

Lists, Adapters, Menus

Due Date: Sunday, October 17th 2021, by 11:59pm

Project Details:

For this project you will design and code a new Android app that implements the following functionality. The main activity in the app displays a collection of movies from various directors. The collection is organized either as a list or as a 2-column grid, depending on the user's preference. The display of each movie consists of two items, a thumbnail picture representative of the movie and text giving the movies title and director.

When the user clicks on a movie item, the main activity is stopped, and a browser window is displayed instead. The browser window shows a page with a publicly available video segment related to the movie. By clicking a play button on the page displayed by the browser, the device user can watch the video clip. A user would return to the main activity by pressing the device's "back" soft key, for instance, when the video clip is complete.

The main activity of the app must support an "option menu" with two options allowing the user to select between viewing the movies as a list and as a grid. Selecting one of the two views has no effect if that view is already shown in the activity. However, if the other view is selected, the current display is reconfigured according to the user's choice.

In addition, each movie item should support "long click" functionality. A long click on any list item will bring up a "context menu" showing the following three options for the movie under consideration: (1) View the video clip (similar to a simple click); (2) View a browser's page with the movies wikipedia page (or IMDb or something similar); and (3) View a browser's page with the directors wikipedia page or similar. Note that the page displayed in option 3 must be different than that in option 2.

The design of your project is subject to the following main constraints:

- * Each movie item in the list or grid should display the same 3 items: (1) a thumbnail image representative of the movie, (2) title of the movie, and (3) the director of the movie. The image should appear on the left-hand side of the list item, be centered vertically and have roughly a square shape. The title of the movie and name of the director should appear to the right of the thumbnail, with the title of the movie above the directors name. The name of the the movie should use a larger font than the directors name. The directors name must be italicized.
- * You must use Android's RecyclerView to implement the list and the grid. Switch between the list and the grid display by changing the LayoutManager associated with the RecyclerView. You may use predefined Android layout managers in the RecyclerView.
- * When launching the browser activity, your app should use the OS to find an appropriate browser, rather than choosing a specific browser hard-wired in your app.
- * Use a publicly available web site for the video clips.
- * You should open the wikipedia pages in a way similar to the video clip, that is, using any available browser on your device, rather than a specific browser.
- * The collection of movies should contain no less than eight items. When displayed as a list, the list should be long enough to exceed the height of a Pixel 3 XL display, thereby requiring the use of a vertical scrollbar in order for the user to view all the items.

Implementation notes:

For this project use a Pixel 3 XL device running the usual Android platform (API 30—Android 11). Design your list view in such a way that it will display optimally in portrait mode, and reasonably well also in landscape mode. You are not required to provide backward compatibility with previous Android versions.

You must work alone on this project. Submit the entire Studio project as a zip archive using the submission link in the assignment's page on Blackboard. No late submissions will be accepted.

Academic Integrity:

Unless stated otherwise, all work submitted for grading **must** be done individually. While we encourage you to talk to your peers and learn from them, this interaction must be superficial with regards to all work submitted for grading. This means you **cannot** work in teams, you cannot work side-by-side, you cannot submit someone else's work (partial or complete) as your own. The University's policy is available here:

<https://dos.uic.edu/conductforstudents.shtml>.

In particular, note that you are guilty of academic dishonesty if you extend or receive any kind of unauthorized assistance. Absolutely no transfer of program code between students is permitted (paper or electronic), and you may not solicit code from family, friends, or online forums. Other examples of academic dishonesty include emailing

your program to another student, copying-pasting code from the internet, working in a group on a homework assignment, and allowing a tutor, TA, or another individual to write an answer for you. It is also considered academic dishonesty if you click someone else's iClicker with the intent of answering for that student, whether for a quiz, exam, or class participation. Academic dishonesty is unacceptable, and penalties range from a letter grade drop to expulsion from the university; cases are handled via the official student conduct process described at <https://dos.uic.edu/conductforstudents.shtml>.