

# Dent Reality Android developer task

In this task, we will ask you to build an app to match our task specifications. The visual design and navigation of the app is entirely up to you, as long as it supports the objectives. You are free to include any additional features or enhancements as you see fit.

## Part one

Attached is a json file containing information 12 European countries, including a longitude and latitude for each one.

Using this file as a resource, please build an app with the following specifications.

1. Present a map displaying the locations of each country using the provided longitude and latitude.
2. Upon tapping on one of the country locations, present a detail view showing the name and capital city of that country.

## Part two

Parts two and three describe features which we would like to add to the application you build in part one.

We'd like to add a feature that calculates the distance from the user's 'home' country to any other country.

1. In part one we added a detail view used to display information about a country. Please add a function to the detail view which enables the user to mark one country as 'Home'.
2. Once the user has marked their 'Home', the detail view of the other countries should include the distance to this country from the home location.

## Part three

Part three is a stretch goal designed to help us understand how you approach difficult problems.

We would like to add a feature which enables the user to plan a trip, visiting up to four countries. This will require an algorithm that calculates the shortest journey that visits all the required locations.

A full implementation is not expected, but we would like to see an explanation of your approach. This may include:

- Any modifications you'd make to the data structure.
- Any algorithms, third party libraries or frameworks you might use.
- Code or pseudocode to demonstrate how you'd implement your solution.

Feel free to go into detail as much as you'd like, and feel free to include external research.

You are expected to spend no more than 4 hours on this.

An important outcome of this task is that we understand how you'd approach this problem, and your ability to explore potential solutions.