

Assignment 2 – Develop a camera app

Total: 5 marks

Due date: Submit all files as one zipped file by 7pm Week 08.

Submission:

- 1. Submit all project files as one zipped file.**
- 2. Video of the screen capture demonstrating the actions/features that are required to be developed.**
- 3. A one-page document explaining the cloud synchronisation strategies.**

Camera is one of the most frequently used sensors on an Android device. In this assignment, you are required to write an app that enables the user to take a picture, display it, and then enables user to edit it.

1) The Main view of this app should contain [0.5 mark]:

- A GridView to display all photos stored on the user mobile
- A button to activate the camera which takes user to the camera view

2) Your app should be able to capture photo, preview and store it locally. Please note you must implement your own camera view (camera interface) instead of using your device's built-in camera support. This camera view should contain [1 mark]:

- A button to capture a photo on your own customised camera view
- Once a photo is captured, user is taken to an ImageView to preview the newly captured photo
- A button to quit the photo preview (ImageView) and navigate back to the main view (GridView)
- The photo should be saved locally, and the saved photo should appear on the main view (GridView)

3) Your app should be able to back up the photos to Google's Firebase platform cloud server. [1 mark]

- Synchronisation of photos should happen automatically without user interaction.

- There should also be a button to allow user to immediately synchronise the local photo library with the cloud server.
- 4) Device bandwidth and energy consumption of the app should be considered in designing the synchronisation process. One-page document explaining, (i) the developed strategies for both automated and user driven synchronisation and, (ii) how bandwidth and energy saving are achieved, should be submitted. [1.5 marks]
- 5) App should be able to be built and run successfully on emulator [0.5 mark]
- 6) Coding [0.5 mark]:
- Follow the official Android code style guidelines (<https://source.android.com/setup/contribute/code-style>), proper indentation, stick within the 120 char line length, no trailing whitespaces and no unused imports.
 - Documentation: use proper in-line code commenting, and Javadoc comments for new public classes, methods, variables and constants