PROJECT DOCUMENTATION

(Grocery Android App using Kotlin)

Submitted by:-

Name:Mohd Faraz

Course: Virtual Internship - Android Application Development Using Kotlin

Submitted to: Mr Sandeep Doodigani

ACKNOWLEGEMENT

I would like to convey my heartfelt gratitude to Mr Sandeep Doodigani for his tremendous direction and assistance in the completion of my project. I would also like to thank him for providing me with this wonderful opportunity to work on a project with the topic Grocery App. This project would not have been accomplished without their help and insights.

Build A Grocery Android App

Problem Statement :

As we can't remember everything, users frequently forget to buy the things they want to buy. However, with the assistance of this app, you can make a list of the groceries you intend to buy so that you don't forget anything.

Language Used:

Kotlin and XML

Theory:

In this project, we are utilizing the architectural patterns MVVM (Model View ViewModel), Room for the database, Coroutines, and RecyclerView to display the list of items.

Different technologies used:-
1.MVVM (Model View ViewModel) :Android uses MVVM architecture to arrange project code and make it simpler to understand. An architectural design pattern used in Android is MVVM. XML files and Activity classes are treated as Views by MVVM. With this design pattern, the logic of the UI is separated. Here is a visual representation of MVVM.

- **Model:** It represents the data and the business logic of the Android Application. It consists of the business logic - local and remote data source, model classes, repository.
- **View:** It consists of the UI Code(Activity, Fragment), XML. It sends the user action to the ViewModel but does not get the response back directly. To get the response, it has to subscribe to the observables which ViewModel exposes to it.
- **ViewModel:** It is a bridge between the View and Model(business logic). It

does not have any clue which View has to use it as it does not have a direct reference to the View. So basically, the ViewModel should not be aware of the view who is interacting with. It interacts with the Model and exposes the observable that can be observed by the View.

2) ROOM Database Room persistence library is a database management library and it is used to store the data of apps like grocery item name, grocery item quantity, and grocery item price. Room is a cover layer on SQLite which helps to perform the operation on the database easily.

3)RecycleView: The viewgroup containing the views matching to your data is called RecyclerView. RecyclerView is a view in and of itself, thus you add it to your layout just like you would any other UI element.

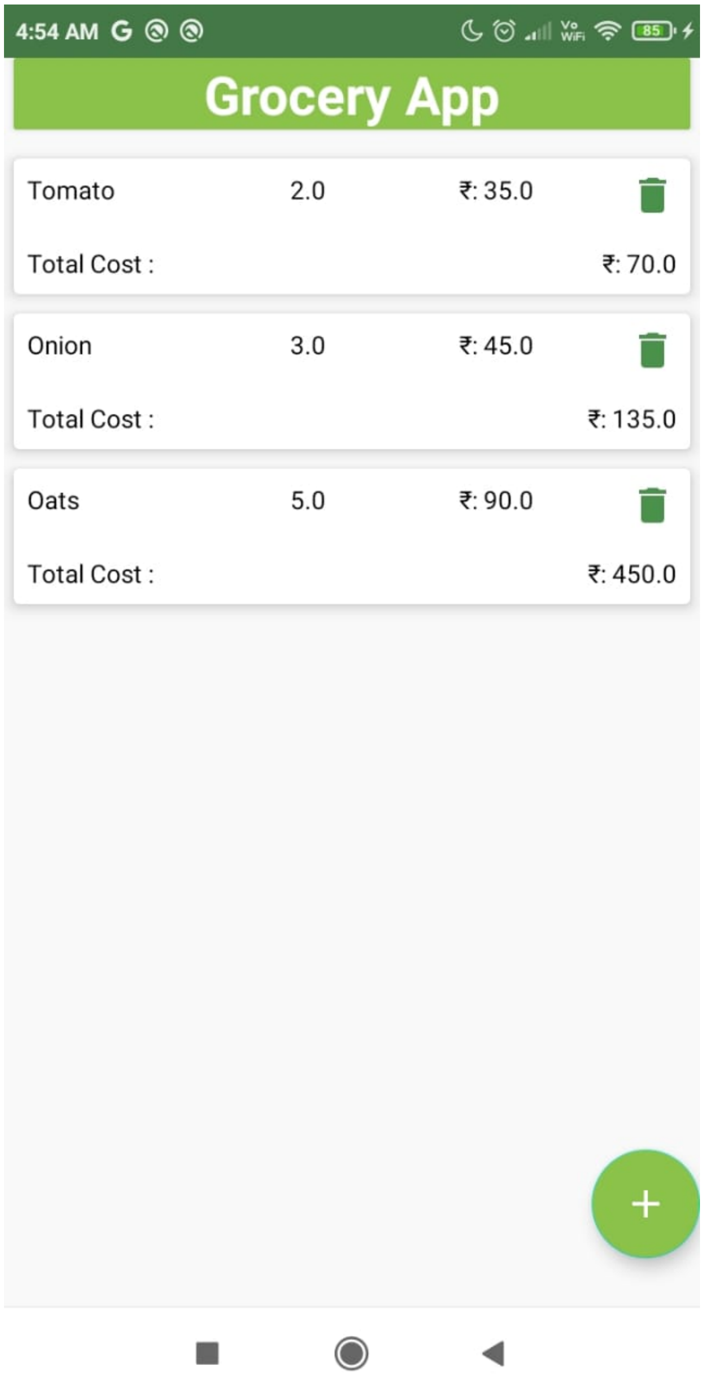
- A **ViewHolder** describes an item view and metadata about its place within the RecyclerView.
- The major piece of code in charge of RecyclerView is the **adapter**. It contains all of the crucial RecylcerView implementation functions. The fundamental techniques for an effective implementation are:

