

Project Report

on

Grocery Basket 3.0

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A. Source Code

Introduction

Hi....

This is Rammohan Locharla.

*I build an application called “**Grocery Basket**” in android using android studio and Kotlin Programming Language. Its version number is “**3.0**”.*

Overview

*Many times, we forget to purchase things that we want to buy, after all, we can't remember all the items. We are going to create a **Grocery Basket** Android App using MVVM and Room Database in Kotlin. In this project, we are using MVVM (Model View ViewModel) for architectural patterns, Room for database, Coroutines and RecyclerView to display the list of items.*

Purpose

So, with the help of this app, we can note down your grocery items that we are going to purchase, by doing this we can't forget any items that we want to purchase. We can make a list of the groceries we intend to buy. This is a Simple grocery shopping list app for pantry check and quick shopping! Make a grocery list in seconds

Yours faithfully,

Rammohan Locharla (Jungle Mystic)

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Google Developer Profile Link: <https://q.dev/rammohanlocharla>

SBID: SB20220248310

GitRepo ID: SPSGP-102704

Literature Survey

a. Existing problem

While we are going to market to purchase some groceries to our house. You probably put together a grocery list before heading to the store — whether it's in your head or on a piece of paper. But how often do you actually remember to bring that list with you so you can grocery shop faster? When we went to market, in mind list -> we will forget to buy some groceries or we forget to take that list to market. Either way we end up in going again to market or else our mother or father or spouse will scold us.

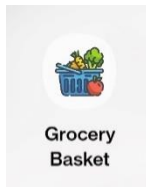
b. Proposed Solution

Pre-requisites

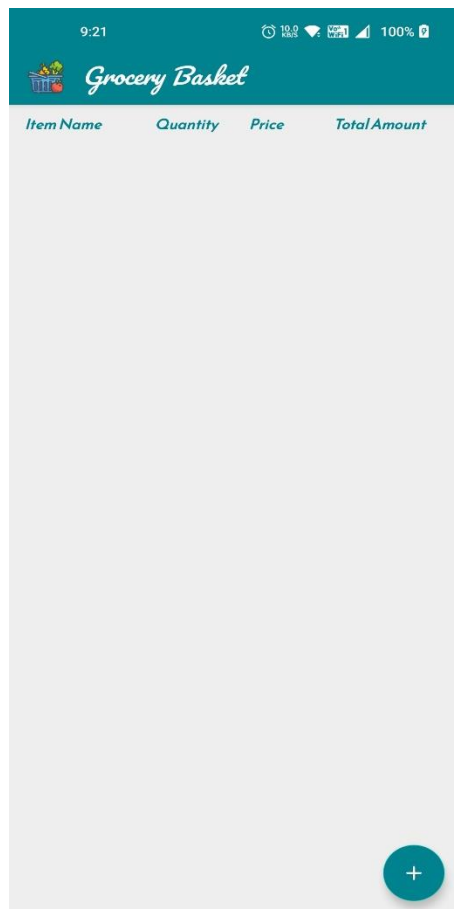
- c.** Windows PC/Laptop or Apple Mac
- d.** Download and install Android Studio from the below link
<https://developer.android.com/studio>
- e.** Physical (I used OnePlus 8 Pro mobile) or Virtual Android mobile.
- f.** Internet Connection to access various resources.
- g.** USB Cable (in case of using physical device).

App Overview

i. *This is my Grocery Basket App Icon*



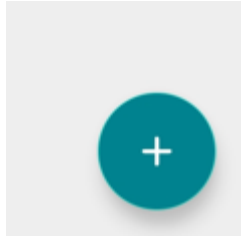
ii. *On App Startup, This, will be the first screen on initial setup...*



