Scooter Sharing App V5

Assignment 1

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Design choices

I have three activities, ScooterSharing, EditRide and StartRide. Each activity has a fragment consisting of logic used to communicate with the bound view.

The ScooterSharingFragment also has a fragment, namely the RideList. This has been done to separate the RideList logic from the ScooterSharing logic.

The sourcecode has been put into respective packages. There is an editride package, which contains the activity and fragment of the EditRide logic. This has also been done for RideList, ScooterSharing and StartRide. Finally, a model package exists to contain the database and the scooter class.

The RideList fragment was supposed to be implemented with a ListView, however I skipped directly to implementing the RecyclerView. The reason for this is because the RecyclerView is an improvement to ListView.

Finally the RidesDB is a thread-safe singleton, which is accessible from activities and their fragments. The database can add a scooter, update a scooter and fetch all scooters.

User interface

I have generally used the common android components, but plan on converting to material design components.

EditRide – Look into the currentdesign folder and open the editride.png file.

StartRide – Look into the currentdesign folder and open the startride.png file.

ScooterSharing – Look into the currentdesign folder and open the scootersharing.png file.

Challenges from V4 and V5

Version4, Technology Challenge: When a user clicks on an item in the RideList, a Toast is shown with a short message.

Test and Evaluation

Unit testing:

To validate the model, I have written unit tests for the Scooter model.

I have yet to write tests for the RidesDB singleton.

Manual testing:

Testing Activities and Fragments I use a manual testing approach.

To reduce manual testing, I will implement more Instrumental tests.

Prototyping

Replace the ScooterSharing activity as the Main Activity, with a LoginActivity. The identity provider will be Firebase.

When a user is logged in, an icon in the top right corner should lead a user to a user profile. This view will display standard user information, and their last ride (or current one) will be displayed as well.

If a user clicks on the scooter, a view with information like name, current location and amount of power should be displayed.

The designs for these ideas, can be viewed in the prototype folder.

Updates

I have implemented an override on the callback onStart() in the RideListFragment, which will update the RecyclerView. This behavior is not optimal, since it will refill the entire RecyclerView, even if only a single item in the database has been changed. This is something I will look into, by calling an item event callback instead. Which will only update the single item which has been updated.

I have also implemented Viewbindings in all the views.

At last I have implemented MaterialUI components in the views.

I have also looked through the recommendations, and they will be implemented in the newer versions. This is easier since, I have to port all of the new changes from V5 to the newer versions.