**Code challenge**

**Landmark Remark**

**System requirements:**

Application is built for android phone/tablet devices which runs Android 8.0 (Oreo) (API level 26) or above. Android studio is required to run the project and application can be run directly onto the emulator or physical device.

**Tech stack:**

* Clean architecture
* MVV
* Kotlin flow
* Dagger Hilt
* Retrofit
* Material Design
* Google FirebaseFirestore
* Google Maps API

**Technical tasks:**

This includes project setup and adding the required dependencies into the project

*Effort*: 3 points

**User stories:**

* As a user (of the application) I can see my current location on a map.

*Effort*: 3 points

*Acceptance Criteria*: User should be able to see their current location in the form of marker on the Google Maps when they land on home screen of the application based on device location permission being granted.

*Implementation*: Current location of the user is displayed as a “Red” marker and small text description on the Google Maps. Maps camera automatically zoomed to the current location. In case current location is not updated automatically, a get current location button is provided on the home screen

* As a user I can save a short note at my current location

*Effort*: 5 points

*Acceptance Criteria*: User should be able to save text note at their current location under their username.

*Implementation*: User needs to login with his preferred username when first time using the application and it does not require any password authentication. When username is set, then from the home screen user can click “Save Notes Here” button which will open the small popup window to enter short and save them in db.

* As a user I can see notes that I have saved at the location they were saved on the map.

*Effort*: 5 points

*Acceptance Criteria*: User should be able to see all notes he has saved, marked on Google Map along with username and note text.

*Implementation*: In the home screen, all the user specific notes are displayed as “Green” marker in maps view and user can click on them to see associated notes.

A switch button is provided at the bottom as well to filter only user specific notes.

* As a user I can see the location, text, and user-name of notes other users have saved

*Effort*: 3 points

*Acceptance Criteria*: User should be able to see all notes saved by other users, marked on Google Map along with username and note text.

*Implementation*: In the home screen, all notes saved by other users are displayed as “Blue” marker in maps view and user can click in them to see associated notes.

* As a user I have the ability to search for a note based on contained text or user-name (Not part of the solution code).

*Effort*: 5 points

*Acceptance Criteria*: User should be able search for specific notes based on contained text or user-name and result get filtered on each character changed.

*Proposed implementation*: User can navigate to search screen from home screen by pressing the search button. On search screen, while entering the text the notes should be filtered and displayed in the form of list. By clicking on any note list item user will see it marked on google map along with description and username.

**Solution implementation assumptions:**

I have used clean architecture approach for this project as it makes testing very easy by separating out individual components of the application and make them work independently. Due to time constraints, I have mostly used material design components that come with android project initial setup. With the implementation Hilt Dagger the amount of boilerplate code has been reduced and with less dependent code, it is easy to test it.