1. **OnCreateViewHolder :** Function that deals with the inflation of the card layout as an item for the RecyclerView is called onCreateViewHolder.
2. **OnBindViewHolder :**onBindViewHolder is responsible for configuring various data and procedures linked to clicks on specific RecyclerView objects.
3. **GetItemCount :**The length of the RecyclerView is returned by the function getItemCount.
4. **OnAttachedToRecyclerView :** The adapter is attached to the RecyclerView using the onAttachedToRecyclerView function.

4)Coroutines : Coroutines are a lightweight thread, we use a coroutine to perform an operation on other threads, by this our main thread doesn’t block and our app doesn’t crash.

OUTPUTS:-

1)Grocery List

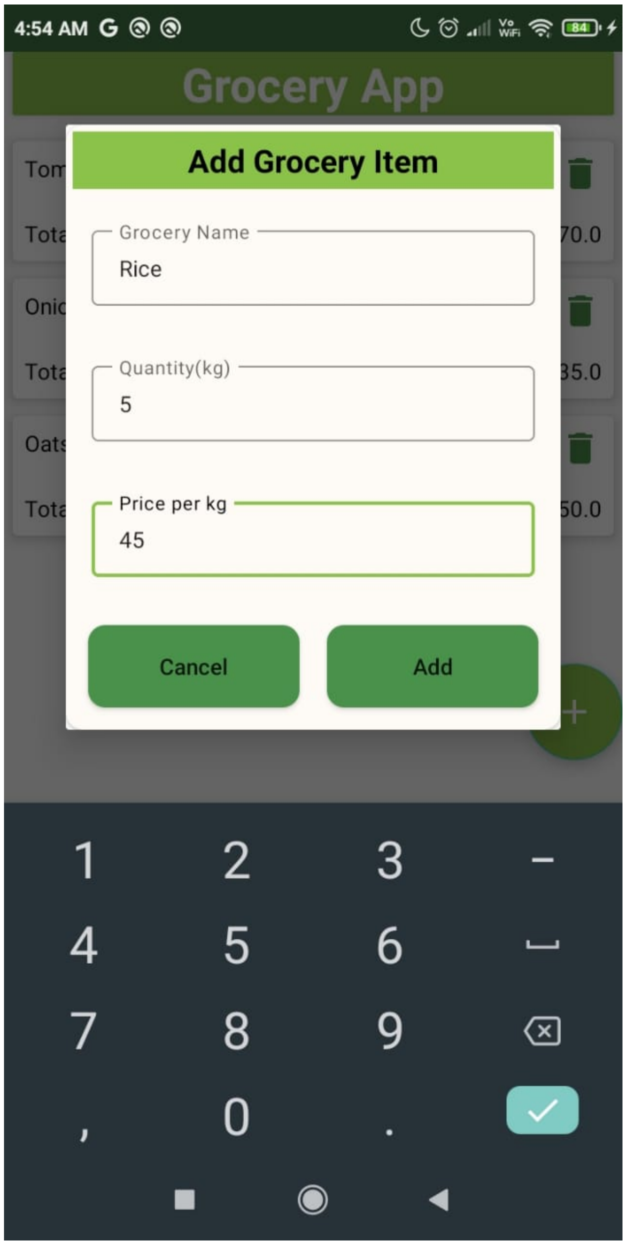


Tomato 2.0 ₹: 35.0
Total Cost : ₹: 70.0

Onion 3.0 ₹: 45.0
Total Cost : ₹: 135.0

Oats 5.0 ₹: 90.0
Total Cost : ₹: 450.0

2)Add Grocery item



Grocery Name: Rice

Quantity(kg): 5

Price per kg: 45