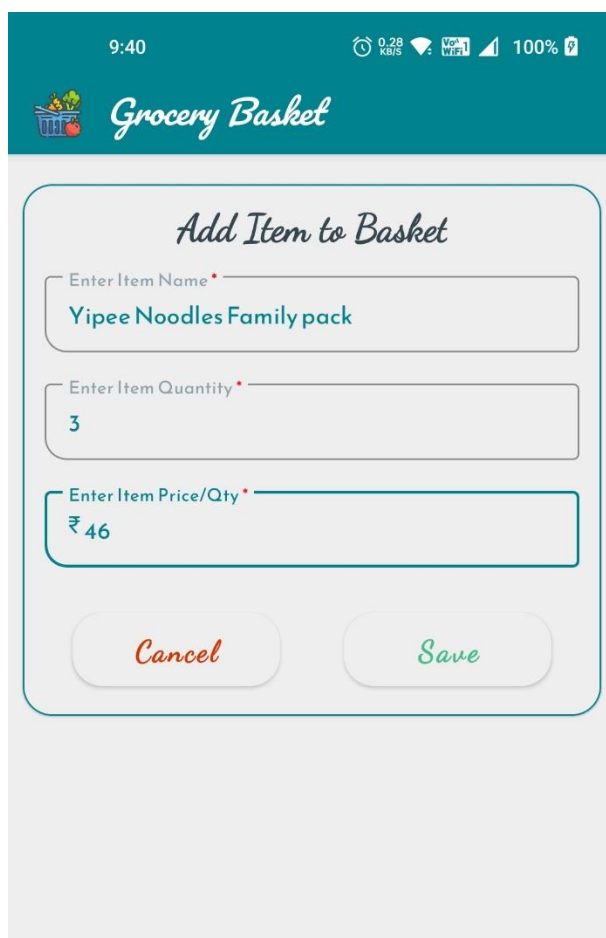
1. Added custom app bar and toolbar on top side
2. Added App's Icon and Title to the app bar
3. Headings relating to Items added in the apps

This will be Empty, since we haven't added any items yet.

- iii. Click on Add FAB (i.e., Floating Action Button) on the bottom right to add items to the app and fill details in the text fields

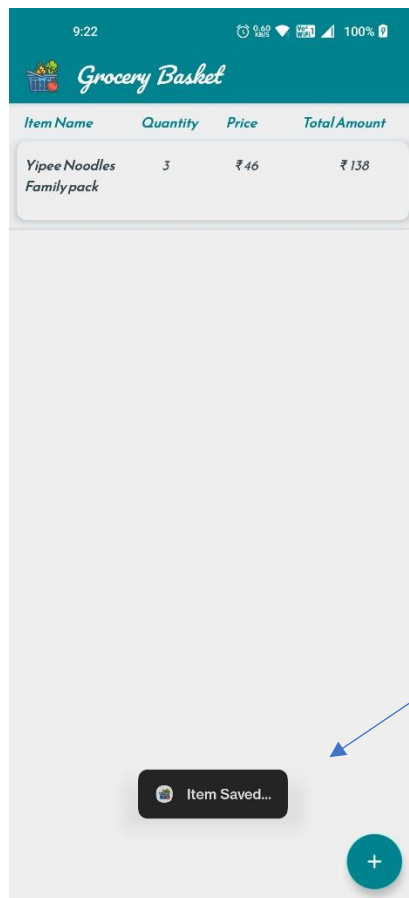


1. On clicking Add FAB----Screen navigates to Add Item Fragment
2. We have to fill the details of item as shown in the picture



