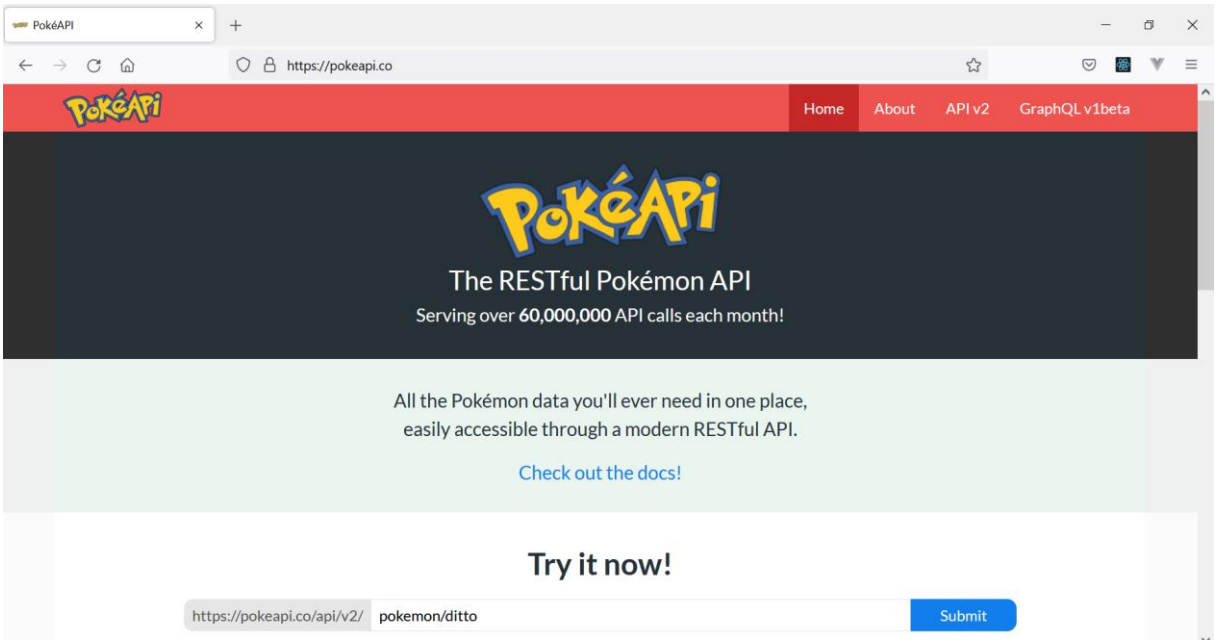
PGR208 Android Programming

Exam

Case: Poke API

In this exam you will create an Android App which uses the open source Web API PokeAPI at https://pokeapi.co/ to display information about Pokemons.

Through the PokeAPI it is possible to get many Pokemons at once or do searches after Pokemons based on diverse criterias such as id, ability and type. Your first step will be to get acquainted with and get an overview of the Web API PokeAPI and its endpoints.



Delivery overview and information

You will deliver two things for this exam:

1. An app containing x number of screens
2. A report reflecting upon the solution

You are required to submit app source code with a report and an app APK file (Android app installation file) in a zip file format. On unzipping the zip file, app code should be found under the *'sourcecode'* folder with app APK and the report pdf.

```
exam-delivery.zip {
  report.pdf
  apk-install.apk
  sourcecode/ {
    app/ {
      release/...
      src/...
      ....
    }
    ...
  }
}
```

The App: Screens in the application

You will create the application across at the following screens in the list below. You are given freedom regarding how one should navigate between them, but you should think about how to make it as user friendly as possible.

- **Splash screen:** On clicking the app icon, a splash screen should be shown with the app name or icon. After a short delay (approximately 1 second), the app should automatically navigate to the next screen
- **Pokemons:** A screen with a scrollable list of Pokemons with textual information about them
- **Pokemon Search:** A screen where a user may search for one or more Pokemons. Give the user alternative ways of making the search. Show as much information about a Pokemon as possible. Pictures of the Pokemons are also available if you analyse the results of the Poke API.
    - Regarding this screen you can yourself choose if you would like to split the result to a new screen or keep it in the same screen, or even split the functionality into more than one screen. You should reflect on what is best regarding the code and regarding it being a user-friendly solution
- **Screen(s) of your choice:** Create 1- 2 screens (depending on complexity) which you think can be interesting to show techniques not covered in the above screens. You can yourself choose what is going to be there, but it should be related to the topic Poke API and display your programming skills and knowledge of how to code well. An example of functionality could be a small game where the user is shown a picture of a Pokemon and must guess the name, type, ability etc. of it. You can then for example keep a score which you can save and keep track of which Pokemons the user recognizes and which he/she doesn't etc. You may also use other

Requirements

1. Any screen which shows a list must use RecyclerView for the scrollable list implementation
2. Pass the required data between screens using intent.
3. Use only the permissions which are required for this app implementation.
4. All the endpoints calls will be performed using async programming techniques. Async code must obey the activity lifecycle rules and thread boundaries.
5. You must use the SQLite database using Room or any other way of using SQLite.
6. You can use any framework, third party libraries that you think will help you for this app.

The report

You will write a short report, of 200-300 words, in which you describe what implementation techniques (UI components, patterns, frameworks, ways) you have chosen for your application and what alternatives you could have considered. Reflect on pros and cons for your chosen approach.

Assessment

Solution: 90%

- The screens will have weight according to the complexity in them, as some may be more simpler than others.
- Make sure you think about writing good, scalable code, and using the principles learnt in the course. Also make sure to use a variety of the most important coding techniques and methods which you have learnt.

Report: 10%

- Show reflection and awareness of choices you make in your application regarding structure and code quality