CS478: Software Development for Mobile Platforms

Project #1

Due time: 7:00 pm on 2/9/2017
Submit using Blackboard web site
Total points: 80
Instructor: Ugo Buy

TAs: Tathagata Ganguly and Vinay Manchundiya

Project functional specification. Design and implement an app with the following functionality. The app starts off with a main activity containing a welcome text and two buttons. Upon pressing the first button, your app displays a second activity containing only a one-line editor field. The second activity allows the interactive user to enter a phone number. The phone number must conform to the following format "(xxx) xxx-xxxx", where "x" denotes a digit, although the phone number could be preceded and followed by a random number of white spaces. When the user is done entering the number and presses the "Done" or "return" key on the soft keyboard, the second activity reads the number entered by the user. The number is packed (as a string) into the intent that the first activity used to start the second activity. In addition, the second activity checks whether the number just entered conforms exactly to the above format. If this is the case, the second activity sets a result code of "RESULT_OK"; otherwise, it sets a result code of "RESULT_CANCELED". Finally, the second activity terminates itself, thereby causing the first activity to become visible again.

Upon returning from the second activity, the first activity checks whether the result code was "RESULT_OK". In the case, the user may press the second button in the first activity causing the device to display the phone dialer activity (without making the call), while displaying the number that was entered in the second activity in the dialer window. You must use an existing *Phone* app previously installed in your device when displaying the dialer activity. (You are not allowed to specify what *Phone* app should be used for the dialer activity.) However, if the result code was "RESULT_CANCELED", when the user presses the second button, the first activity displays a toast message informing that device user that she entered an incorrect number and includes the number.

Note that the second activity must return automatically to the first activity after a user enters a phone number and presses the return or done key.

Implementation notes. Your app has no knowledge of the specific phone app to be invoked. You are not responsible for coding or downloading additional phone apps; you may assume that a suitable phone app is already installed on your device even though you don't know what that app is.

Use an intent extra to pass the phone number from the second activity to the first activity.

Create an instance of the *Toast* class with the static message *makeText()*, which takes as input 3 arguments. You can then display the toast by calling method *show()* on the instance. See the online documentation for additional details.

Use an *EditText* widget to enter the phone number in the second activity. Implement Java interface *TextView.OnEditorActionListener* when defining a listener for the edit text. Read the Android documentation on the *TextView* class in order to define the listener.

Android platform. For this project use a Pixel XL AVD running Nougat API 25, that you downloaded for Homework 1. You are not required to provide backward compatibility with previous Android versions.

Submission instructions. *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.