

## NWEN 243 Project 7: Create an Android mobile application

This lab exercise helps you learn Android application development and build your first Android application. We will particularly develop an Android application to retrieve and display daily movie images from the RSS feed: <http://movieweb.com/rss/all-news/>

### Objectives

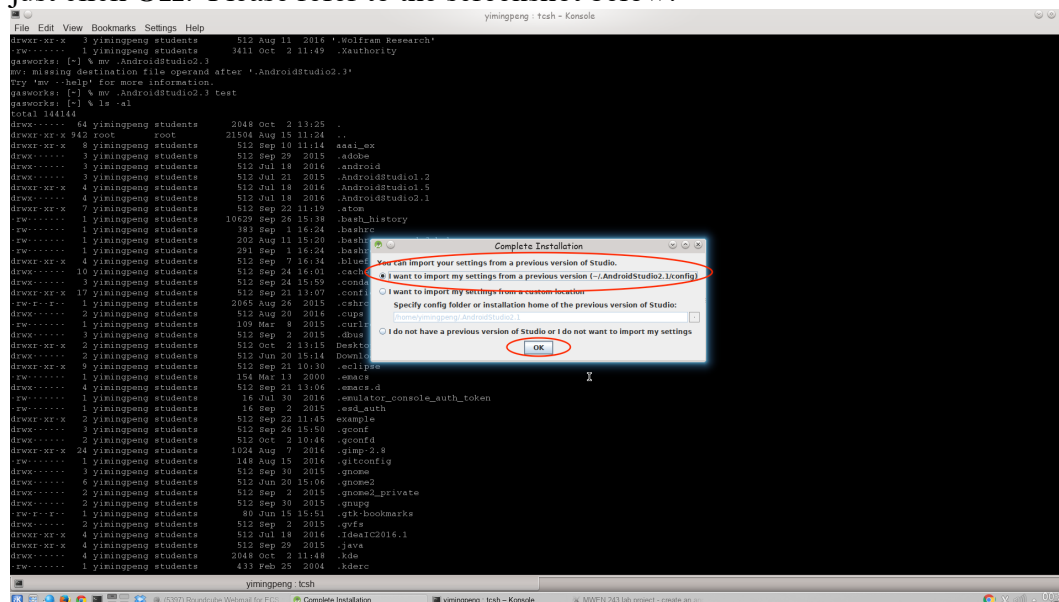
- Experience of using the Android development environment
- Experience of building simple Android applications

### Requirements

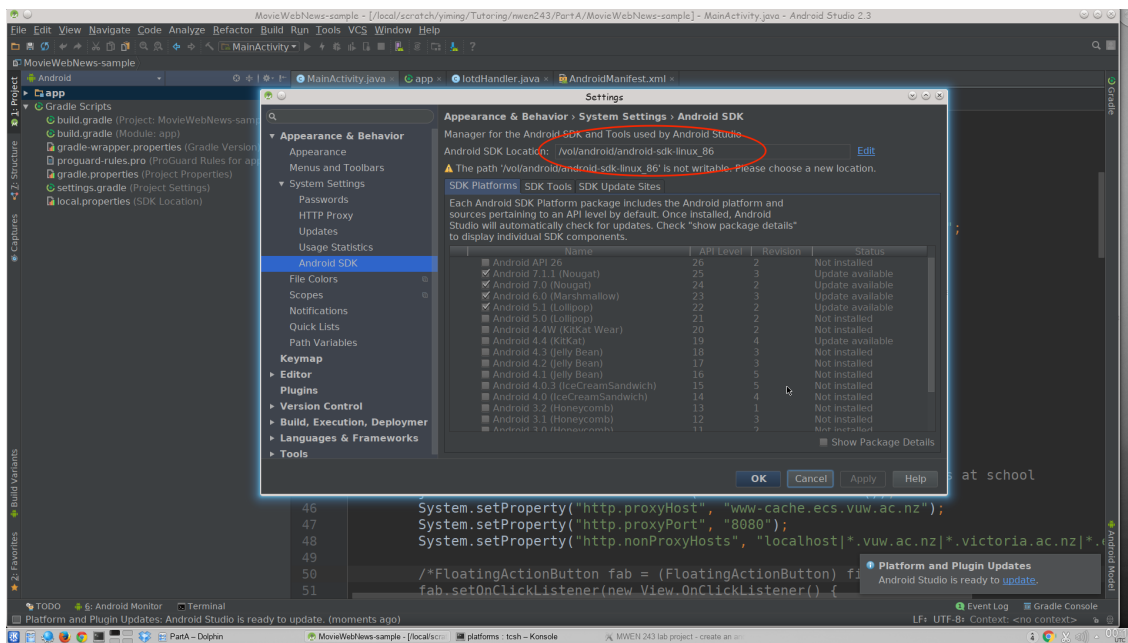
- You are required to work on the given application development template and complete the code in missing parts as indicated in the template.
- You must demonstrate your work to your lab tutor.

