

PROJECT DOCUMENTATION

1. INTRODUCTION:

1.1 OVERVIEW:

The project aims to maintain a well organized grocery list. With the assistance of the app users can make a list of groceries they intend to buy and can also plan out their budget and expenses for shopping. Users can add items to the cart and store information of item name, quantity and price. They can also delete unwanted items and easily search for an item in the huge list of groceries.

The app is built using concepts of android app development. Model View ViewModel concepts are used for the architectural patterns, Room for the database , co-routines and Recycler View for the user interface to list items.

1.2 PURPOSE:

Grocery shopping is considered as a tedious and quite a less interesting task. In the recent times, common people living in a fast moving and busy world often tend to forget what groceries to buy or might miss out on certain items that they were supposed to buy. This is a familiar problem among people. Sometimes, we observe people are so carried away by the different sale offers at the supermarket that they end up either buying larger quantities of items than they intended to or add items that are not quite on the higher precedence. This will lead to imbalance of their expenditures.

Making a shopping list that meets your needs while also taking care of the budget requires strategic planning of cost and consumption. Thus, the app is a platform to make these decisions and organize an effective shopping list that is easily manageable and user-friendly and making commoner's life one step easier.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM:

Simple techniques are being used in assisting to conduct the shopping activity. One of them is to make a note of the items to be purchased on a paper. Most commonly used method is to make a mental list of the items. These methods have a high possibility of human error and can lack planning or budgeting. Human written notes may not be easily comprehended by all and may lead to consequences.

As we are living in the evolution of the digital world, where mostly everyone owns a smartphone, it is not a difficult task to adapt to different systems. These systems are optimized to allow the user to customize the service in their own way.

There are different web based applications that have been developed in order to serve the purpose of shopping list. Since it is web based, common man will always not get access to the internet in most scenarios.

2.2 PROPOSED SOLUTION:

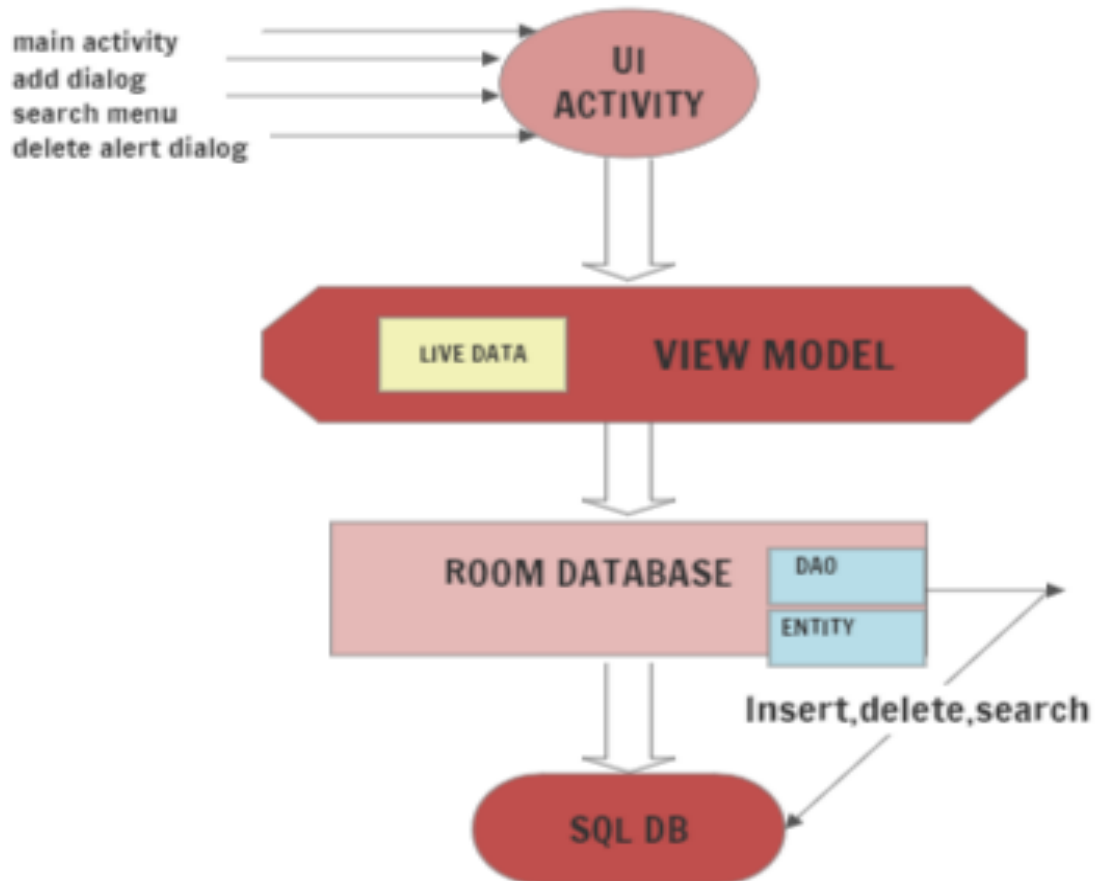
After considering the problems and inefficiency, it is been proposed that a mobile application can overcome and serve the purpose. The mobile application developed in this project is a simple application built using android development concepts.

