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Android Smartphone Programming

Exercise Sheet 3

1 To-Do List Manager (20 points)

In this exercise you will implement a *To-Do List Manager* for the Android-Platform. A *To-Do List Manager* application helps to enter *To-Do Items* with an optional deadline and the user should be notified when the deadline is close. Each *To-Do Item* consists of a single name. As needed, a deadline can be assigned to each *To-Do Item*.

The following features should be supported in your application.

- A list of the *current To-Do Items*. Done items should not be displayed.

- A list of the *done To-Do Items*. Active items should not be displayed.

- A button to add the items.

- The ability to mark items (for removal and as done).

- The ability to delete items.

- The ability to add/ remove a deadline.

- A database to save the current status of the list.

- A reminder that appears to the user whenever a to-do item deadline is reached.

- A widget that appears on the home screen showing the next *To-Do Item* with the closest deadline.

- The ability to start the activity by clicking the home screen widget.

ListView   A ListView can be used to layout items in the *To-Do Lists*. In addition to this, a ListAdapter and an ItemAdapter can be used. Components like TextView and EditText can be used to view and edit text. A Cursor will be needed for viewing and editing items in the database.

Intents   Intents can be used to start a new Activity where a *To-Do Item* can be inserted, viewed, or edited. The Intent specific method *startActivityForResult()* can be used to get the result. BrodacastReceivers and IntentFilters could be used to receive and respond to the Intent.

Service   Services can be used to track when a deadline for an item is close. If this is the case a NotificationManager can be used to notify the user.

AppWidgetManager   An AppWidgetManager helps you to create the widget for your application. An Intent and BroadcastReceiver should be used to communication between widget and application - to display the items with the closest deadline (for example).

DatePicker/ TimePicker   You can use the DatePicker/ TimePicker component along with DatePickerDialog/ TimePickerDialog to allow the user to choose a deadline.

Submission

Deadline   The submission deadline is **24.11.2017, 12:00 (noon)**. Late submissions will not be accepted.

Project   Create an *Android Studio Project* (e.g. **exercise3**) for each exercise. Use **androidlab.⟨user⟩.exercise3** as package name. Make sure that your project include all source files.

Report   Your solution will consist of a *pdf file* ⟨**user**⟩**_report3.pdf** with a description. The description must be limited to one page per exercise. Submitting more than one page will lead to reduction in points. The description may be either in German or in English. Clear and understandable style is required.

Submission   Submit your solution to the subversion repository. Your solution will consist of one *folder* (e.g. **exercise3**) for each exercise which include the zipped project and the report.
Please make use of Android Studio 3.0 function of exporting your project to a Zip File.
You are strongly encouraged to test your solution. Provide your source code with comments to understand the intention. Clear and understandable style is required.