Lappeenrannan teknillinen yliopisto
School of Business and Management

Software Development Skills

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LEARNING DIARY,

ANYTIME-COURSE: SOFTWARE DEVELOPMENT SKILLS: MOBILE 2020-21 MODULE

LEARNING DIARY

EXERCISE ONE

8.12.2020

I now have installed and set up Android Studio and Git. At least initially I'll be using Android Studio IDE for editing.

The videos seem to concentrate in developing using Java. This is a little sad, because I studied some Kotlin while waiting access to this course material. Hmmm... wouldn't Kotlin be a better choice here, too? They say it's much simpler for beginners to try as compared to Java.

Well, anyway, my first Android Studio Project, called My Java App, follows loosely the instructions given in Part 1. I had some difficulties to find the same controls on my Windows laptop that are shown with this Mac Android Studio in the video, but eventually everything has been found and pushing the ADD button is working.

I made a small enhancement in the Java code, taking care of the crash that occurs when ADD is pushed before both numerical fields are populated. In this case the result field is cleared from a previous result if any. Here stepping in the code using the debugger was useful. It also crashed because of too big numbers, so I started using long integers instead of the regular ones.

Also – as suggested by Android Studio – the OnClickListener is converted to a lambda function, and (result + "") is converted to Integer.toString(...).

The project is pushed and committed to GitHub.

EXERCISE TWO

11.12.2020

Created a Quick Launcher app pretty much according to Part 2, but used lambda functions for OnClickListeners again.

There was an unresolved issue with `resolveActivity(getPackageManager())` returning null in MainActivity, so I skipped calling it and put a try – catch there instead.

12.12.2020

I give up... Why am I getting warnings when I try to commit my changes? Why not earlier when I build or run? Getting warnings like XML tags with empty bodies? I haven't created them, they must have been automatically created when I create a new Activity or something. Going to commit regardless.

EXERCISE THREE

16.12.2020

Started creating a List App pretty much according to Part 3. Didn't find ListView in Containers! After some googling found out that nowadays it is in Legacy... should use RecyclerView instead? Going on with ListView anyway. We'll see how it goes.

Android Studio keeps warning about hardcoded strings, so, that's why e,g. a TextView's name will be @strings/tv_name that has been set to “Name” in ...values/strings.xml, and so on.

Downloaded the three images I'm using here from freeimages.com.

21.12.2020

Used `metrics.widthPixels` instead of the deprecated `getWidth()` function. (Same results, though.).

LOTTERY (MY PROJECT)

10.1.2021

This was much more difficult than I could ever have guessed!

I first started with an application that was supposed to use Google Calendar for storing data about stuff in a freezer and warning when something was getting old. Nothing I tried seemed to work, and I was also anticipating problems with potential users having to create a Google account for being able to use the app. Wasted days here... I'll do it one of these days, though...

Then I decided to create this Lottery app; I tried first to start using a Tabbed Activity for the two games I had on my mind, Eurojackpot and Lotto. I could not find out what really happened when switching from one game to the other. Wasted days here, too...

17.1.2021

I then decided to use radio buttons to switching between the two games, and – finally <drum roll> – success! My approach was to have all buttons and text views in a single constraint layout.

The idea here is by using a random generator to create rows of balls so that all ball numbers in the range would occur (at least) once. For Eurojackpot, with the range of 1 – 50, and five balls in a row, that means ten rows of balls. The “Star Balls” (range 1 – 10) will be drawn separately for each row. For Lotto, with the range of 1 – 40, and seven balls in a row, we'll need 6 rows, and two numbers in the last row would then appear two times in the resulting rows. A “Plus” ball in the range of 1 – 30 will be drawn for each row separately.

Text views positioned for both games, 10 * (5 + 1 + 2) = 80 for Eurojackpot, and 6 * (7 + 1 + 1) = 54 for Lotto, will be made invisible (“gone”) initially and when switching from one

game to another. Balls of the active game will be made visible when populated with the random numbers, and the balls of the other game are made invisible.

22.1.2021

The above has now been implemented, tested/debugged and seems to be working correctly.

The colors of the balls and the delimiters have been color-picked from Veikkaus pages, so they are roughly the same. The initial text view contain number strings in the text views in order to help when the visibility was set in the design phase.

24.1.2021

I have been messing around with git quite a lot, and there were times when I was completely lost. So, I ended up creating four repositories, one for each exercise and one for the Lottery project. The project repository also contains this document.

Getting.zip files from GitHub and extracting them to some other locations makes Android Studio complain about the missing root, but I don't care! I'm sooo happy that they still run and work the same way as the originals.