### Things to know:

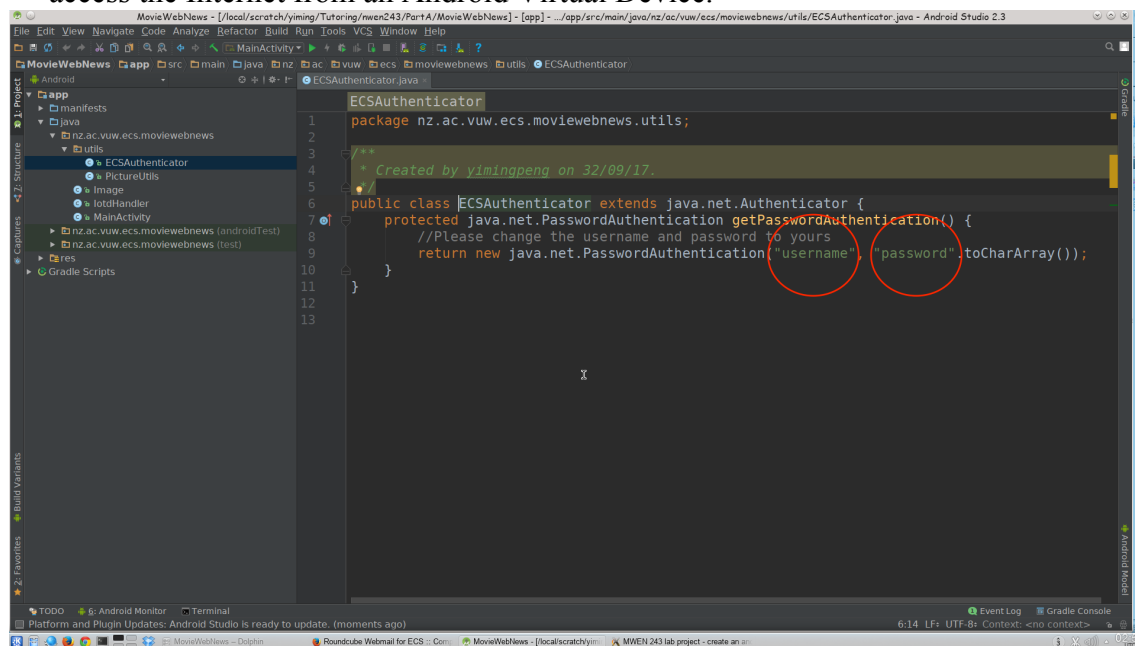
- Whilst starting your Android Studio, you may be prompted with “import settings”, please just click **OK**. Please refer to the screenshot below.



- Please remember to run “need android” in your terminal if you want to work with the command line interface.
- Please check the **Android SDK location (File – Project Structure – SDK Location)** as “/vol/android/android-sdk-linux-86” (**Default Setting**) shown below.