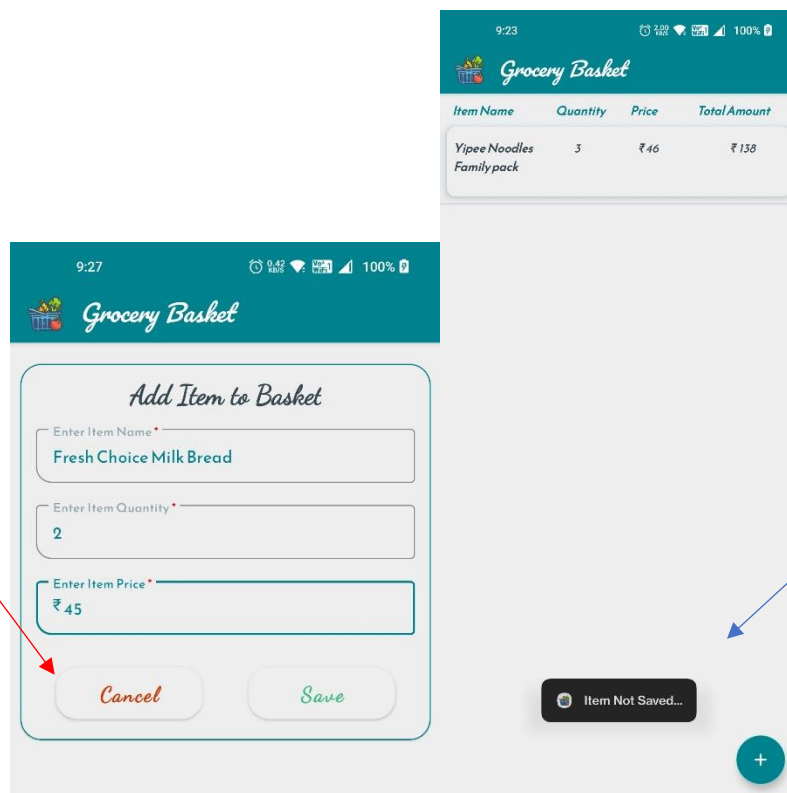
The screenshot shows the 'Grocery Basket' app interface. At the top, there's a teal header with a shopping basket icon and the text 'Grocery Basket'. Below the header, the title 'Add Item to Basket' is displayed. There are three text input fields: 'Enter Item Name' with the value 'Yipee Noodles Family pack', 'Enter Item Quantity' with the value '3', and 'Enter Item Price/Qty' with the value '₹ 46'. At the bottom of the form, there are two buttons: 'Cancel' in red and 'Save' in green.

- iv.** After all fields are filled, clicking on Save Button, it saves the data in the app and show it in our Main screen



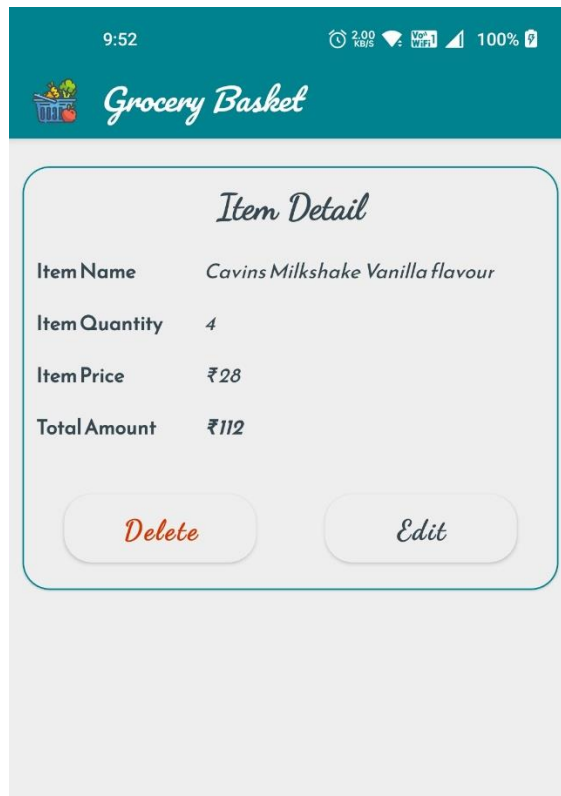
1. There will be a **Toast message** will be shown at the bottom side when the item is saved in the app.

