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Software Development Mobile

Learning diary

Module part 1 21.3.

I'm taking this course to benefit me in another bigger course where I'll be working with Android, but also to get a nice project for my portfolio. I've already learned a bit about the layout editor in Android Studio before, but Java as a language is new to me, as well as the coding conventions in the program.

The tutorial is five years outdated, so I couldn't make all the adjustments it suggested, and working with the layout editor was not as easy as it seemed. But making this small program was a good exercise to understand how to connect the components from the UI layout into the MainActivity code. I've been having trouble with understanding updating information inside components and how new components are added inside existing ones, so hopefully I'll get some answers to these as I make progress in the course.

Module part 2 31.3.

Today I learned about Activities and Intents in Android. I had some previous knowledge of Activities, but this way of moving between them in the app was new to me. Knowing how to transfer between different screens is vital to the app.

Intents, however, were a new concept to me. For now I'm thinking of them as ways to plan actions that are executed after a certain event. Like events in JavaScript.

Encountered a few bugs when tried to run the app. Including links to webpages seems relatively easy in Android as well after the tutorial.

Module part 3 14.4.

This module took me a lot longer to complete, because the tutorial used an outdated ListView component, which seemed to work differently enough that I had to start some parts from scratch. I researched on my own how to implement the same thing in RecyclerView, using slightly different methods.

The hardest part was understanding the Adapter structure that creates new components. I had an issue where the app would only generate the first item in the list, which was because I didn't keep track of the position in the list at first. I also learned more about making the layout after struggling with setting margins.

The emulator application in Android Studio doesn't seem to always work for me for some reason, so I actually learned how to test run the application on my own phone. This seems really beneficial and might save a lot of time in the future.

I found help from:

<https://www.geeksforgeeks.org/android-recyclerview/>

https://www.youtube.com/watch?v=aEwnrJtDQAs&ab_channel=DeveloperPost

24.4.

I started working on the project task this week. I want to make an app for balcony gardening, where you can keep a list of the plants you need to care for, their status and for example how much you need to water them. I made the third task app look somewhat like this, so I will use it as a base and add other views and functionality. I think I could at least try using toggles or radio buttons in addition to the current elements I've tried. The first task is to create the three views I want in the app and then make layouts for it.

I'm starting to get the hang of how to make layouts and components that look alright, but creating functional Java is still hard and something I need practice with. It would also be nice to create a color style for the app if I have the time.

25.4.

I'm implementing changing from one view to another into the project, as well as making an app bar with a menu, so navigation. In this stage I needed to think about the structure of the app, what kind of features I should include and how to navigate it. I decided to make a simple menu for navigation, due to the small scale of the project and the fact that there will probably not be too many pages in it. I also added some images, which was one of the easiest parts of this project.

2.5.

Continued and finished the navigation for the app and added an info page that explains the use of the app. Now I have ways to implement adding new components inside an existing layout, which in this app is used to add new list items from the Add plant -page. I will try to make it possible to also remove or edit the list items, but I'm not sure how doable that will be since the components are generated programmatically after the layout, so I would need an ID for each component to access the information.

The hardest thing in implementing an app from scratch has definitely been looking up instructions on how to code a feature, and not knowing exactly what you are looking for. It is surprisingly important in this field to have good information searching skills. I did make the mistake of getting halfway to a tutorial and then realizing it doesn't work in my app due to some type incompatibility a few times. Luckily there often seem to be many ways of implementing the same thing in Android, and usually something works.

3.5.

Today I mostly did finishing touches, cleaning the code and styling the UI. I changed drawable backgrounds for a few components, learned how to edit the themes of the app and managed to give the app slightly different color themes for both light and dark mode users.

I found an issue in the app, where when adding a new plant it didn't update the state icon correctly because I didn't check the state of PlantData list, and it took me time to understand and fix.

4.5.

I did get the deleting information part implemented, adding a DialogFragment with functionality. It took a lot of trial and error, so I got help from Stackoverflow:

<https://stackoverflow.com/questions/26076965/android-recyclerview-addition-removal-of-items>

I had an issue where the app deleted all items from the list when clicking on the dialog, because I forgot to set the OnDeleteDialogListener in onClick listener in ItemAdapter activity. I also made a simple dialog to the AddPlant page, which just announces when you add a new item to the list.

I think the app turned out quite nice, although its functionality is quite limited at this stage. Still, I managed to make 3 views with a working menu, use different components and images, add list contents and update an icon for list item based on its information. There are alerts for adding and deleting items. In addition, I learned how to edit the themes of the app and managed to give the app slightly different color themes for both light and dark mode users.

Some ideas that I have for further development would be to actually save the PlantData information somewhere, so that the information stays after you close the app and being able to set timed alerts/notifications to the phone's system when you want to remember to water the plants. Those would take me many hours to research and learn, so hopefully my current app should be enough for the scope of this course.