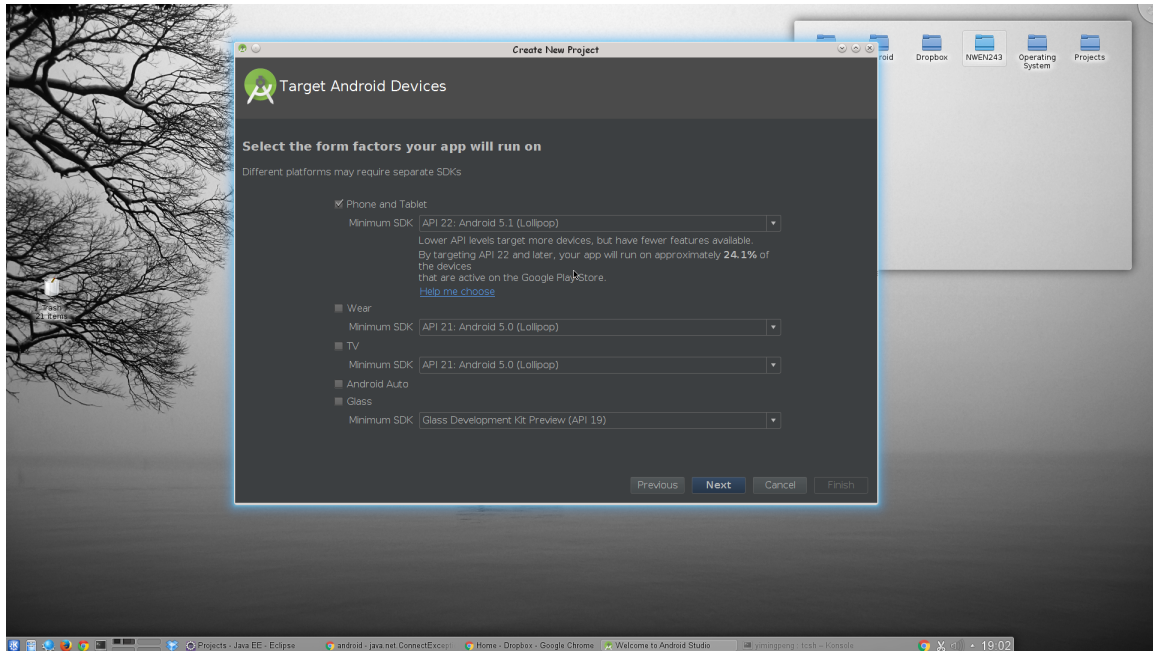


- If you work on workstations in the lab (e.g. CO246), please change the username and password to yours in *ESCAuthenticator.java*. Those workstations require a proxy to access the Internet from an Android Virtual Device.

