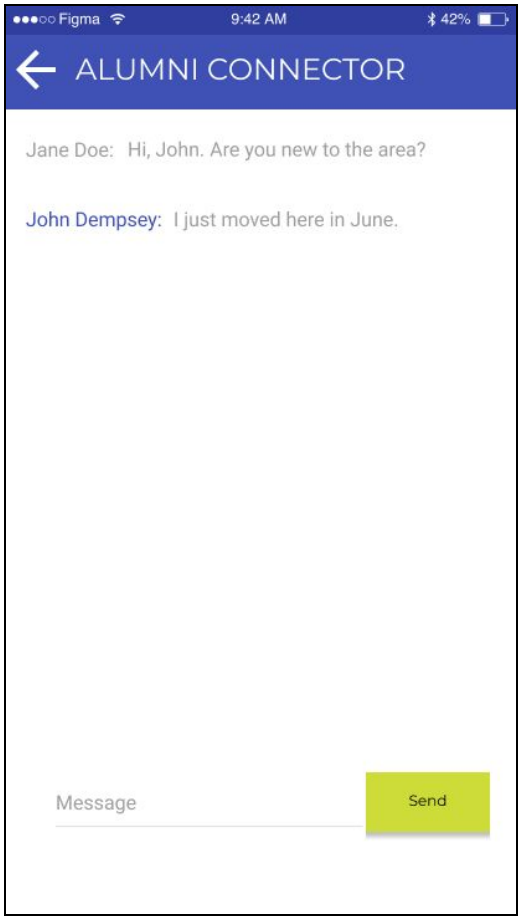
This allows people to choose whether to chat with each other or view the map. The icon on the menu bar will go to Profile Activity. These icons are also from Flaticon.

Profile Activity



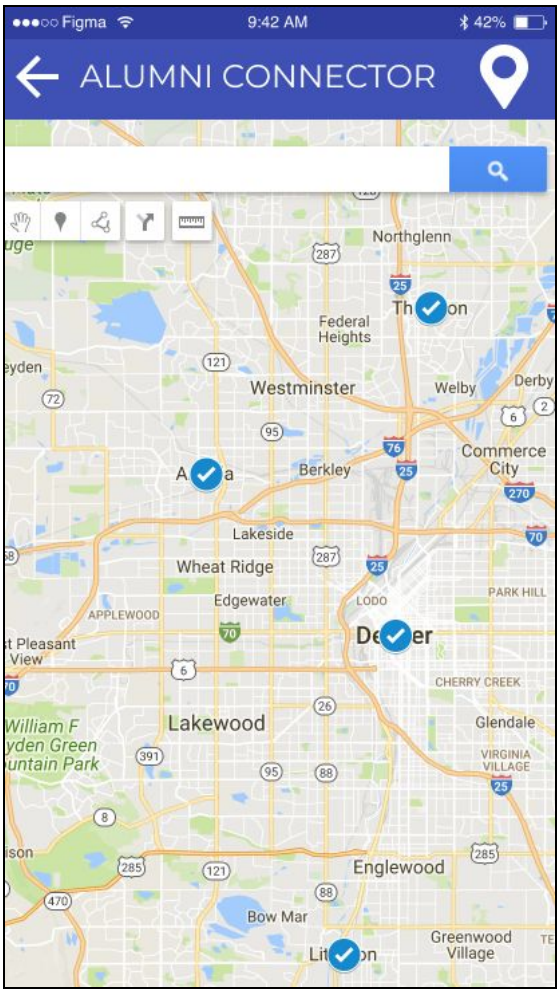
The Profile Activity allows people to update their names and addresses. This should be the screen people are taken to after they log in for the first time. After the first time, they should go straight to the Selection Activity.

