My device is Nexus 5 and Android version is 5.1 with API level 22. Android studio version is 1.2.1.1 A signed APK file is in the top level folder of the zipped file. I also use DDS to monitor the objects number and memory status. No memory leaks is found. This application needs wifi or cell network or the map wont be displayed. This application will initially set Hamilton as the centre of the map. It will record markers, zoom level and current position of map.

1. Your application must read the EXIF GPS location metadata (lattitude and longitude) from a set of specified jpeg images.

I read the photo information including location tag as an object, this is easy to manage, For example I can restore these objects when the device is rotated.

2. For each image that has GPS location information, a marker must be created. Images without location tags should be ignored.

I not only ignore those photos without location information but also those duplicated photos, because user may selected the same picture to share to this application. Also, this may lead a memory-leak problem.A Toast window will remind which images has been ignored.

3. All markers for the specified image set must be displayed on a Google Map that is housed within your application (i.e. no delegation to external apps).

I use Google Map fragment to set up the map. These markers on this map can be kept when the device is rotated. Duplicated markers and images will be ignore for preventing from redundant memory consumption.

4. When a marker is selected by the user, the corresponding image must be displayed along with other EXIF metadata information (you choose which tags; eg. Copyright information, compass bearing, comments, date/time, etc).

I use a tailored Google InfoWindow to display these pictures and EXIF metadata information of the photo. This includes a GoogleMap.InfoWindowAdapter and a layout xml file. In this way, it is easy to extend and maintain. I also resize the picture to 96dp x 64dp size for a better display effect. Once these image loaded, the placeholder image will be replaced by them.

5. The set of images to display must be shared from another app. For example, a set of images may be selected in “Gallery” after which the user can tap the “Share” icon. Your application should be one of the applications that is registered to receive the image set, and if selected, will perform its functions on the selected set.

This application supports multi-selected photos and single-selected photos feature. I also cope with the problems that when share this photo to the application when it is not launched and the application is paused. Because if we filter the intent in the OnCreate method. When the device rotated, the intent will be recreated, then we will call some unnecessary methods to consume the memory. In paused case, the onCreate won’t be called if we pause the app and select photos from gallery then come back to the app. We can use OnNewIntent method to do this if we set the application as a SingleTask mode.