# Photo Sharing App

CSE 438

Spring 2019

## Introduction

In this assignment, you will make use of Firebase, the camera, and Google Maps features to create a photo sharing app. Note: This project is optional and will replace your lowest project score, even if your lowest score is higher than what you get on this project. Since this lab is optional, it must be done individually.

## Details

- Due Date: April 11, 2019
- Grading: This entire lab is 100 points. The distribution of points is listed below in the requirements section.
- Submission: Please put your project into your forked repository. The repository can be found here. After you fork your repository, please provide admin access to the class account: cse438wustl@gmail.com. You can do this in the User Access section of the repository settings.

## Photo Sharing Instructions

For this app, you will need to create an application that allows users to share photos with a location, and display these on a map. The user should be able to login to the app and see a map displaying pins at different locations where users have taken and posted pictures. You can consider how Google Maps uses pins to mark locations on the map - use something similar for this project. Any pins belonging to the currently logged in user (photos the user has posted) should be a identified somehow either by a different color or pin style.

If the user clicks on the pin, either a fragment or a new activity should open up which shows the username of the user who posted the photo, the date/time the photo was taken, the location of the photo (city and state are sufficient) and the photo itself. All of this data should be stored on Firebase so that the application can be consistent among different app installs.

Additionally, the user should have the ability to add their own pictures. There should be a button in the corner of the screen that when clicked allows the user to take a picture from the camera. Once the picture is taken, there should be a confirmation screen which shows the user the picture and allows them to add it to the service if they click confirm. The date the picture was taken and the location should be taken automatically and added with the picture. The map should then update with the new post.

We have covered nearly every component of this project in class. Below is a list of where you can find examples of concepts that you will need to complete this assignment:

- Firebase Auth: Firebase Example Projects, Studio 4
- Firebase Firestore: Firebase Example Projects, Studio 4

- Camera: ImageProcess, Studio 6
- Google Maps/GPS: GPS and Mapping, Studio 7

### Storing Photos

Storing photos is a concept that we have not covered in class. Since Firebase has a limit on the size of an entry in the database, you will need to implement some sort of cloud storage to store images. A good one that works well with Firebase is Cloud Storage. Here is a tutorial that may be helpful for storing images (the tutorial uses video, but the process is the same for images).

This means that you will likely have two pieces of storage as part of this project: one for the images, and one for the other data (who, when and where the image was taken). When using cloud storage, you can and should remember where the image was stored and then store that location in your firestore database along with the user information, timestamp, and location.

## Rubric

- (10 points) User can login/logout, and login information is stored using Firebase
- (20 points) On login, there is a map of the current area which displays pins corresponding to photos
- (10 points) Logged in user's posts are differentiated in a very clear way
- (15 points) Clicking on a pin opens a new fragment/activity with the posters username, the date/location the photo was taken, and the photo itself
- (20 points) User can click button to take a photo to post, which stores the photo and all relevant information
- (10 points) Map updates immediately with the users new post
- (15 points) Creative portion(s) - build your own feature!