



An Android Development Project On

GROCERY LIST APPLICATION

USING KOTLIN

IN

ANDROID STUDIO

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UNDER:

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GOOGLE SUPPORTED FDP & VIRTUAL INTERNSHIP PROGRAM

Virtual Internship - Android Application Development

using Kotlin

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1. Introduction

Overview :

Shopping is something that we all do although perhaps it is not fun as it sounds to everyone. Among all shopping grocery shopping is the one which we often do and most important. It simply means buying necessary things which we need day to day in our life from some grocery store or some online grocery app.

Sometimes when we do grocery shopping for a month then we usually make a list or keep it in our memory but this is actually a huge problem as we may forget a few items from the list. So, for the above problem we explored our idea to make something which can help people remember all the necessary things that they need from the list.

This will help people in their day to day life and will make it easier.

Purpose:

The main aim of this project is to list the items such that whenever users go to the grocery store they won't forget the items and this will overall make their day to day life easier.

2. Literature Survey

Existing Problem

It's not easy for the users to remember every item that they need to buy they frequently can't recall their required necessity so this app will help the users to store the items in the database for their future use. After buying the items users can delete the added items in the database as per their choice.

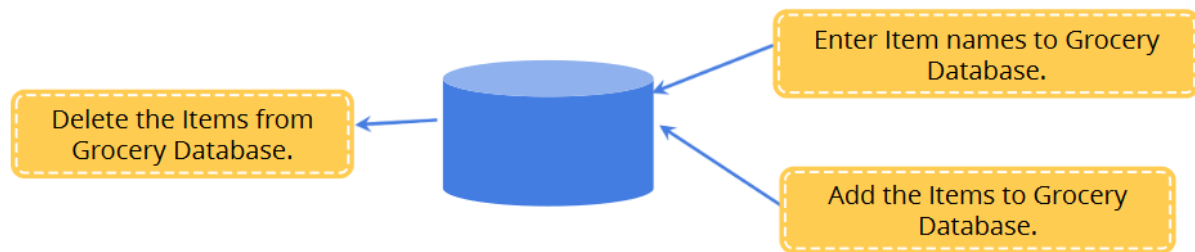
Proposed Solution

The goal of this project is to make an app that stores the user items in a cart which users can modify and delete the added item in the list on their own. To develop this I have taken a few things in my mind like- Developing an application such that users can add basic item details like item name, Quantity, and Price.

It should have a database room that is used to store the data which users have already added in the cart and it can also be removed from the cart. developing a good UI which can be easily used by the user and is supported in all android devices.

- Theoretical Analysis

Block Diagram:



Software Design:

The Software Package is developed using Kotlin and Android Studio, basic SQL commands are used to store the database.

Operating System: Windows 10

Software: Kotlin and Java

Device : Vivo 1820 Android Phone

Hardware Design:

RAM: 2 GB

Storage: 500MB

4. Experimental Investigation

In this project, we have used-

- MVVM (Model View ViewModel) for architectural patterns..
- Room for database.
- Coroutines and RecyclerView to display the list of items.

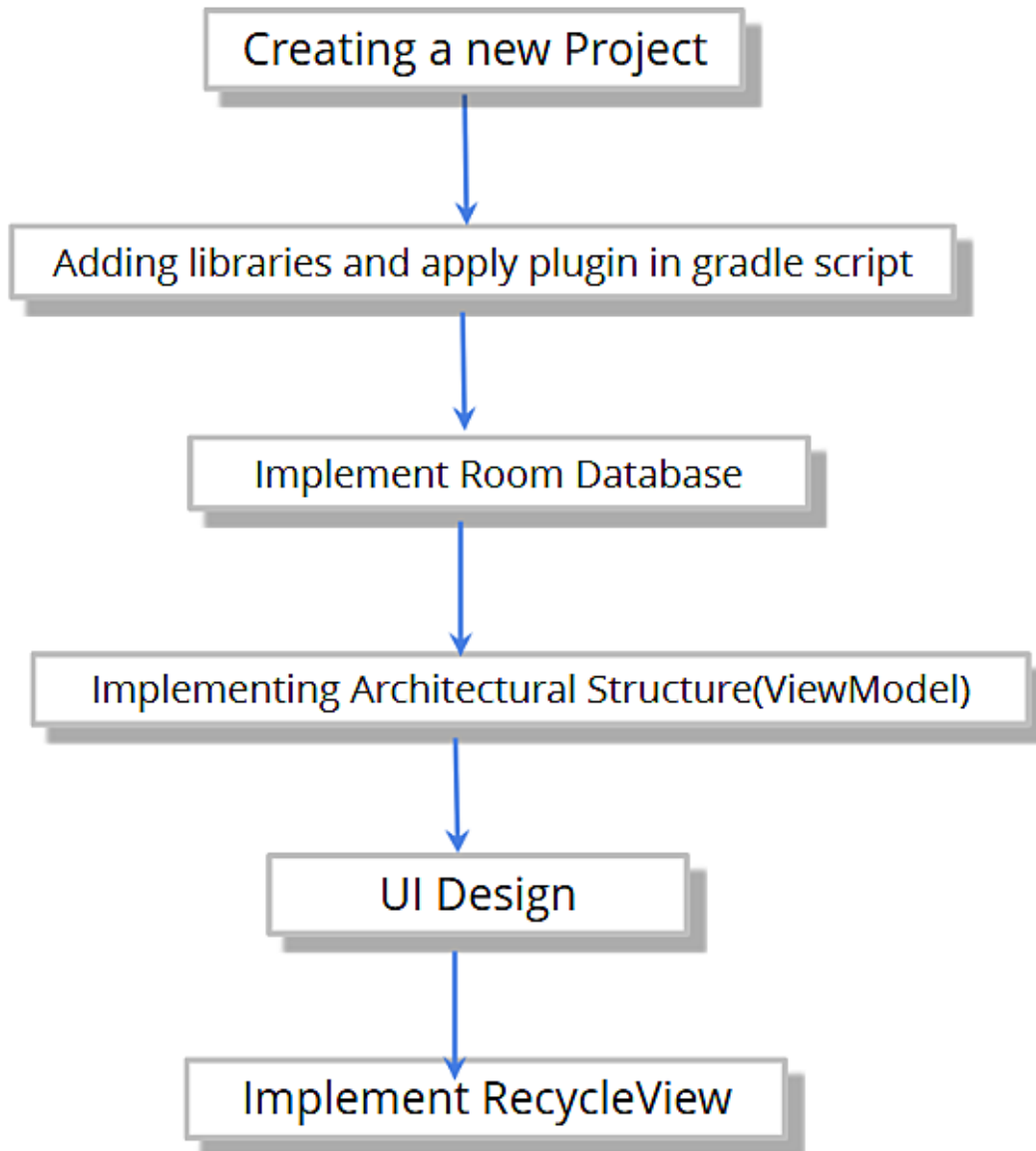
MVVM(Model View ViewModel): **Model:** This holds the data of the application. It cannot directly talk to the View. Generally, it's recommended to expose the data to the ViewModel through Observable. **View:** It represents the UI of the application devoid of any Application Logic. It observes the ViewModel. **ViewModel:** It acts as a link between the Model and the View. It's responsible for transforming the data from the Model. It provides data streams to the View. It also uses hooks or callbacks to update the View. It'll ask for the data from the Model.