- v. When click on cancel button in the Add Item screen, no item will be added to the app



1. There will be a **Toast message** will be shown at the bottom side when the item is not saved in the app.

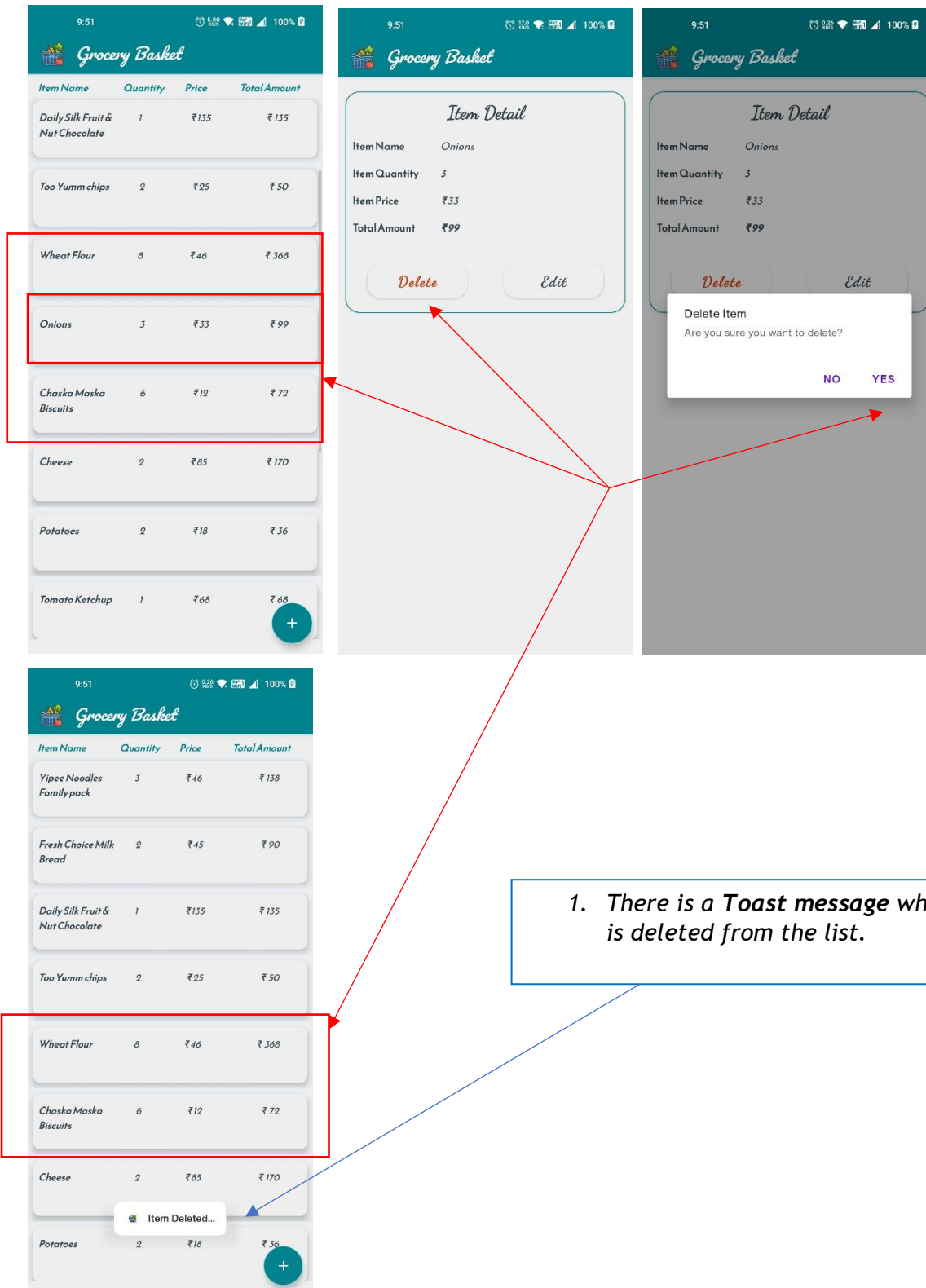
vi. On clicking on any item, it will navigate to Item Detail screen



