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Programming Mobile Devices

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ElementalDroid App
Brew description along Kotlin-Java interoperability

This second assignment I developed an educational solution for discovering and getting another approach to the chemical elements. It is intended for teachers and kids around 8 years old. The app allows to a teacher, to search and register new items such as chemical elements or any other useful stuff that is presented on Wikipedia. Using the public Wikipedia REST API, I retrieve the data queried by the teacher's input and I show it in an user-friendly interface. Then with the help of a QR code generator and a proper format of the text using JSON notation, the teacher can print them for being discovered by the children. On the children UI, we can see a big floating button which allows them to scan a QR code, and then view the details on a list of discovered elements.

In this app, I tested the interoperability between Java and Kotlin and I liked it. The android API for using the camera is almost Java code along with the online non relational database that I used, Firebase. Java can see the Kotlin code and viceversa without any problem, this means that all the features used on Kotlin or Java can be operated without breaking the backwards compatibility or even affecting the performance, because Kotlin will compile to the default JDK set up on the Build.Gradle file .So what we can realize is that every project can be ported to Kotlin stage by stage, what can propitiate an Agile environment, which it was my methodology which I applied on this project. The other classes on Java are just the class responsible of the Firebase database, due to Firebase is not so adapted to Kotlin.

Along with this document I am going to attach a video where it can be found a demo of the app.