

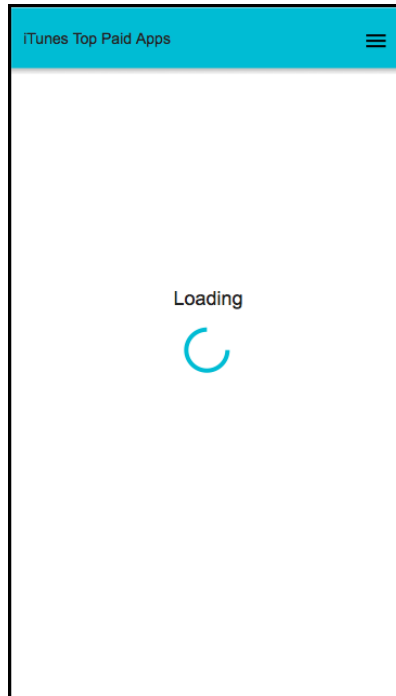
ITIS/ITCS 4180 Mobile Application Development
Homework 03

Basic Instructions:

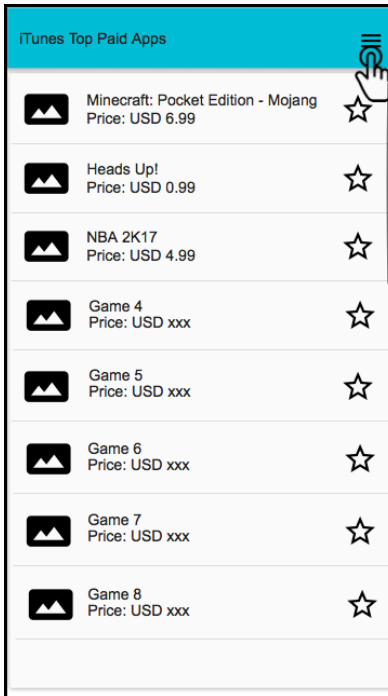
1. In every file submitted you **MUST** place the following comments:
 - a. Assignment #.
 - b. File Name.
 - c. Full name of all students in your group.
2. Each group should submit only one assignment. Only the group leader is supposed to submit the assignment on behalf of all the other group members.
3. Your assignment will be graded for functional requirements and efficiency of your submitted solution. You will lose points if your code is not efficient, does unnecessary processing or blocks the UI thread.
4. Please download the support files provided with this assignment and use them when implementing your project.
5. Export your Android project and create a zip file which includes all the project folder and any required libraries.
6. Submission details:
 - a. Only a single group member is required to submit on Canvas for each group.
 - b. The file name is very important and should follow the following format:
Group#_HW03.zip
 - c. You should submit the assignment through Canvas: Submit the zip file.
7. **The minimum SDK version should be set to 16 and the maximum SDK version should be set to 26.**
8. **Failure to follow the above instructions will result in point deductions.**

Homework 03 (100 points)

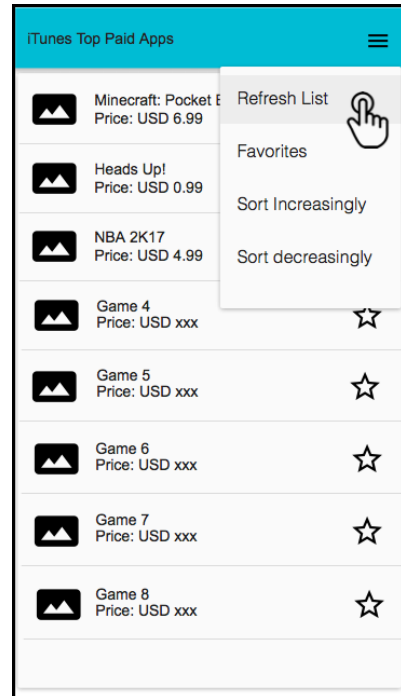
In this assignment you will develop “iTunes Top Paid Apps” app, which displays the list



