In this work, There are two part.

Part A: Map Application

I used the Android library:

- GSON (JSON Object)
- Data Binding Library
- RecyclerView
- Create AjaxResponse to return the JSON Object
- Apply the concept of OOP and Design Pattern and more.

Sample Api:
https://maps.googleapis.com/maps/api/place/nearbysearch/json?location=18.7717874,98.9742796&radius=500&key=AIzaSyCZ1BCe4Q7YL1nCa_ovtet4Bjn52tT20T8

Mockup data:
Lat: `18.770709`

Long: `98.978078`

```
name: "Baan Thong Luang"
```

Note that: the performance about JSON and GPS may depend on hardware or some other condition like the internet speed or hardware.

At First, after you run the application. It will navigate you to splash screen and home activity then. There are 3 icon at the bottom navigator bar

- Map Search Type A: ListView
- Map Search Type B: GoogleMap V2
- Last Icon for Test number 2 (Fragment)

For Map, clicks on search icon at the top right. The system will provide the interface to receive the input from the user. You can insert and clicks “Search” button the see the result.

At first time, I just mockup one of the location into the application local database. If the user input some matched latitude or longitude which already

exist in the database, the system will present to the user via listview or mapview. If the data is not exist, the system will download and process the data from api and store it into application database.

The user can switch to see the result between ListView & Google Map by clicks icon at the bottom navigator (replace fragment).

Part 2, Just create a simple activity with two fragment in the same page.