Lists, Adapters, Menus

Due Date: Sunday, October 13th, 2019 @11:59pm

Project Details:

Design and code an Android app that displays information about smart phones. The app's main activity displays a list whose items contain information about a particular brand of smart phone. This information includes a thumbnail picture of a phone, and two text strings with different size fonts. The thumbnail picture is shown on the left of a list item; the two text strings are shown on top of each other to the right of the thumbnail. The first (top) text string uses a larger font than the second text string; this text string displays the brand and model of a smart phone (e.g., iPhone XS Max, Samsung Galaxy S9, etc.) The second (bottom) text string contains the screen size and price range of that smart phone (e.g., 6.5 inch display, a small fortune). Feel free to choose your images from pictures publicly-available (and not copyrighted or otherwise protected) on the Internet. Also, feel free to choose how to fit the pictures into thumbnails appearing in your list (e.g. whether to scale the picture or not, etc.) You should include at least 6 items in the list and ensure that the list is scrollable. (The list should not fit in the display of the Pixel device; at least one item should be completely off-screen due to screen size.) Also, make sure to include adequate padding inside the UI elements contained in each list item. Your list view should have a "pleasant" look-and-feel.

Implementation Details:

Each list item supports two kinds of functionality, depending on whether an app viewer performs a short vs. a long click on the item. A long click brings up a new activity that shows the entire picture of the selected phone on the entire device display. This picture must be a higher resolution and bigger than the thumbnail displayed earlier. The user can return to the list activity by selecting the "back" soft button on the phone. If, instead, a user clicks anywhere on the displayed picture, you must open a browser activity

showing the web site of the device. For instance, if your app shows a picture of a Pixel 3 XL, the app should bring up the Pixel 3 XL's web page from the official Google web site.

A short click on a list item brings up a "context menu" showing the following three options for the list item under consideration: (1) display a third activity containing the specs of the smart phone under consideration (e.g., how much RAM, how many storage sizes and their price points, the pixel density, etc.); (2) Show the entire picture of the device (similar to a long click); (2) Show the official web page of the device manufacturer in a new activity.

Android platform:

For this project use a Pixel 2 XL AVD running Pie API 28, that you downloaded for Homework 1. You are not required to provide backward compatibility with previous Android versions. You are required to minimize the RAM that your app uses for performance reasons. You must strive not to hold more than one of the larger pictures in RAM at the same time. (You are allowed to store these images in your app as long as they are not held in primary memory at the same time.) Penalties will apply if your app explicitly holds more than one of the larger images in RAM at the same time. Also, make sure to recycle your list item views.

Submission Details:

You must work alone on this project. Submit the entire Studio project as a zip archive using the sub- mission link in the assignment's page on Blackboard. This archive should contain the apk executable that you generated when you tested your app on your Pixel 2 XL. Also, make sure to include your first and last names in the manifest file of your app, perhaps as an XML comment. 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.