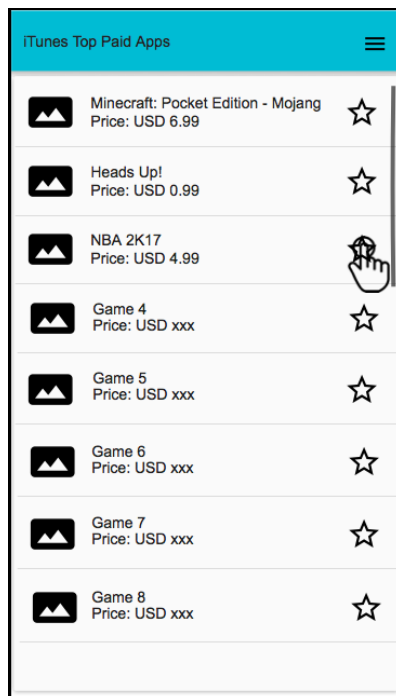
(a) Loading Data.



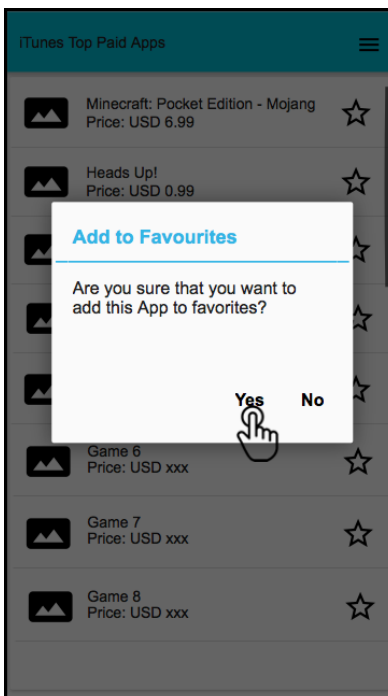
(b) List of top 25 Apps



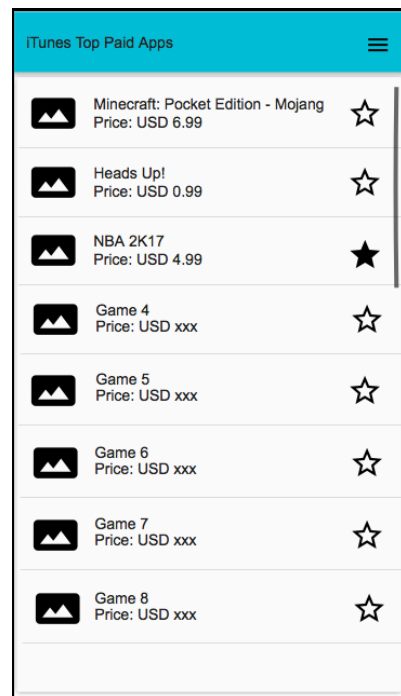
(c) Menu Buttons, Refresh



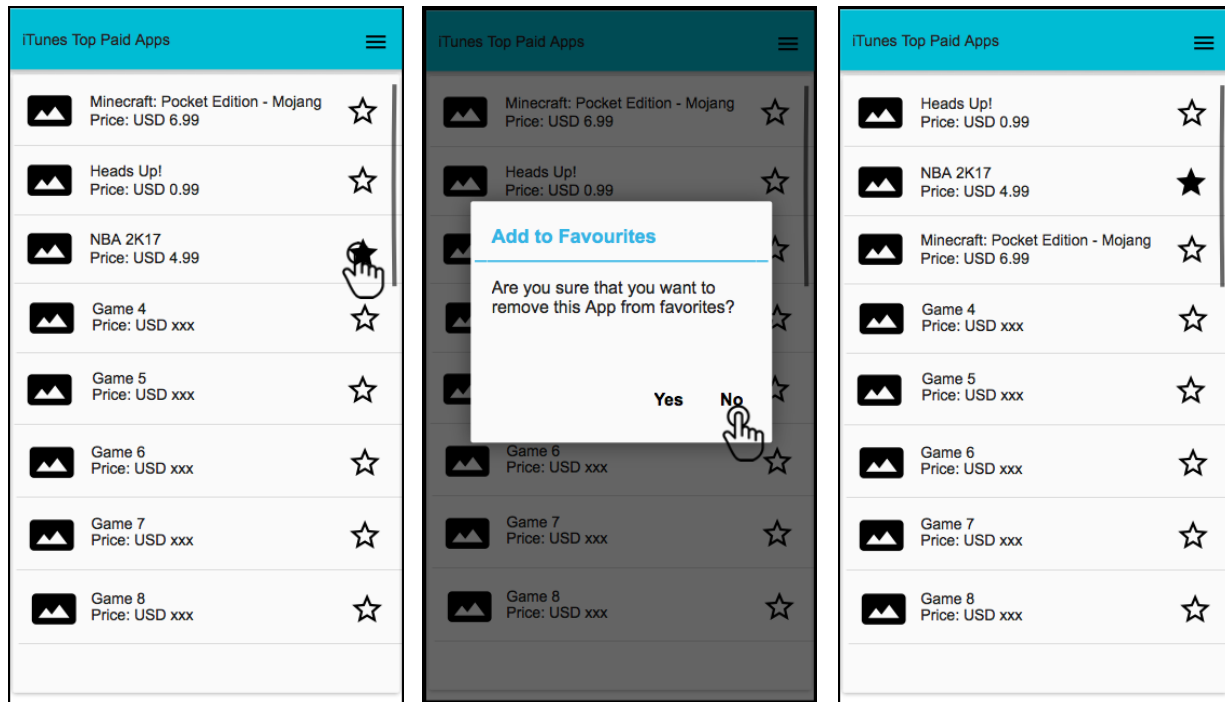
(d) Click on Star icon to make it favorite



(e) Alert dialog for Favorites



(f) One item is marked as Favorite



(g) Remove from Favorites by clicking on Black Star

(h) Remove from the Favorites dialog.

(i) Sorted in increasing order

Figure 1, App Wireframe

of top paid apps from “iTunes Top Paid Apps” rss feed. In addition to displaying the top paid apps, the app allows the user to mark specific Apps as favorites using Shared Preferences.

Top Paid Apps Fragment (90 points):

This fragment contains a ListView of iTunes Top Paid apps. The API to be used for this assignment is: <https://itunes.apple.com/us/rss/toppaidapplications/limit=25/json>.

The ListView is a list of apps retrieved from the API. The requirements are as follows:

1. When the app starts, it should call the API to retrieve the list of apps, parse the retrieved items and display the ListView. While the API is being accessed display a ProgressBar as shown in Figure 1(a). Use a thread pool or AsyncTask to access the API and parse the result using **JSON parser**.
2. You should include 4 menu buttons:
 1. Refresh List: Used to refresh the list.
 2. Favorites: When you Click on this menu button, you should open another fragment that only displays a ListView containing the Favorite apps.