1. This is the Item Detail screen, where we can see Grocery item details
2. There are two buttons at the bottom part.

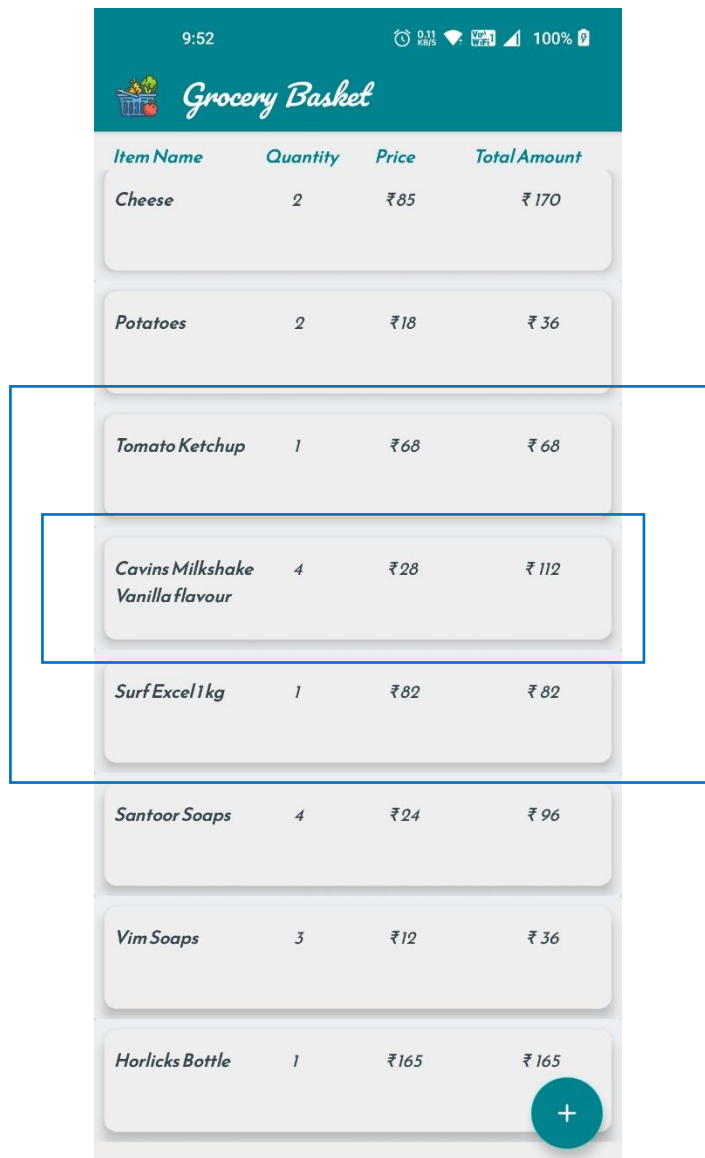
vii. If we click on the delete button, the item will be deleted from the app's data. Here, we can see **Onions** item in the list, clicking on it shows us detail screen, clicking on Delete button, it will show us Confirm Delete dialog. If we click on **Yes** on the dialog, the item will be deleted.

