

# Android Project - Photos

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**Due Tue, Dec 10, 11 PM in BitBucket**

You MUST use Git/Bitbucket to manage your repository. Your app MUST run correctly on the Nexus 4 (4.7 inch, 768x1280, xhdpi) device emulator that comes with Android Studio.

The latest version of the Android SDK is Android 12.0 (S), so may set your min-sdk to this. Alternatively, if you have an older version of Android Studio, with SDK version 11.0 (R) or 10.0 (Q), you may use those.

You may serialize the data used in your app, but are not required to do so - you can use alternative formats for storage on the device.

Javadoc and UML are not required.

## Photos

You are not required to carry over all the functionality from the Java FX implementation. Instead, you will implement a smaller set, as described below. You may reuse any of the code from your Java FX project.

Since the app will run on a personal smart phone, there is only a single user, who is the owner of the phone. So there is no logging in, and no admin functionality. Also, explicit captions are not required for photos (the filename will stand for the caption). Dates are not required either.

**Your app should implement the following features:**

- Home screen. When the app comes up, it should load album and photo data from the previous session, if any, and list all albums with names in plain text. Off this "home" screen, you should be able to do the following, in one or more navigational steps.
- Open, create, delete, and rename albums as listed in the Java FX project description. When opening an album, display all its photos, with their thumbnail images.
- Once an album is open, you should be able to add, remove, or display a photo. The photo display screen should include an option for a slideshow, allowing you to go backward or forward in the album one photo at a time with manual controls.
- When a photo is displayed, you should be able to add a tag to a photo. Only person and location are valid tag types; there are no typeless tags. You should also be able to delete a tag from a photo. Note: When displaying a photo, tags (if any) should be visible.
- You should be able to move a photo from one album to another
- You should be able to search for photos by tag-value pairs, just like in the Photos

assignment (of course now limited to only person and location type tags). All matches are case insensitive, so "new york" is the same as "nEw YOrk".

Moreover, matches should allow auto completion, given a *starting* substring. For instance, when searching by location, if "New" is typed, matches should include photos taken in New York, New Mexico, New Zealand, etc. In other words, all locations that start with the typed text. The user can then pick from this auto-completed list.

Searches apply to photos across all albums, not just to the album that may be open.

Note: You are NOT required to implement functionality to add new tag types, or save the matching photos in an album.

You may save photos to the device's gallery. Here's some info on how to access files (including photos) from storage: <https://developer.android.com/guide/components/intents-common#Storage>

## Frequently Asked Questions

**Q:** Are there any particular requirements for the android projects as long as the project satisfies the functionality that is listed in the project description? For instance, should we have a certain project structure, should we be using specific UI elements, etc.?

**A:** No specific project structure or UI requirements.

**Q:** Do we have to use XML or FXML to format our android program, or can we do it natively in JavaFX?

**A:** You may only use Android XML (with Android tag namespace), not FXML. Also, you are required to build all your UI with XML, except for error/info dialogs where user action is limited to clicking a button for OK/Cancel/Yes/No type of thing.

**Q:** What happens if a photo is removed from the gallery after being added to an album, should we handle this kind of issue?

**A:** No, you don't need to handle this.

**Q:** Is the stock photo functionality required? **A:** No.

**Q:** When we implement searching photos by tag, should we display all photos that satisfy it in general or only the photos that satisfy it in the particular album that is open?

**A:** Photos from **all** albums, not just the ones in the open album.

**Q:** If we tag image1 with tag1 in album1, and image1 is in album2 as well, should we update the tags for image 1 in album2?

**A:** Since there is no functionality to copy photos from one album to another, you can treat photos in different albums as independent of each other, even though they may be the same actual picture. Which means the same picture may have different tags in different albums. (A good

implementation will make sure that the user doesn't import a photo into an album when the same photo is already in another album, but for the purpose of this project, we will allow it.)

**Q:** Are we allowed to use Picasso (or any other) library to display images in our program? **A:** No.