**Individual Report**

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# **Contributions**

## **Implementing authentication via Firebase**

## **Implementing 2 fragments Login & Register in the same Activity for Authentication.**

I found that it is inconvenient when using two activity for Login & Register. Because when the user switches between two screens, the new activity is created that wastes the resource and giving bad experience for the user. Therefore, I think creating two fragments in the same activity is the better solution. In addition, I can apply what I learn in the course

## **Configuring Firebase Firestore**

In the beginning, I was using Firebase real-time database. But after using it, I realized that the real-time database doesn’t support querying, it just return the whole data. Consequently, I changed to use Firebase Firestore.

## **Setting up and applying LiveData & ViewModel architecture**

I was finding the best practice for developing an Android application and I found that there is an architecture called ViewModel & LiveData which make the Android application development easier. The ViewModel will handle all the changes of the View’s data in Android app. Then, the LiveData will listen to those changes and update the corresponding UI. Using this method, I only need to update UI in one place regardless of how many events can affect the UI.

## **Search events based on location & detect the device’s current location**

By default, only events which are happening or are in the future can be displayed. Ended events won’t be displayed. Users can search by entering the location in the search bar to show the specific events. To implemented the feature, I fetched all the future events and filter all the events by their location based on inputted location by users.

Besides, I also implement the feature that asked the user device location in order to display events based on the device’s location.

## **Google Map implementation**

When a event is creating, I used Google Geocoding to generate Geographic coordinate based on the event’s location and saved it into the database in Firestore. When a user views the event, the Google map will use that coordinate to render the location of the event.

## **Implementing user profile editing.**

The user profile is stored in Firebase Firestore. When an account is registered, I created an equivalent user information record in Firestore.

## **Implement creating a new event**

Events are stored in Firebase Firestore, under “events” collections. I created EventViewModel to manage all functions related to the event in the database including “createEvent” method. After creating an event successfully, the app will open that event screen in a new activity. Before creating

## **Uploading events photo and user profile photos**

I used Firebase Storage to store all uploaded images in this project. The Firebase library provides the class “FirebaseStorage” to handle the upload part. Before saving data into Firestore database, I uploaded the photo first, then get the photo URL to save to Firestore database.