Check the screenshots below



viii. We can edit item in the list

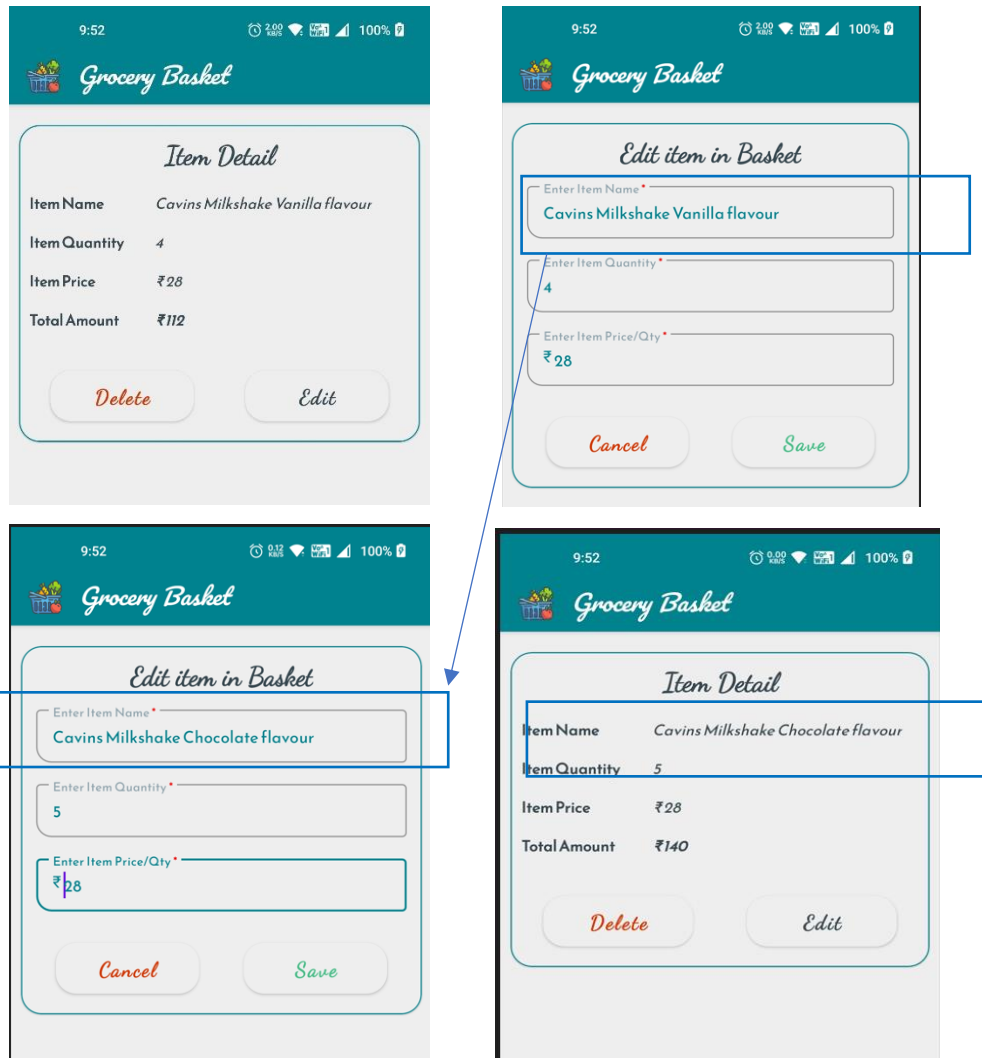
a. First tap on any item



The screenshot shows the 'Grocery Basket' app interface. At the top, there's a teal header with a shopping basket icon and the title 'Grocery Basket'. Below the header is a table with four columns: 'Item Name', 'Quantity', 'Price', and 'Total Amount'. The table lists several items, including Cheese, Potatoes, Tomato Ketchup, Cavins Milkshake Vanilla flavour, Surf Excel 1 kg, Santoor Soaps, Vim Soaps, and Horlicks Bottle. The 'Cavins Milkshake Vanilla flavour' item is highlighted with a blue box, indicating it is the first item to be tapped for editing.


Item Name	Quantity	Price	Total Amount
Cheese	2	₹ 85	₹ 170
Potatoes	2	₹ 18	₹ 36
Tomato Ketchup	1	₹ 68	₹ 68
Cavins Milkshake Vanilla flavour	4	₹ 28	₹ 112
Surf Excel 1 kg	1	₹ 82	₹ 82
Santoor Soaps	4	₹ 24	₹ 96
Vim Soaps	3	₹ 12	₹ 36
Horlicks Bottle	1	₹ 165	₹ 165

- b. It will go to detail screen, then click on edit icon, it will go to Edit item screen, there the fields are already fill the existing data. We can the change the data (**changing the flavor to Chocolate**) and click on save to get save in the app.



