Lappeenrannan teknillinen yliopisto

School of Business and Management

Sofware Development Skills

Jari Rauhala, 0596517

LEARNING DIARY, Mobile Anytime-course MODULE

LEARNING DIARY

12.5.2020 - setup and introduction

I got started with the course. I had VS Code already installed so I chose to use that. The instructions were a bit unclear so I got confused whether I should use Android Studio nonetheless. The tutorial series is a mandatory part of the course and it concentrates on Android Studio. Should I apply the same topics in VS Code? Probably. I guess that's what I'll do.

After some time of research I concluded it would be easier just to download the Android Studio and see where this leads. I also find it odd that there is no mention of the language I should be using in the course material.

The first video shows the basics of Android Studio. I learned how to start a new project, what is the file structure like, how to add and manage elements, to add functionalities to them, and debugging. First, I set up the environment and a virtual device to it. Then I added the elements to the UI as instructed. My computer is not the most powerful, yet it is not the least powerful either, but still running the virtual device is probably the most difficult task my computer has ever faced. It takes minutes for even the simplest builds (and other operations, such as closing the device), which is kind of annoying.

14.5.2020 - core elements

I learned about activities and intents. An activity is a rectangular object that displays something. I created many different activities, such as a text display, buttons and a screen that displays the text. An intent is an action that is desired to be done by the Android device. In my app I used two intents, that are created by a push of a button. The first button creates an intent and opens an activity, in which a text is displayed. The second button creates an intent to open up Google on a browser. If the site is found, and activity displaying the browser is opened.

19.5.2020 - Lists, Layouts, and Images

The last video tutorial turned out to be a bit problematic because the version used in it was several years older than the one I downloaded. Therefore, some of the features instructed had changed. Luckily the course staff was eager to help when asked.

I learned how to use a ListView and how to create a custom Layout. I also learned to add images as ImageViews.

Data for the list was declared in res.values.strings.xml as items in string-arrays. The arrays were passed to an instance of ItemAdapter class, which makes the strings suitable for the ListView. For the ListView an click listener was set, in order to display an activity corresponding to the list item clicked. The activity finds, scales and displays the correct picture. For my code I didn't bother to search new pictures, instead, I used some unrelated pictures I already had on my computer.

19.5.2020 - Project initialization

I decided to do a shopping list application. I can use the stuff the tutorials taught me in a practical purpose and add some new features.

As in tutorials I implemented an ItemAdapter class and a ListView. Yet I have used test data within the main activity class, but I intend to implement a DataBase class, Items are now added by a pressing a button.

20.5.2020 - DataBase and details

I managed to implement the DataBase class and ListItem class. The ListItems are stored in DataBase. Figuring out how to update the ListView was quite tricky, especially as it takes a whole 5 minuter for Android Studio to complete a single build. Makes developing by trial and error practically impossible. Anyways, I learned to use the setAdapter method. Also, I learned more about putExtra, by sending data to productDetails.

26.5. - Add new item

I implemented a new activity for collecting user inputs. The EditText were quite straight forward, but adding a picture from gallery was a bit harder. Still have to figure out how to send the data back to the main activity.

27.5. - Saving the input data

Trying to convert the image to png while trying to create a ByteArrayOutputStream and sending the image to the main activity by putExtra crashed the program for some reason, without any trace why that happened. I solved the issue by converting to jpeg instead.

Then I added the option to add an amount input and a button to remove an item. There is still a lot to learn about resultCodes and other stuff - I guess there would be a better way of implementing the removal. But at least by checking that resultCode == 3 (I used just some arbitrary number) works.

Finally, I added counter to count the total cost of the products.

1.6.2020 - small fixes

I created an apk and tried the app on my phone for the first time. Some of the TextViews and buttons were on top of each other, probably due to the different screen size. I probably should have used some layout to manage all the elements (activities). But by smaller distances it works just fine now.

5.6.2020 - other stuff

I got a bit carried away while making the video. Some stock video material is used, hopefully you enjoy. Also, README.txt (hope it is ok, I was a bit uncertain what to write there) and the final words of this diary.