Requirements Specification Document
SocialCamera

Automated Picture Sharing Android Camera Application

5.1 Introduction

This Software Requirements Specification (SRS) details the functional and performance requirements for an automated picture sharing camera application, here forth referred to as **Camera Application**.

Camera Application is an Android application aimed at replacing the stock camera application. The application consists of its own camera interface, a gallery interface to view pictures taken within the app, as well as any other pictures taken on the device, and an interface to manage "friends", other users with whom the user desires to share photos with. The user will add friends within the app, and form "friend groups" - sets of one or more friends with whom they would like to automatically share their pictures with. At any given moment during camera runtime, the user can select a group they would like to share their photos with. Any photos taken during that session will be automatically shared with the selected group when the picture was taken. The application will have a queue demonstrating pictures that are to be sent, and allow for user interference to prevent sending, within a 30-second delay period. Camera Application shall consist of a multi-threaded Android client backed by a Node.js REST API written in JavaScript.

This document will first outline the functional requirements, followed by the performance requirements, and finally, the environment requirements.

5.2 Functional Requirements

5.2.1 Client

5.2.1.1   The client shall target the Android platform

5.2.1.2   The client shall support Android devices running Android API version 22 or greater.

5.2.1.3   The client shall interface with a REST API for persisting application data.

5.2.1.4   The client shall have a camera interface that allows the user to take pictures with both front and rear camera if the device the client is running on contains the camera hardware.

5.2.1.5   The client shall require that the user creates an account with a unique username or logs in when first launching the application.

5.2.1.6   The client shall keep a user logged in if they have not logged out when the application is closed.

5.2.1.7   The client shall launch directly into the camera interface once a user has logged in

5.2.1.8   The client camera interface shall provide a button to take pictures.

5.2.1.9   The client shall display the currently selected group on its camera interface.

5.2.1.10   The client shall have a search button that will allow the user to search for other users by username, and add them to the user's friend list.

5.2.1.11   The client shall allow the user to create friend groups containing one or more groups that the user currently follows.

5.2.1.12   The client shall provide a photo editing platform, using Adobe creative cloud, to provide its full-suite of photo editing tools.

5.2.1.13   The client will save edited photos on the device of the user, and allow them to be sent to a friend group

5.2.1.14   The client shall provide a gallery in which users can view photos stored on the device, as well as any photos that have been taken through the client.

5.2.1.15   The client shall have a share icon at the top right hand corner of the gallery to allow the user to share photos with other photo-handling applications on the device.

5.2.1.16   The client shall allow the user to select a group with whom they would like to share photos.

5.2.1.17   The client shall allow the user, at camera runtime, to change the group that pictures will be automatically sent to.

5.2.1.18   The client shall save all photos taken to a directory on the client device.

5.2.1.19   The client shall record which group was selected when the picture was taken, and send the photos automatically to the members of that group.

5.2.1.20   The client shall provide a 30 second delay for sending photos, and allow users to see the current queue of photos with each photo's time until sending displayed on each photo.

5.2.1.21   The client shall provide the user with the opportunity to cancel sending a photo to a group before the 30 second delay is over in the case of a mistake.

5.2.2   Rest API (API)

5.2.2.1   The API shall provide an endpoint to create a new user account.

5.2.2.2   The API shall provide an endpoint for adding an association ("friendship") between two users.

5.2.2.3   The API shall provide an endpoint to upload user's pictures, and record which users the photos can be viewed by.

5.2.2.4   The API shall provide an endpoint for a client to request photos that have been shared with a user by their friends.

5.2.2.5   The API shall respond with JSON data.

5.2.2.6   The API shall interface with a database management system to store persistent user data.

5.2.2.7   The API shall interface with the file system for storing photos.

5.3   Performance Requirements

5.3.1   The time it should take for the client to open the camera when the app is started up should be less than 5 seconds.

5.3.2   The API response time shall be less than 2 seconds

5.4   Environment Requirements

The following are the hardware requirements for Camera Application:

Client

Camera Application will require an Android Device that is Android version 5.0 (API level 22) or above to run the client. This requirement is necessary because Adobe creative cloud uses minimum Android API level 22. To install the application, the user will need a front or a rear facing camera. There are no significant RAM requirements Storage space necessary for installation is projected to be at least 20MB. The device must have network capabilities to communicate with the server.

API

The API will need to run on a network enabled machine with port 443 opened for https. Because this is a prototype of the application, it does not need significant storage space, however, to scale the application, it will need significant storage space to store user photos.