This app not only organizes the grocery items but also helps user to maintain and manage their expenses. It is a easy-to-use app that does not require internet connection. Users can add and delete as many as items they like. They can also search for a specific item on the list to check if item is present or not.

This kind of application will surely help user on a daily basis. The idea is simple and it can be implemented in numerous ways using various concepts and resources. The app can be used by almost everyone, but its majority used by the working class, college students and household women.

3. THEORETICAL ANALYSIS:

3.1 BLOCK DIAGRAM:



3.2 HARDWARE / SOFTWARE DESIGNING:

- Operating System : Microsoft Windows 7/8/10 (32 or 64 bit).
- Minimum 8GB RAM.
- Java Development Kit (JDK)
- 500 MB disk space
- 1 GB for Android SDK
- Processor : i3 (minimum)
- IDE : Android Studio
- Monitor resolution : 1280x800 (minimum)

4. EXPERIMENTAL INVESTIGATIONS:

The development of this project required lot of planning and analysis of current trends. It was a grateful feeling to take this up under mentorship of this virtual internship program. First of all, basic knowledge on android development concepts were needed at hand.

Room persistence library is a database management library and it is used to store the data of apps. Room is a cover layer on SQLite which helps to perform the operation on the database easily.

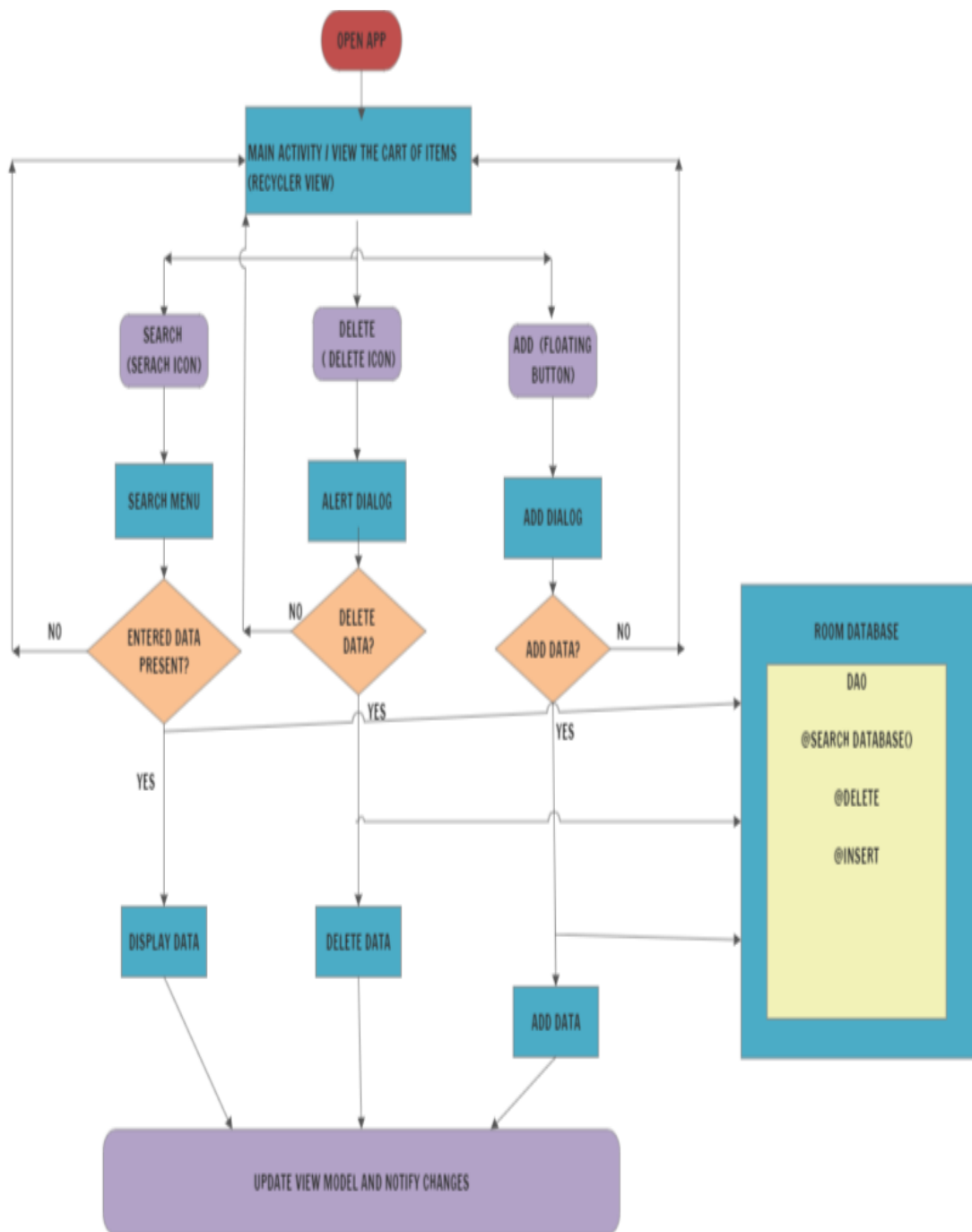
The ViewModel class is designed to store and manage UI-related data in a lifecycle conscious way. The ViewModel class allows data to survive configuration changes such as screen rotations.

RecyclerView is a container. It is used to display the collection of data in a large amount of data set that can be scrolled very effectively by maintaining a limited number of views.

Many websites were searched in order to understand how the user experience should be designed. After analysis, it was found that the users expect a simple and easy user interface. Minimal visual elements were required and more of the functionality was to be worked on. Basic functionality such as inserting item with information of the name, quantity and item price and storing it, calculating the total value, Deletion of data when not needed, Searching an item on list etc was then implemented.

After going through some case studies, it was concluded that the scope of this project is vast and huge in terms of enriching user experiences. This project can be scalable in this generation with the majority of the users to be in the working class, college students living in hostels and the household women.

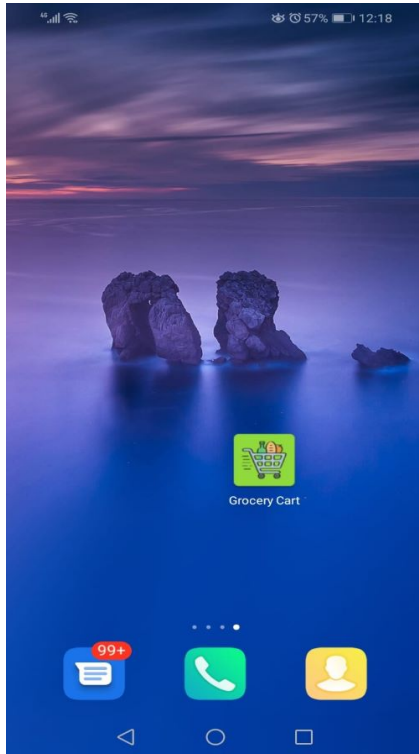
5. FLOWCHART:



Project 2 : Grocery App

6. RESULT:

App icon on android device:

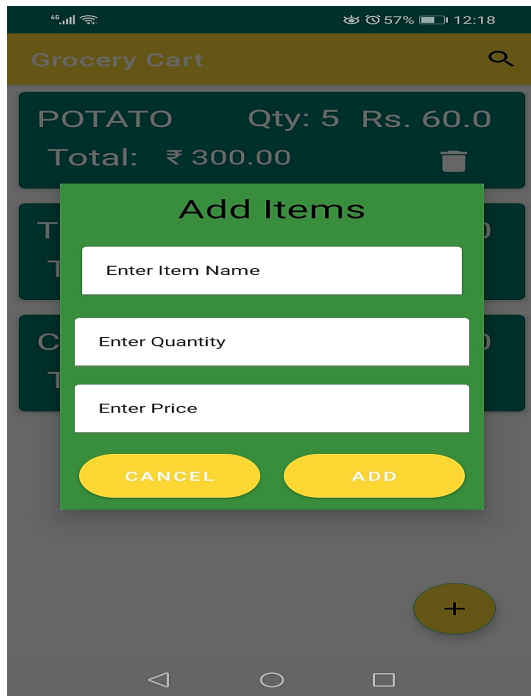


List of items in shopping cart

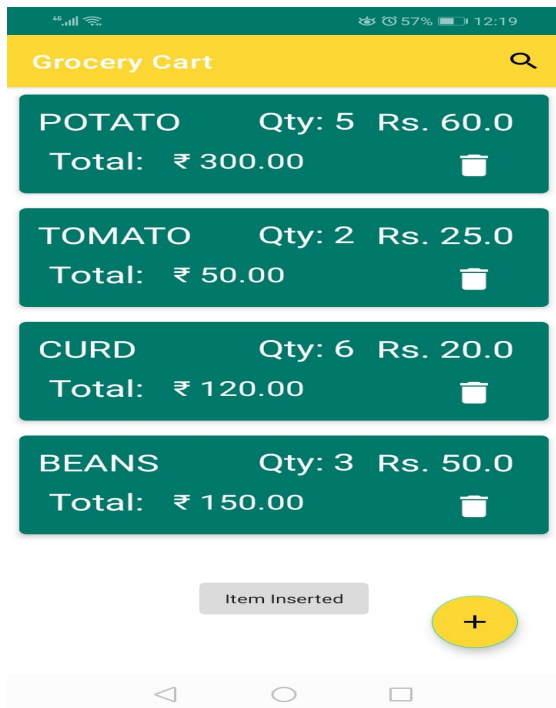


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Add item Dialog:

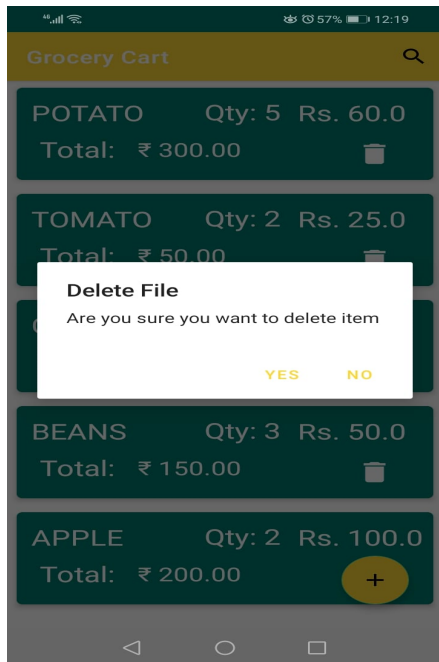


Item is added to the List:

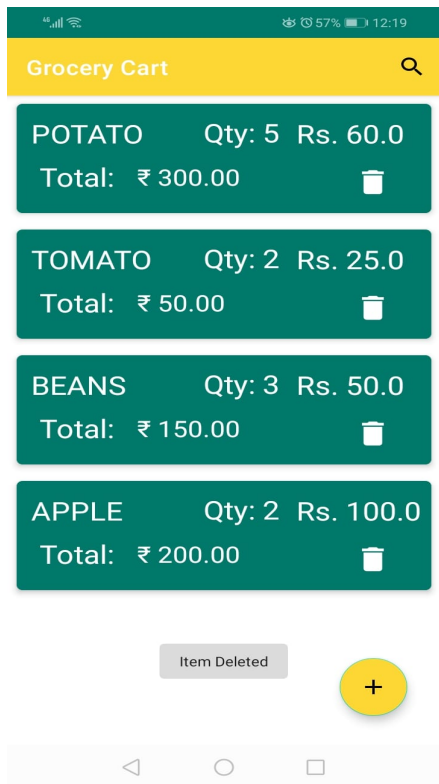


Project 2 : Grocery App

delete alert dialog:

