# Assignment 3: Geo-Camera

Pablo Guerra

I. INTRODUCTION

For our second assignment we were tasked with the job of developing an application that allows the use of the camera and maps API to associate a geographical location with a photograph. This application would allow users the ability to take a photo that would be stored locally on the device. The photo would also be associated with a marker on a map that shows the location of where the photo was taken. Clicking the marker would show the enlarged image.

II. APPLICATION DESIGN

The first step in development of the Geo-Camera application was to come up with a template design for how the app would look and how the user would interact with different features. This was done in Adobe XD which allowed for easy designing and also being able to export assets which could be used directly in Android Studio. Below are some photos of the final application screens.
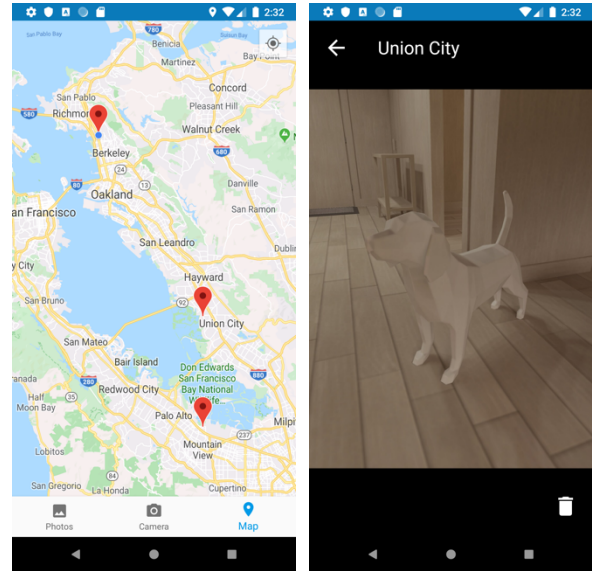

Map View

Image View

Main Page

Camera View

A. Screen Views

As seen from the previous photos they are four main views that the user will see.

1. The main page is the initial view that is shown when the user launches the application. This page shows a grid view of all images taken by the user in the application.

2. The second view is the camera view which is an intent that wraps the default camera application. Here, the user can take photos that will be saved in the application folder and loaded in the grid view.

3. The third view is a google map view populated with markers on the location that each photo was taken by the user. The user can click these markers to open an enlarged view of the image.

4. The Image view which is the final view can be launched from the map markers and also from tapping a photo in the grid view. Here, the user can see the actual image and can also delete the image.
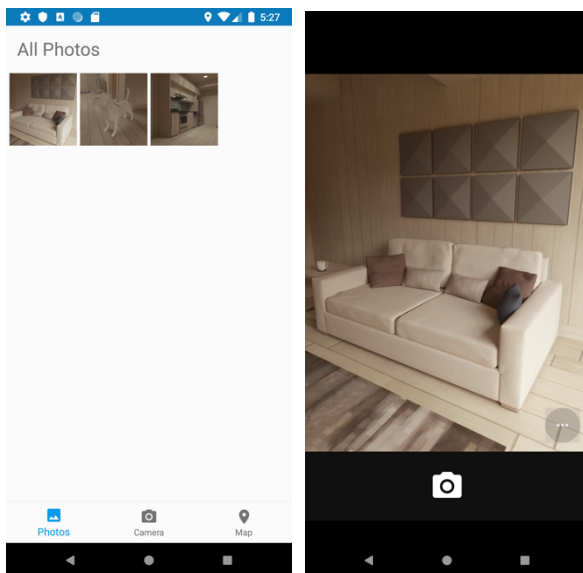
B. App Functionality

In order to make these views work properly and load the proper information, it is important that all the necessary information is obtained, stored and retrieved. Using the camera intent, we can allow the user to capture an image

that will be stored locally on the device in a folder using a file provider. After the camera returns the image, we can get the users location using the map API and store the image path, location and image ID into a database using a content provider. With this content provider we can retrieve all the needed information to populate markers on the map and the photos view as well as a reverse geocoding to determine the city where the photo is taken.

III. RESULTS

After finishing the design and implementation, several cases were tested, including test cases provided in the grading rubric, to ensure that the application functioned as intended and that they were no obvious bugs discovered. The application successfully passed all these test cases and met all the functional requirements.

IV. DISCUSSION

Overall the Geo-Camera application works nicely and meets all the necessary requirements. The application may have exceeded the original scope with the integration of the photos grid view but it tied everything together and made the application feel more complete. This was an interesting project to work on and provided great insight on using the camera and map API.