Lappeenrannan teknillinen yliopisto

School of Software Engineering

Sofware Development Skills

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LEARNING DIARY, MOBILE MODULE

LEARNING DIARY

09.06.2025
Today I mainly learned about environmental construction and project initialization. I downloaded and installed Android Studio from the official website at first. I created a new project with the required specifications from the video. I named the project MyFirstApp, chose Kotlin as the language and set the minimum API as API 24 (Android 7.0).

From the video, I also learned the project structure of Android Studio, like manifests that contains the AndroidManifest.xml file, java which contains the Kotlin and Java source code files, including JUnit test code, res--Contains all non-code resources such as UI strings and bitmap images. The first time I ran Gradle Sync, it took nearly five minutes to run successfully.

11.06.2025
I learned how to make a simple app with Android Studio. According to the video, I first modified the layout file activity_main.xml. I added two input boxes and set the input type to number. I also added a button and textview below the input box. In MainActivity.java, I set a click event listener (.setOnClickListener()) for the button.

Then I run the app in the simulator (Pixel 3a API 34), the initial page can be successfully displayed, and I enter a number in the input box, and click the button, the result becomes the addition of the two inputs.

12.06.2025

Today I tried to debug in Android Studio. For example, I set a breakpoint at button.setOnClickListner, then clicked debug mode and opened the debug panel. I used Step Over to run step by step, checked the control property values while debugging, and used Watch expressions to monitor the variable status.

15.06.2025

Today I initially learned some core elements to Android Development. For example, Activity refers to a rectangular area that displays something; Intent is an action being requested that the device should try to perform; intentService is a service that can handle intent requests and process the work to be done; BroadcastReceivers can receive an intent from a sendBroadcast method often indicating that some work has been completed.

16.06.2025

I learned how to use Intent launch another activity from the app or website. According to the video, I mainly use Intent.ACTION_VIEW and URI to open external web pages. URI can be used to represent various resources, such as images, video clips, web pages, etc. I used Uri.parse() to convert the string URL into a recognizable URI object, and then applied usestartActivity() to start the external browser. I added resolveActivity() to determine whether there is a suitable application to handle the Intent. However when runing resolveActivity(), the web page cannot be loaded, so I had to put startActivity() outside of it.

17.06.2025

Today I was introduced how to use ListView from the video. I also learned to use a simple adapter to display a list of strings in a listview. I put a full screen ListView in res/layout/activity_main.xml. After I created a full screen ListView I created a couple of multiple string lists in res/values/strings. Then I added an adapter to the listView and put the string list in the listview.

20.6.2025

Today I learned a lot of knowledge based on the information in the video, such as: the most common way to pass parameters between activities is to use Intent Extra---key-value pairs. It is best to use the package name as the key to reduce spelling errors. The ListView in the layout does not store data itself, it asks the Adapter for the view and data of each row. The Adapter's responsibility is to put the data corresponding to the index on the corresponding view component.

21.6.2025

I then learned new modules, such as the use of Bitmap. Bitmap is one of the most important classes for image processing in the Android system. We can use it to obtain image file information, perform image cutting, rotation and other operations. In ListApp, we use Bitmap to reduce memory usage and effectively avoid OOM. In addition, when the resource ID returns -1 or does not exist, we give the user a default image to prevent image loading failure.