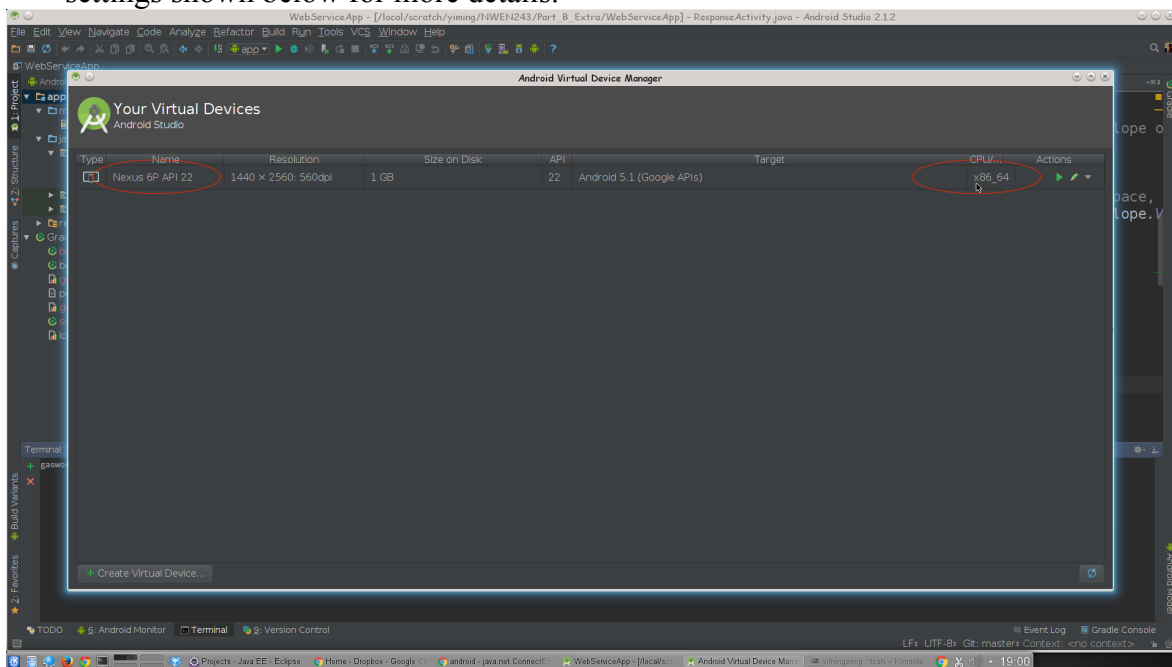


## Important Settings

- Android SDK Version: The minimum SDK for the given project is “API22: Android 5.1 (Lollipop)”.



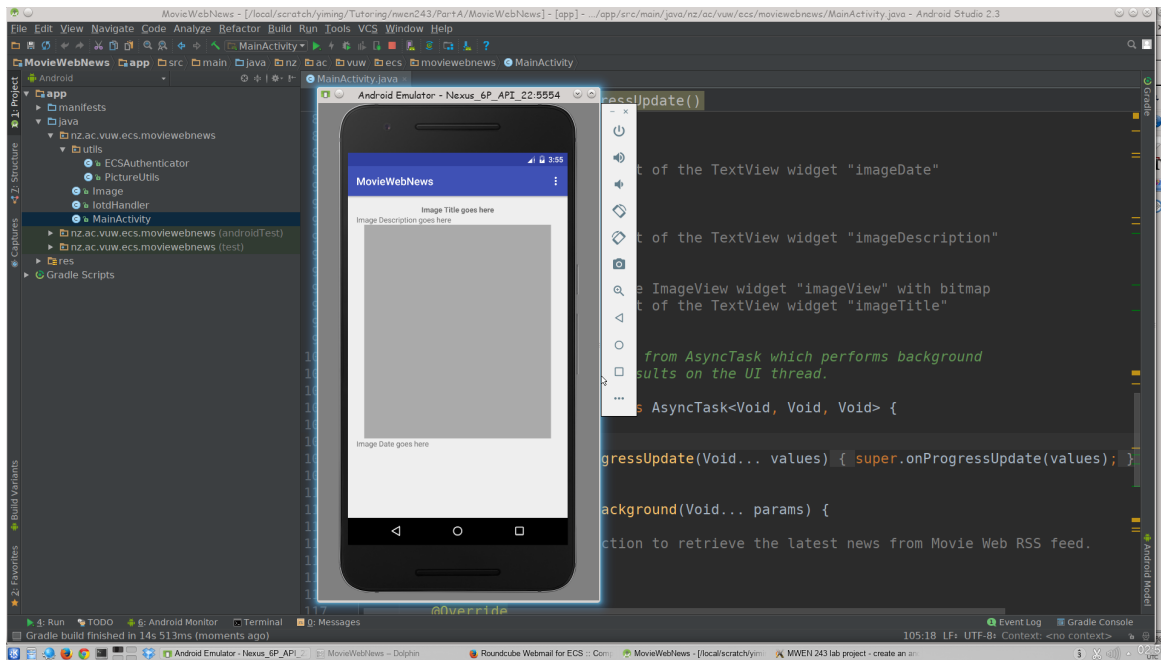
- Recommended Android Virtual Device: *Nexus 6P API 22 (or 25)*. Please refer to the settings shown below for more details.



