
Android Smartphone Programming

<http://proglang.informatik.uni-freiburg.de/teaching/androidpracticum/2015/>

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, edit, delete the items.
- The ability to mark items as done.
- 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. BroadcastReceivers 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 **23.11.2015, 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 project and the report.

You are strongly encouraged to test your solution. Provide your source code with comments to understand the intention. Clear and understandable style is required.