Chat Activity



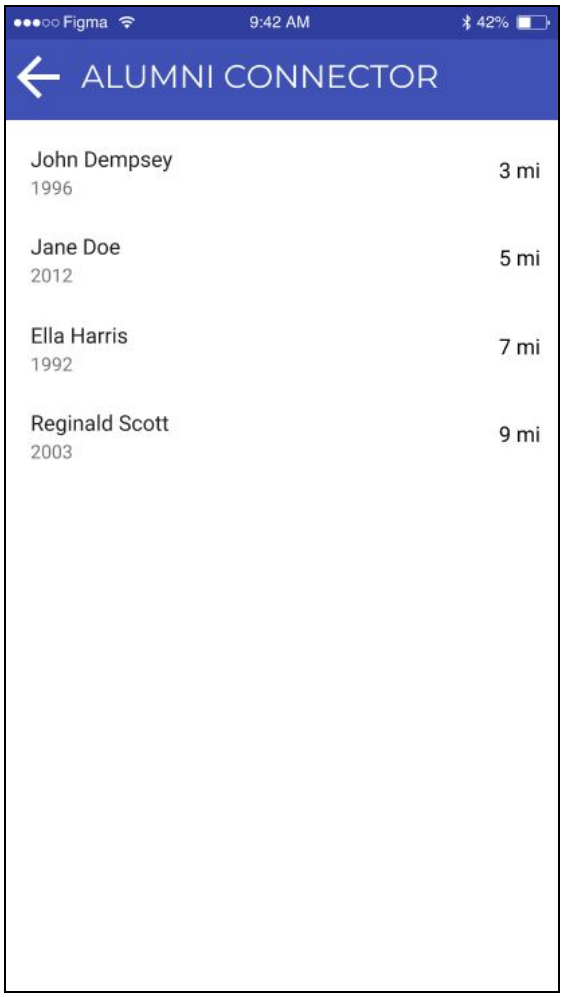
This Chat Activity allows people to see chat messages from other people and to join the conversation. The back button goes back to the Selection Activity.

Map Activity



The Map Activity will allow people to see the location of others near their home address. The Location Icon on Toolbar is from Flaticon.

Proximity Search Activity



The Proximity Search Activity will create a list of nearby alumni. That list will likely give you the distance to your ten nearest people. This activity may be a stretch goal. As a stretch goal, we will base this on a user's GPS location. Normally, we will base it on the location that they have stored in the database.

Key Considerations

How will your app handle data persistence?

I would use Firebase Realtime database because a number of phones would have to sync with a server to get the information that is in the database at any given time.

Describe any edge or corner cases in the UX.

Ideally the map screen will have two modes, one where it can determine “nearby” alumni based on the address that the user has put in the database and one where it can determine “nearby” alumni based on your current location.

When the user lists nearby alumni and goes back to the map, the map may zoom out or in to clearly show some of the nearest alumni.

Describe any libraries you’ll be using and share your reasoning for including them.

To use the latest material design features, we will include:
com.android.support:design

To use the login features of firebase, we will include:
com.firebaseui:firebase-ui

To use a firebase database, we will use:
com.firebaseui:firebase-ui-database

Describe how you will implement Google Play Services or other external services.

I plan to use Firebase Authentication and Firebase Realtime Database. I will probably use com.google.android.gms:play-services-maps for my mapping, and I may use com.google.android.gms:play-services-location listed here.

Next Steps: Required Tasks

This is the section where you can take the main features of your app (declared above) and break them down into tangible technical tasks that you can complete one at a time until you have a finished app.

Task 1: Project Setup

I would create a new Android Studio project and include the dependencies that I know I will need.

Task 2: Implement Firebase authentication

- ❏ Learn how firebase authentication works.
- ❏ Set up the username and password screen.
- ❏ Store the API KEYS reasonably.

Task 3: Create the Selection Activity

- ❏ Use icons from FlatIcons.
- ❏ Create Intent for the Profile Activity
- ❏ Create Intent for the Chat Activity
- ❏ Create Intent for the Map Activity

Task 4: Create the Profile Activity

- ❏ Make sure we have all necessary fields
- ❏ Create the Firebase Realtime Database
- ❏ Communicate with the database correctly
- ❏ Avoid excessive database calls
- ❏ Make sure the back button works correctly

Task 5: Create the Chat Activity

- ❏ Follow this example very closely
- ❏ Make it prettier if at all possible

Task 6: Create the Map Activity

- ❏ Display the map on a screen
- ❏ Use either the address in the database or the user's location to center the map
- ❏ Choose a sane zoom level
- ❏ Plot points from the database onto the map
- ❏ If there is time, implement clustering for when the database is large and there are too many points

Task 7: Implement Proximity Search (stretch goal)

- ❏ Use the points in the database to search for distances from our current position
- ❏ List the nearest points in a RecyclerView