1. Item details had changed after clicking on save button in the edit item screen
2. Flavor changed from **Vanilla** to **Chocolate**

9:52 0.11 KB/s 100%

 *Grocery Basket*

Item Name	Quantity	Price	Total Amount
Cheese	2	₹ 85	₹ 170
Potatoes	2	₹ 18	₹ 36
Tomato Ketchup	1	₹ 68	₹ 68
Cavins Milkshake Chocolate flavour	5	₹ 28	₹ 140
Surf Excel 1kg	1	₹ 82	₹ 82
Santoor Soaps	4	₹ 24	₹ 96
Vim Soaps	3	₹ 12	₹ 36
Horlicks Bottle	1	₹ 165	₹ 165

+

1. Item also got updated in the list in the same row

Concepts used

- *Recycler View*
- *Card View*
- *Fragments*
- *Navigation*
- *ViewModel*
- *Coroutines*
- *Live Data*
- *Flow*
- *Room database*

Also added simple transitions between Fragments.

Gradle dependencies used

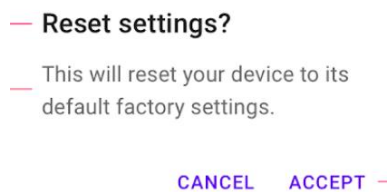
```
dependencies {  
  
    implementation 'androidx.core:core-ktx:1.7.0'  
    implementation 'androidx.appcompat:appcompat:1.5.1'  
    implementation 'com.google.android.material:material:1.6.1'  
    implementation 'androidx.constraintlayout:constraintlayout:2.1.4'  
    implementation 'androidx.cardview:cardview:1.0.0'  
    implementation 'androidx.recyclerview:recyclerview:1.2.1'  
  
    //Navigation Component  
    implementation "androidx.navigation:navigation-fragment-ktx:2.5.2"  
    implementation "androidx.navigation:navigation-ui-ktx:2.5.2"  
  
    //ViewModel and LiveData  
    implementation "androidx.lifecycle:lifecycle-viewmodel-ktx:2.5.1"  
    implementation "androidx.lifecycle:lifecycle-livedata-ktx:2.5.1"  
  
    //Room Database  
    implementation "androidx.room:room-runtime:2.4.3"  
    kapt "androidx.room:room-compiler:2.4.3"  
    implementation "androidx.room:room-ktx:2.4.3"  
  
    //test  
    testImplementation 'junit:junit:4.13.2'  
    androidTestImplementation 'androidx.test.ext:junit:1.1.3'  
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.4.0'  
}
```