Room Database: Room is one of the Jetpack Architecture Components in Android. This provides an abstract layer over the SQLite Database to save and perform the operations on persistent data.











RecyclerView: RecyclerView makes it easy to efficiently display large sets of data. When an item scrolls off the screen, RecyclerView doesn't destroy its view. Instead, RecyclerView reuses the view for new items that have scrolled on screen.

Coroutines: A coroutine is a concurrency design pattern that one can use on Android to simplify code that executes. On Android, coroutines help to manage long-running tasks that might otherwise block the main thread and cause app to become unresponsive.

5. Flowchart:



6. Result:

4G 3:29 0.00 KB/s 4G 65% 			
My Shopping List			
apple	5.0	₹: 100.0	
Total Cost :		₹: 500.0	
orange	10.0	₹: 60.0	
Total Cost :		₹: 600.0	
Banana	15.0	₹: 20.0	
Total Cost :		₹: 300.0	
Pencile	20.0	₹: 5.0	
Total Cost :		₹: 100.0	
Eraser	10.0	₹: 5.0	
Total Cost :		₹: 50.0	
Cabbage	1.0	₹: 50.0	
Total Cost :		₹: 50.0	
Carrot	5.0	₹: 60.0	
Total Cost :		₹: 300.0	
Potato	4.0	₹: 60.0	
Total Cost :		₹: 240.0	
Tomato	10.0	₹: 90.0	

4G 3:33 0.00 KB/s 4G 65%

My Shopping List

Add Item To List

Enter item Name

Mango

Enter item Quantity in kg

10

Enter item Price /kg

100

Cancel Add

Total		00.0
Orange		
Total		00.0
Banana		
Total		00.0
Pear		
Total		00.0
Eras		
Total		50.0
Cabbage	1.0	₹: 50.0

🔍 🌐 📶 🧺 😊

+	1	2	3	⌫
-	4	5	6	↶
.	7	8	9	⌵
/	*	0	#	Done

7. Advantages and Disadvantages:

Advantages:

- Android Studio helps in faster coding and quicker iteration.
- It is Firebase Supported and Integrated Cloud.
- It has a powerful development system.
- It has a pre-built template.
- It has a faster and feature rich emulator.

Disadvantages:

- Takes too long to build and run.
 - Emulator prolonged.
- Does not offer premium virus protection.

8. Application:

- Provides a unified environment where we can build apps for any android device like phones, tablets, android TV etc.
-
- Structured modules help us to divide our work into unit functionality.
- Provides a container for your Google Cloud backend code.
- Provides a container for your reusable code, which one can use as a dependency in other app modules or import into other projects.

9. Conclusion:

Grocery apps will help to store items in one place so that they will not forget the items that they need on a daily basis. And they can be used when they visit a grocery shop or while buying groceries online.

10.Future Survey:

In Future we can add a few other features which will make the task easier then before like-

-Logging in so it can be used by another person from the same device .

- Logging in will keep the deleted item in the memory.
- Showing the current price of any item in the market.
- Adding a picture on the item.

11. Bibliography-

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References:



https://smartinternz.com/Student/guided_project_info/69033#

<https://www.geeksforgeeks.org/android-tutorial/>

Appendix:

Google developer profile id- <https://g.dev/dipakrana844>

GitHub Profile id - <https://github.com/smartinternz02/SI-GuidedProject-69033-1663996435>

Video Demo Link -

<https://drive.google.com/file/d/1BKoBY8RUGhQHkTaB-V2iTQs1X2IB9LXj/view?usp=sharing>

SmartInternz Id - https://smartinternz.com/Student/guided_project_workspace/69033