

CSci 191T – Introduction to Mobile Development

Project - Fall 2019

It is a group project and you are strongly encouraged to work as a group. The project has to be developed using C# Xamarin and it should be demonstrated through a mobile device (tablet or phone). This project is client only. There is no features related to a server. The focus of this project is on the functionalities, usability, and core principle of code development for mobile applications using appropriate software engineering practices.

The main goal of this project is to rate and organize pictures taken by yourself or existing in your phone.

When you start the app, you can

- **Upload a picture.** When you take a picture, you will record the time of when the picture was taken, and where the picture was taken. The picture will be saved in a folder of your device.
- **Label an image:** for each picture, you can label the image by creating a category. Each image can have multiple categories.
- **Label images by browsing**
 - Set a category that you want to consider
 - Swipe left to unset the category of the image
 - Swipe right to set the category to the image
- **Rate pictures**
 - Swipe left to if you don't like the image
 - Swipe right to if you like the image
- **Browse in all the pictures**
 - Organize the pictures by location (from closest to the farthest) in relation to the current position of the user.
 - Organize the pictures by time (from the most recent to the oldest picture)
 - Organize the picture by category (the category must be specified)
 - Show the top 5 best rated images
 - Show the images of a particular category on a map.

Useful documentation:

Camera: <https://docs.microsoft.com/en-us/xamarin/xamarin-forms/app-fundamentals/custom-renderer/view>

<https://github.com/XLabs/Xamarin-Forms-Labs>

Geolocation: <https://docs.microsoft.com/en-us/xamarin/essentials/geolocation?tabs=android>

Map: <https://docs.microsoft.com/en-us/xamarin/essentials/maps?context=xamarin%2Fandroid&tabs=android>

Relevant video: <https://www.youtube.com/watch?v=ejVtdb57Y5Y>

Marking scheme

1 The code

- The project compiles and runs
- The project is fully commented
- The project considers the Model View View Model approach for the organization of the code
 - The project uses appropriate Data Binding functions.
- The project uses appropriate classes and data structures
- The function(s) related to the images (save and display)
- The data format to save the meta information from all the images (JSON)
 - Date, Location, Categories, Rating
- The use of LINQ to extract collections of objects to display.

2 Functionalities

- It is possible to upload a picture and save it.
- It is possible to label a new picture.
- It is possible to label existing images by browsing.
- It is possible to set a category before labelling the images.
- It is possible to set a category by swiping left/right.
- It is possible to rate a picture by swiping left/right.
- It is possible to organize the pictures by location (from closest to the farthest)
- It is possible to organize the pictures by time (from the most recent to the oldest picture)
- It is possible to organize the picture by category (the category must be specified)
- It is possible to show the top 5 best rated images.
- It is possible to display a map with all the images for a specific category.

3 User Experience (UX)

- Use of multiple screens to represent the images
- Use touch features to interact with the application