Material Components used

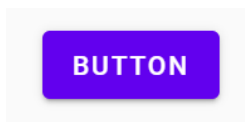
- *Text Fields*



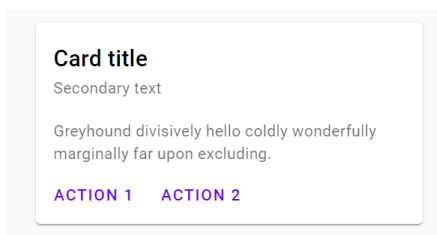
- *Dialog*



- *Buttons*



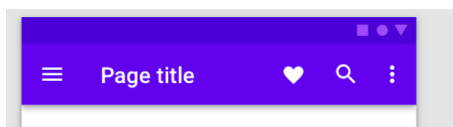
- *Card View*



- *Floating Action Button*

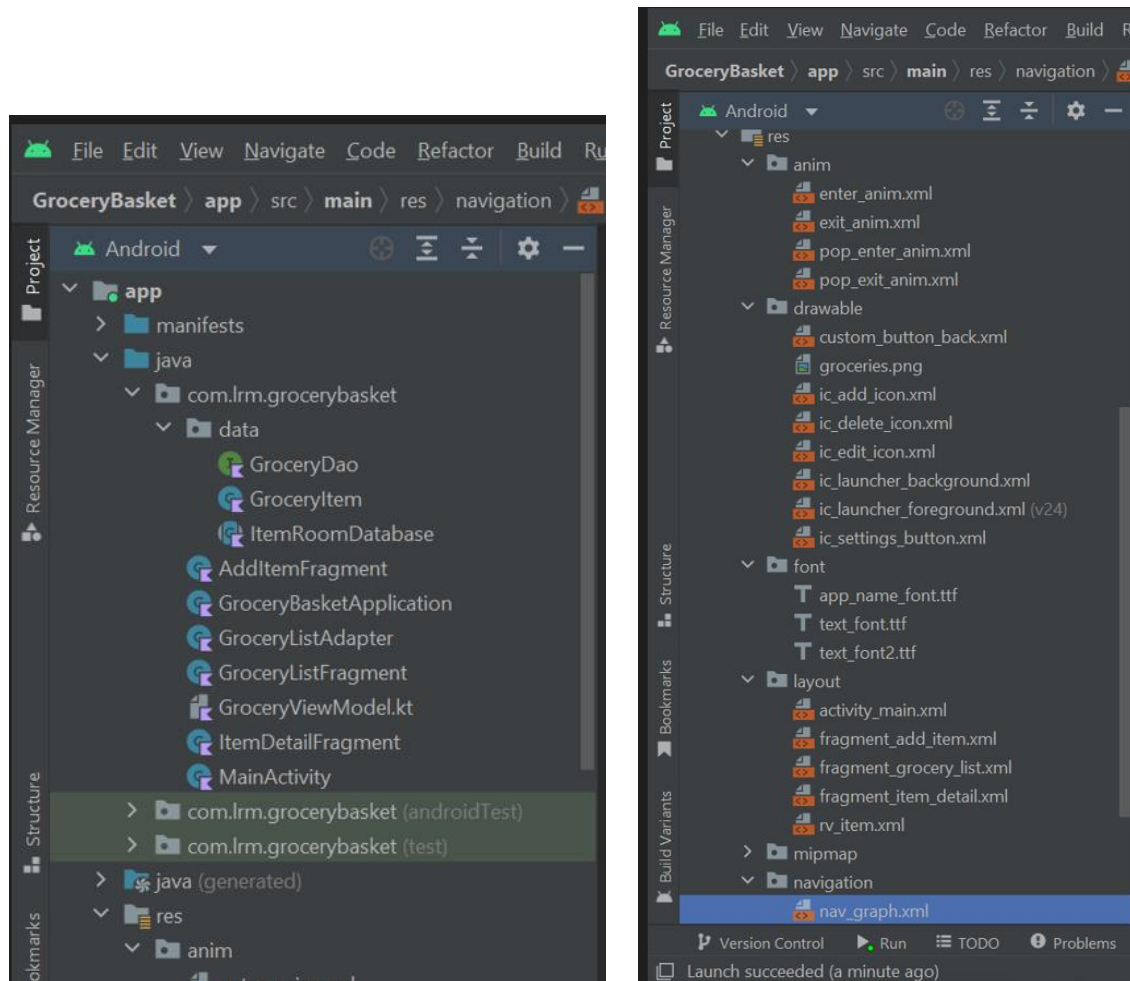


- *Top App bar*



Project's Complete Code

1. Project tab in android studio screenshots



2. For Complete code, please refer

- a. Google Drive Link: [Project Grocery Basket - Google Drive](#)
- b. GitHub Link: [smartinternz02/SPSGP-102704-Virtual-Internship---Android-Application-Development-Using-Kotlin: Virtual Internship - Android Application Development Using Kotlin \(github.com\)](#)

References

- For App Icons
 - ✓ <https://www.flaticon.com/search?word=Grocery%20Basket>
 - ✓ <https://icons8.com/icons/set/grocery>
- For colors used on layout, text, material components
 - ✓ <https://material.io/resources/color/#!/?view.left=0&view.right=0>
- For Material components
 - ✓ <https://m3.material.io/components>
- For Fonts styles
 - ✓ <https://fonts.google.com/>
- For Knowledge on Android development concepts

Books

- ✓ *Head First Android Development using Kotlin*
- ✓ *Android Apprentice*

Complete guide to Project code

- ✓ https://www.youtube.com/watch?v=vdcLb_Y71Ic
- ✓ <https://developer.android.com/courses/android-basics-kotlin/unit-5>

TRAINING > ANDROID BASICS IN KOTLIN > DATA PERSISTENCE > USE ROOM FOR DATA PERSISTENCE