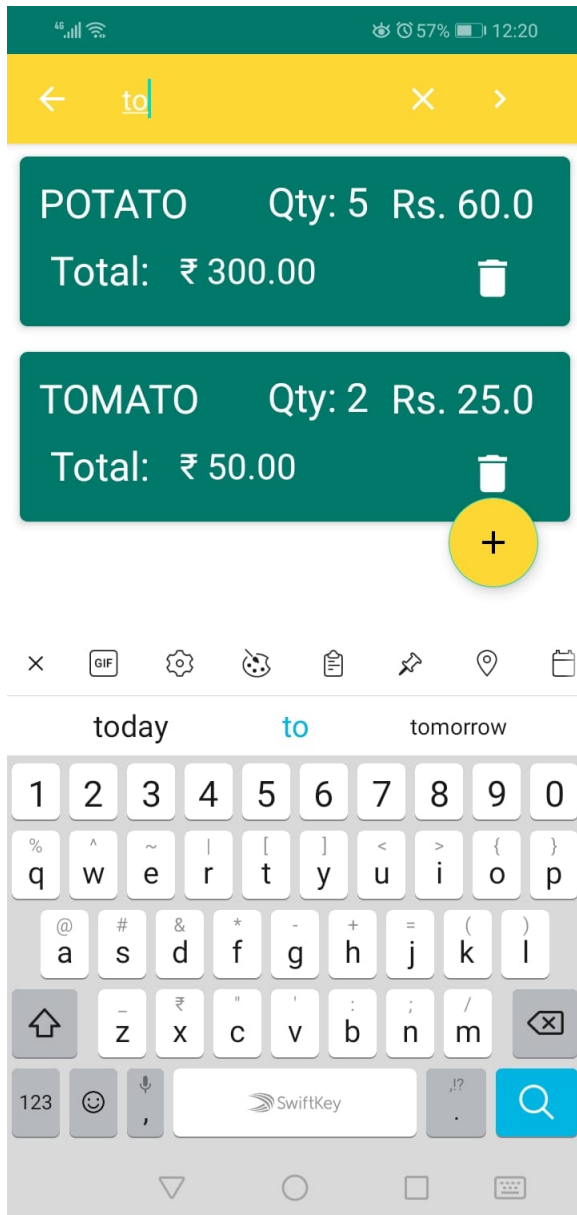


Item Deleted:



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search item on the list:



7. ADVANTAGES & DISADVANTAGES:

ADVANTAGES:

- Search facilities
- insertion and deletion options
- Alerts and toast messages
- Simple and fast process
- Card view of the add item
- Total calculation
- Database Inspector
- Budget planning
- people of all ages can use the app

DISADVANTAGES:

- Not compactable for devices other than android
- Customization could be improved

8. APPLICATIONS:

- Can be used in every household
- Suitable for college students and youngsters living on tight budget
- For any consumers who in the working class

9. CONCLUSION:

This project on a whole was a good learning and exposure in the field of android development. At the end, the application works just as it was intended. The specific functionalities is working just as planned. The output is verified.

Thus, this project was successfully executed. I would like to express my sincere gratitude towards the mentors at Smart Bridge for this wonderful journey. As a fresher into this field, I could not express more in words of how I loved this platform

10. FUTURE SCOPE:

This application is scalable and has a wider scope in the field of android development. Many other functionalities can be implemented in the future.

Some of the implementations can be:

- updating of data in database.
- category management where groceries are segregated into groups by their type
- User login and registration system
- Introducing Payment types

11. BIBILOGRAPHY:

<https://developer.android.com/courses/android-basics-kotlin/course>

<https://developer.android.com/courses/android-basics-kotlin/course>

<https://kotlinlang.org/>

<https://developer.android.com/>

APPENDIX

A.SOURCE CODE

<https://github.com/smartinternz02/SPSGP-88032-Virtual-Internship---Android-Application-Development-Using-Kotlin/tree/master>

<https://developers.google.com/profile/u/keerthanaintern>