**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 the 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*: Users should be able to see their current location in the form of a marker on Google Maps when they land on the 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 Google Maps. Maps camera automatically zoomed to the current location. In case the 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*: Users should be able to save text notes at their current location under their username.

*Implementation*: The user needs to log in 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 the “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*: The 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” markers in maps view and users 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*: The 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” markers in maps view and users can click on 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*: The user should be able to search for specific notes based on contained text or user-name and results get filtered on each character changed.

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

**Solution implementation assumptions:**

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