KCL Tech Build X: Android

Halfway Catch Up

TL;DR: We did some cool stuff, and we have lots of even cooler stuff coming up. Now go read the second page.

Sit-rep: Where Are We?

We are now **halfway through the course**! Four lectures done, four lectures to go (plus a bonus lecture at the end that's not related to our KCL Tech Todo app). If you've stuck with us this far and you're still going, then well done - **you're awesome!**

So far we've covered a lot of fundamental Android topics: you've set up your **development environment**, you can make an **activity**, you can create a **layout** full of **views** and **view groups**, you can use **intents** to move between **activities**, and you can even use a **custom adapter** to populate a **ListView** to provide super-efficient **view recycling**. All of that in four weeks… **you really are awesome!**

What Next?

We have five lectures left now, and this is where things will start to get a little bit more complex (don't worry, if you've made it this far then you have the skills to finish!). The content planned for the rest of the course will be as follows:

- **Data: Preferences and Databases**
  - We'll be looking at two different ways to store data on the user's device that persists (stays around), even when they leave your app or reboot the phone.
  - One of these methods will be databases. You should have a basic understanding of databases to prepare for this lecture - as long as you understand terms like "table", "column", "row" and "query", you should be fine.
- **Putting it Together**
  - We'll be joining the dots of the Android components you've build so far into a complete, functioning app! You should leave this lecture with a useable app that does the things you expect your todo app to do.
- **Networking**
  - Not strictly relevant to the basic version of the app, but being able to access resources on the Internet will be a fundamental skill when it comes to building your own apps and extending this app in the future.
  - We'll be studying what an API is, and how to use from within Android to do all sorts of wonderful things!
- The fourth remaining "new content" lecture is yet to be confirmed.
- **Bonus lecture!**
  - This will be a more informal lecture that belongs to you! I'll be covering a few topics, mostly focussed around where you can go from here, but this is your chance to ask questions, clarify past topics, and your last chance until next term to get any Android information you want.

Getting On the Same Page

Throughout the course, most students have followed along with the coding, but everyone's project is looking slightly different right now. **That's okay!** However, in preparation for the next lecture, I want to make sure everyone is starting from roughly the same place. That means clearing out the failed layouts that didn't work, getting rid of the classes that were just tests, etc.

To make this easy, here's a rundown of **everything you should have** in your project right now. Any files that aren't on this list **are not needed**, so you can (and should) delete them. To make it even easier, and to help if you've fallen behind, a "perfect state" .zip file was also uploaded with these notes.

Resources

`strings.xml`
In here you should have all of the strings you've used so far in the app. You should also add in all of the strings we're going to be using, to save time later; you can find them in the .zip file uploaded with these notes.

`dimens.xml`
In here you'll have a few activity padding dimensions, as well as anything else you've added when making layouts. We won't need to do much more in this file.

`styles.xml`
In here you might have some styles that you've declared for your layouts, but you might not. Either option is okay. We won't be adding a lot more to this file either.

Layouts

`activity_task_list.xml`
This is the layout we built in the last lecture: it contains just the progress spinner icon, a TextView and a ListView. It doesn't need modifying for now.

`list_view_row.xml`
This is the second layout we built in the last lecture: the row shown for each item in our list view. This one should just contain a single TextView. It also doesn't need modifying yet.

`activity_edit_task.xml`
This is where most of your layout work will have been so far: this was the layout that has all of the inputs to create a new task (title, date, notes, etc.).

Activities

`EditTaskActivity.java`
This activity will have about 20 lines of code: a `setContentView(...)`, a handful of view variables and calls to `findViewById(...)`, and a few `setVisibility(...)` methods. You might have a click action listener on the button as well.

`TaskListActivity.java`
This is the activity we created in the last lecture: it has some of the same methods as you'll find in your `EditTaskActivity.java` class, as well as the sample code to test our our basic adapter. Leave this as it is for now, or play around with the adapter to learn more about them if you want to!

Other Files

`BuildXNameAdapter.java` (you might have named yours differently)
This is the adapter we built for your list of names, where we implemented the three crucial methods (and skipped the one useless method). **I added a method** to change the data after the list is created - for an explanation on how this works, check the last page of the lecture notes. You can leave this as it is for now, or play around with it and see what else you can do!

`AndroidManifest.xml`
Within this file, you should have one `<application>` tag, containing two `<activity>` tags - one for `EditTaskActivity`, one for `TaskListActivity`. The latter should be the only one with an `<intent-filter>` block, with the `MAIN` and `LAUNCHER` intents inside.