

Programmation d'applications mobiles - Android

Practical

8h

Goal

Develop the app of your choice ! It should contain at least a list, a detail screen, use viewmodel and coroutines. We will test orientation change of your app, and look at the code.

You can use multiple Activity or the Navigation Component library with Fragment. You must use a ViewModel to retrieve the data for the network. You will code with the [separation of concerns](#) in mind (meaning each class has a role and shouldn't do too many things).

Remember to comment your code.

You can use the following website to find fun API to use : <https://apilist.fun/> (choose free/cool apis, avoid paid ones)

If you are completely out of ideas, you can create your own JSON file with some people you know (name, birthday), like your classroom, and make the app display a list of contact details. You can store your json online with <https://jsonkeeper.com/>.

We expect you to work for the full 8 hours, so if you finish earlier you will have to be original and find ideas to add to your app.

Submission

- To submit your project, you will make a git repository on <https://github.com/>
- Name it with your specialization and both name
- Only 2 persons maximum per group
- We expect the project to have a README.md and the code to be commented everywhere it matters
- Send an email to o.goutet@openium.fr and t.coulange@openium.fr with your name(s) and the address of the github repository.

Technical base

The main docs : <https://developer.android.com/guide/index.html>

This project can uses several libraries :

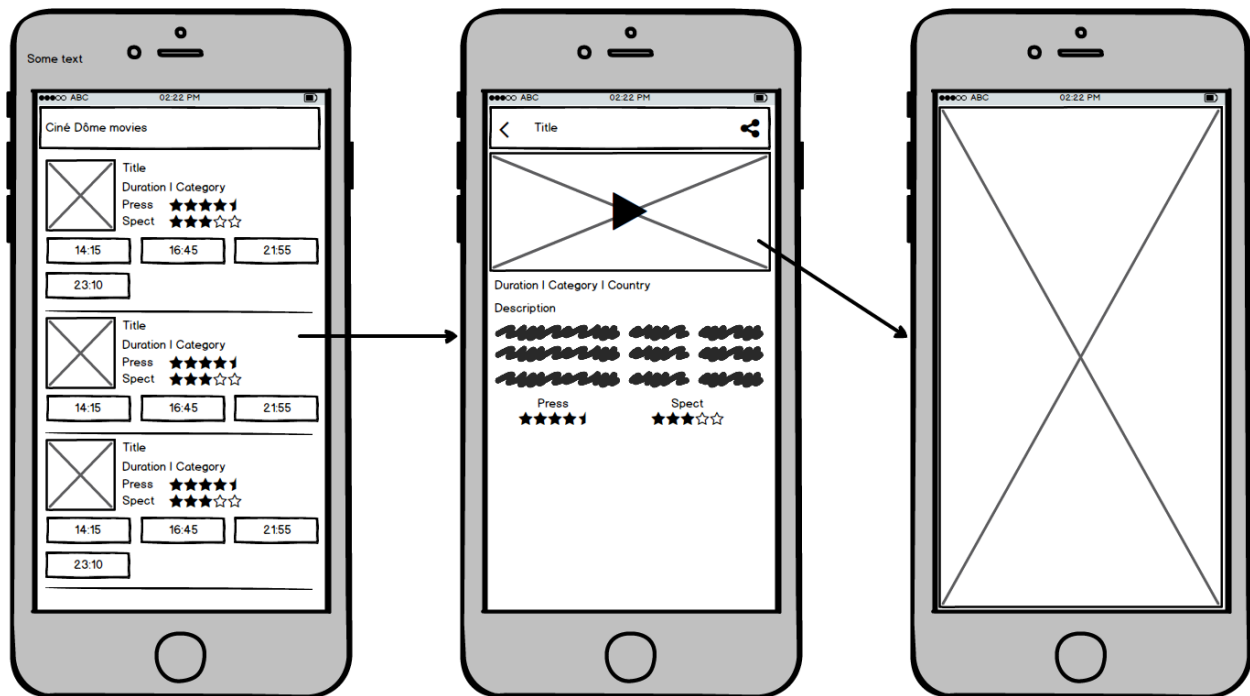
- List : <https://developer.android.com/guide/topics/ui/layout/recyclerview>
- **ViewModel (READ IT) :**
<https://developer.android.com/topic/libraries/architecture/viewmodel>
- LiveData : <https://developer.android.com/topic/libraries/architecture/livedata>
- Ktor : <https://ktor.io/docs/client.html> to make Http requests
- Kotlin Serialization : <https://github.com/Kotlin/ktor.serialization> serialize/deserialize Json
- Coil : <https://github.com/coil-kt/coil> To download and display pictures

To use coroutines (for network calls for example), you need [a scope](#). If you need a more real life example you can check [the example app](#) we made.

Design

There is no given design, feel free to blow our mind.

The aim is to develop the following functionalities (this wireframe only defines the functionalities, you can create your own layout and design).



Go further

- Store your entities in a database with **Room** (<https://developer.android.com/training/data-storage/room/index.html>), and allow the app to work offline..
- Check your app works when rotating the device
- Display a map (using [Google Maps](#))
- Use [permission](#) like using user location, camera, contacts on the phone.