## Step-by-step description

### Step. 1

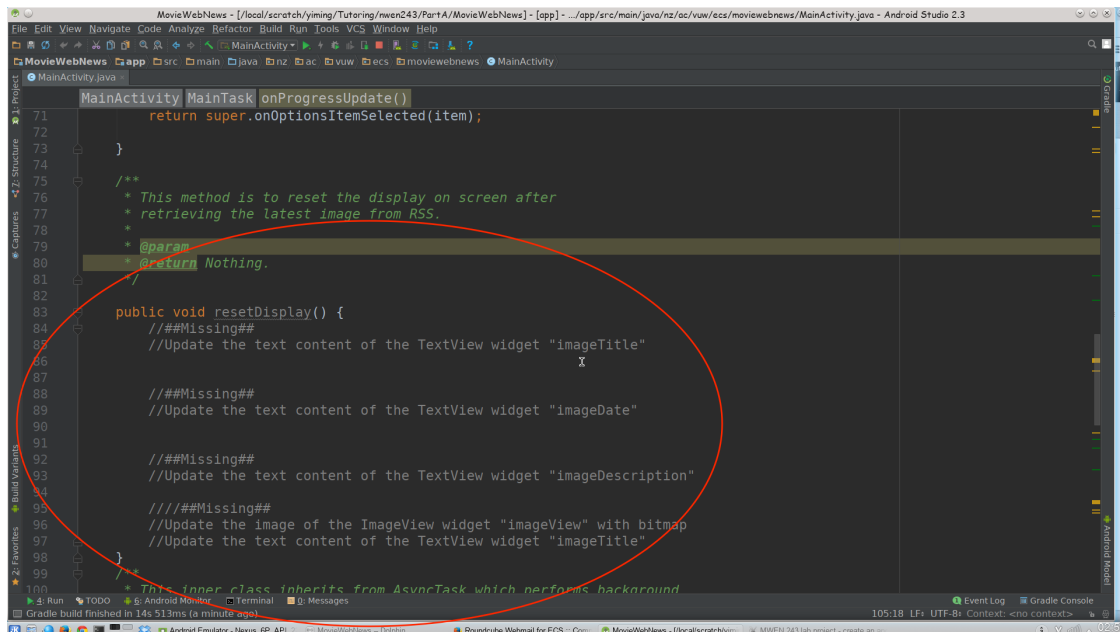
The project template provided can be compiled and executed easily. Please make the program compile and run on the emulator (you need to configure an Android virtual device through the device manager).



## Step. 2

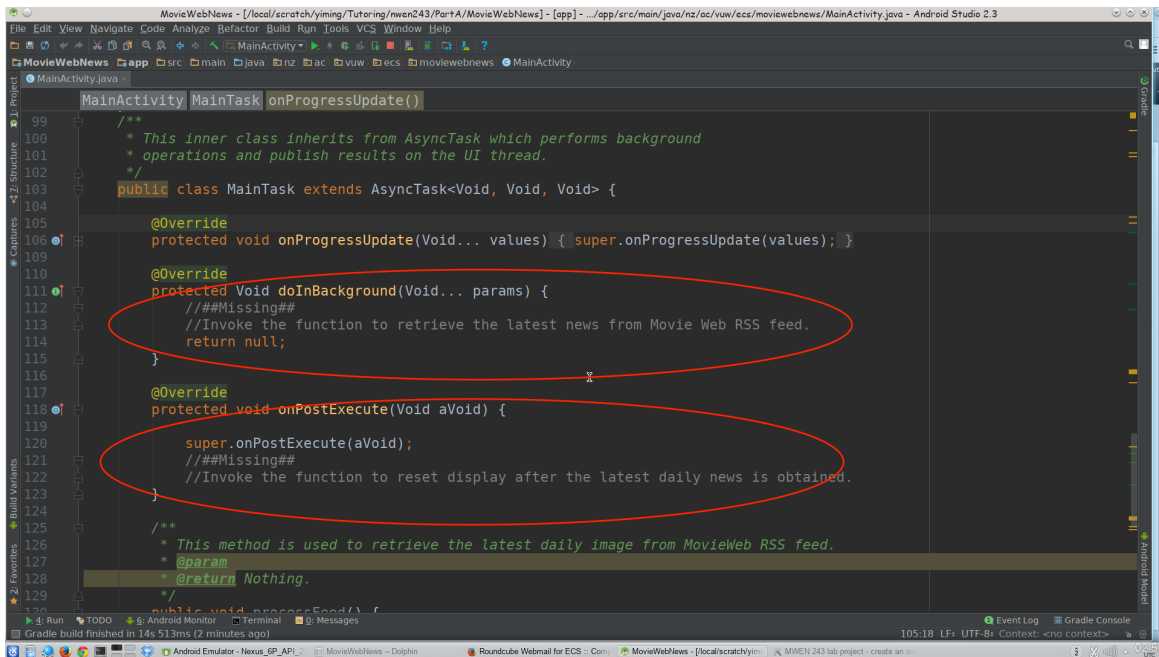
Please find and complete all missing parts in the source code, which are all labelled by “###Missing##”. The line number of missing code are given below:

