Lappeenrannan teknillinen yliopisto

School of Business and Management

Sofware Development Skills

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LEARNING DIARY, “CT70A9120-Mobile”- MODULE

**LEARNING DIARY**

I started by reviewing the course information and the requirements to complete the course. I am completely unfamiliar with Android Studio and mobile development so there will be a lot of new information in this course.

**Introduction [Part 1]:**

As the requirements for this video I installed Java SDK, Android Studio and created the GitHub repository for the course files. I learned how to setup a basic android studio project and what are the different folders and files in the project. I also learned how to use the plain text-component, how to position the elements in the design, how to use constraints on the element, changing the component id and other properties, setting up the emulator device and running the app on the emulator, creating variables for elements in code, retrieving element values, setting the values of elements in code. Debugging, setting breakpoints, stepping the program in debug. There was a lot of content and new things, but the tutorial video did a great job on explaining things. I followed the video and created my first android app.

**Core Elements [Part 2]:**

In the second video I learned how to create additional activities, pass values between activities, launch activities in the app and to outside of the app. Following the tutorial video, I created my second app which had one in app activity and a second activity which opened the google website on the phones browser.

Slowly I am beginning to understand why React Native is so popular. Using Java and the Android Studio seems to be quite complex, even for simple things like adding an event listener for a button. There is a lot of code needed and it makes the code files really hard to read.

**Lists, Layouts, and Images [Part 3]:**

In the third video I learned how to use the listview-component, create string-arrays, use the layout resource files, show the string array values in a listview.

**Course Project:**

I wanted to create a simple application and something that would be useful for me. I have a few friends from the United States and the differences in measuring units is a constant struggle. I mostly use the google for converting units most of the time but having an android application would be useful for me. I know that there is a lot of unit converting apps in the play store but creating something of my own and learning at the same time does not sound like a waste of time. I chose a few of the common measuring units and conversions which I have needed in the past and started by creating the main layout page with buttons for each conversion.

I thought about creating activities for each conversion but there was not that big of a difference in the layout of elements between the different conversion pages. And I felt confident to manage the challenge of using just one activity for converting the different units. After creating the main activity page, I created a second activity for the unit converting and started researching how to pass arguments between the two activities. I wanted to use predefined constant string when passing the extra information about which units the converting activity should show but failed to find enough information on how to do it in Java. Even though the Java-code looks a lot like C++ or C#, things do not work always the same way. My first version of the converting activity consisted of two number inputs for inputting the measurements and two additional text views for the units. My first thought was to be able to input a value to either of the input fields and show the result in the other input field. Adding a “OnChange”-event listener resulted in a program loop and an application crash so I needed to change my idea. I ended up using two radio buttons for choosing the start unit, one input field for the number to convert and a result textview to show the converted value. I needed to add event listeners to the input field and also for the radiobutton group for the result to be changed when the user type in the number of when the user changed the starting unit. I am not completely happy with the resulting code, I feel like there is a lot of optimization which could be done, but at least the program works as it is supposed to.

I uploaded the course files to a GitHub repository and the project to a separate repository.