 3. Sort Increasingly: Clicking on this button should sort the ListView in the Main fragment in the increasing order of price.
 4. Sort decreasingly: Clicking on this button should sort the ListView in the Main fragment in the decreasing order of price.
3. The retrieved items should be displayed in top ListView as shown in Figure 1(b). The top list should be created using a customized ListView / **RecyclerView**. Each

item should contain the app thumbnail, app name, the app price and the star button (either white or black) indicating the app is favorite or not, see Figure 1(b).

4. This app has a feature which allows the user to make apps favorite and store them in **Shared Preferences**. You can learn how to use Shared Preferences from: <https://developer.android.com/training/data-storage/shared-preferences.html>
5. If the user clicks on a not favorite (white) star icon, it should ask for the confirmation to add the app to favorites, see Figure 1(e).
6. If the user clicks on a favorite (black) star icon, it should ask again for the confirmation to remove the app from favorites, see Figure 1(h).
7. If the user clicks on Sorting buttons in the menu, the ListView should be sorted based on their price, see Figure 1(i).

Favorites Fragment (10 Points):

If the user clicks on the Favorites button in the menu, it should create a new Fragment to display a similar list like the first Fragment, only having the ListView of favorite apps. User can also remove the apps from Favorites. The design for this screen is not provided here. Use your judgement to design it.