a. Line 84 – 97



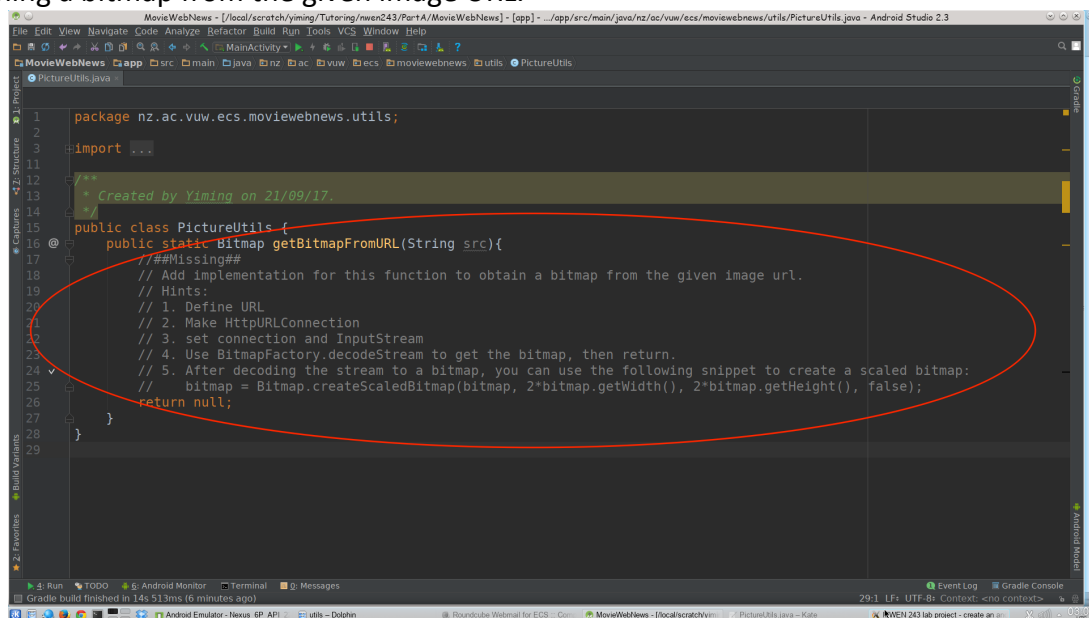
b. Line 112-113

c. Line 121-122



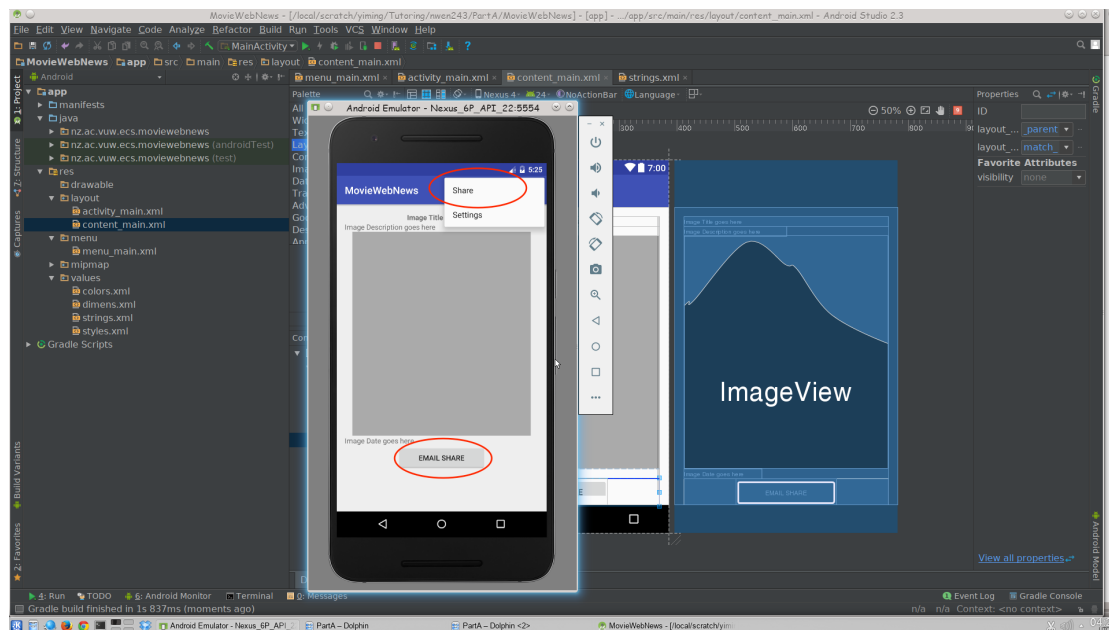
### Step 3

Please complete the function “getBitmapFromURL(String src)” in “PictureUtils.java” for obtaining a bitmap from the given image URL.

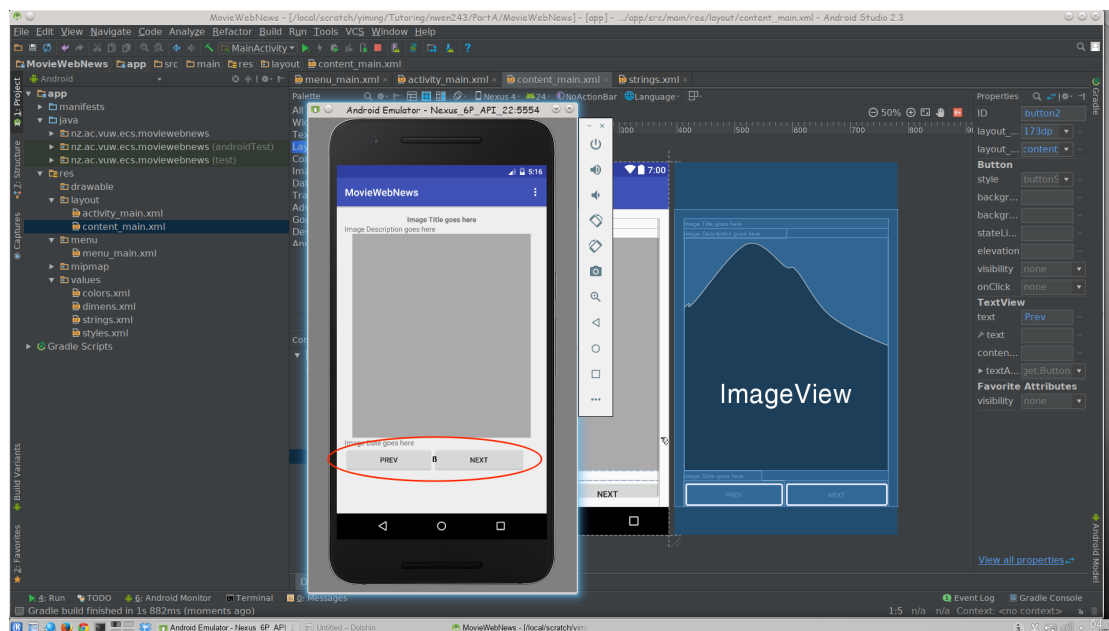


### Challenging tasks:

1. Add a function to share the daily movie image with your friends. Either you can create a button on your main activity to share the image with its relative information via email, or you can add share actions to your action bar.



2. Add a function to switch across multiple images. For example, you may add two buttons, “Prev” and “Next” (see an example below). By clicking on those buttons, your Android app can display the previous movie image or the next movie image accordingly.



## Hand in

Demo your work to your lab tutors. This involves running your Android application correctly to clearly show that you have successfully completed steps 1, 2, and 3.

You must also submit your complete Android app development project (in the form of a ZIP file) through the online submission system.

## **Grading**

**C grade** – step 1 completed successfully.

**B grade** – step 2 completed successfully.

**A grade** – step 3 completed successfully.

You can get **1 extra mark** for your total mark in this course if you can successfully complete the two challenging tasks above. Lab tutors however will not provide any support for the challenging tasks.