

MAP524 – Mobile App Development Android

Final Test – Practical Section

Due Date: 10 Aug 2021, 07:59 AM

Evaluation: 100 Points. (15% of final grade)

Instructions:

- I will use **Google Pixel 4 XL configured with API 27** to run and test the app. If you are on MacBook with M1 chip, you can use the emulator that is compatible on your machine but make sure that you submit the video of the app execution in the drop box.
- Besides implementing the required functionality submissions are required to use the correct coding conventions used in class, professional organization of the code, alignment, clarity of names is all going to be part of the evaluation.

Submission Checklist:

- Write the comments containing your student ID, full name at top of each file.
- Once you complete the app, create the zip of your entire project folder using following steps:
 - In Android Studio, open “**Build**” menu and select “**Clean Project**”.
 - Open “**File**” menu → select “**Export**” → select “**Export to zip file**”.
- Upload the exported **.zip** file in drop box.
- A **screen/video recording** demonstrating your app execution with all the functionalities or errors if you have any.
- In the comment section of your submission, write the **reflection** mentioning justification for your choice of database. Also mention about if any errors you were having while developing the application and how you managed to solve it.

Task:

You are to create an Android application named as **YourFirstname_Vacation** as per the specifications given below:

The app will consist of two (2) screens:

1. Main Screen: This screen displays a list of countries
2. Favorite List Screen: This screen displays a list of countries that the user marked as favourite

Details about each screen are provided below.

Main Screen:

- This screen displays a list of countries in a RecyclerView. Use this API to fetch a list of countries:
<https://restcountries.eu/rest/v2/all>
- Each row of the RecyclerView must display the country name, capital, and image of the country's flag.
- The country name and capital are obtained from: <https://restcountries.eu/rest/v2/all>

- The image of the country's flag must be obtained from <https://www.countryflags.io/XX/flat/64.png>, where XX is the country code. You must use the country code obtained from <https://restcountries.eu/rest/v2/all> to construct the URL for connecting to and fetching the image from countryflags.io. Hint: You should use Picasso or Glide library for getting the images displayed.
- A user can mark a country as "favourite" by tapping on a row in the RecyclerView. You **must** save the user's favorite country in a Room or Cloud Firestore database.
- Finally, provide an options menu to the user on main screen through which they should be able to open a new screen to view favorite list screen.
- **Bonus (5%)** : While adding country to favourite list on Firestore, check if the country already exists on the fav list; if yes, don't add it on Firestore and display appropriate message to the user.

Favourite List Screen:

- Upon opening this screen, the app should fetch all the favourite countries from database and display them in a RecyclerView. Each item of the RecyclerView must show the country name and image of the flag. **Flag images** should be obtained using Glide/Picasso from <https://www.countryflags.io/XX/flat/64.png>, where XX is the country code.
- When the user taps on a row in the RecyclerView, remove the country from the user's favorites list which must be reflected in database.

Rubric :

Topic	Points
Overall App UI, execution, and functionality	20
Code Architecture	20
Database operations	40
Web Services consumption	20
Total	100