AN ANDROID DEV PROJECT REPORT
ON
GROCERYLIST APPLICATION USING
KOTLIN IN ANDROID STUDIO

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1 INTRODUCTION

1.1 Overview A brief description about your project

Android is an operating system which is the largest installed base among various mobile platforms across the globe. Hundreds of millions of mobile devices are powered by Android in more than 190 countries of the world. It conquered around 71% of the global market share by the end of 2021, and this trend is growing bigger every other day. The company named Open Handset Alliance developed Android for the first time that is based on the modified version of the Linux kernel and other open-source software. Google sponsored the project at initial stages and in the year 2005, it acquired the whole company. In September 2008, the first Android-powered device was launched in the market. Android dominates the mobile 08 industry because of the long list of features it provides. It's user-friendly, has huge community support, provides a greater extent of customization, and a large number of companies build Android-compatible smartphones. As a result, the market observes a sharp increase in the demand for developing Android mobile applications, and with that companies need smart developers with the right skill set. At first, the purpose of Android was thought of as a mobile operating system. However, with the advancement of code libraries and its popularity among developers of the divergent domain, Android becomes an absolute set of software for all devices like tablets, wearables, set-top boxes, smart TVs, notebooks and so on.

Android applications are developed using the java language. Google has its own Software Development Kit (SDK) which enables these java codes to control devices like mobile phones, tablets, etc. Android mobile application development provides a flexible platform for developers where they can use both java Integrated Development Environment (IDEs) and android java. Android is an open source and Linux-based Operating System for mobile devices such as smartphones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies.

We are going to build a grocery application in android using Android Studio. Many times we forget to purchase things that we want to buy, after all, we can't remember all the items, so with the help of this app, you can note down your grocery items that you are going to purchase, by doing this you can’t forget any items that you want to purchase. In this project, we are using (MVVM) for architectural patterns, Room for database, Recycler View and Co-routines to display the list of items.

1.2 Purpose The use of this project. What can be achieved using this.

the main purpose of this application is to list out the items ,that user need to to buy simply. whenever user goes out to a grocery stores,users will not able to remember all the items that he wants to buy and this grocery application will helps the user to solve their day to day struggle by keeping the note.

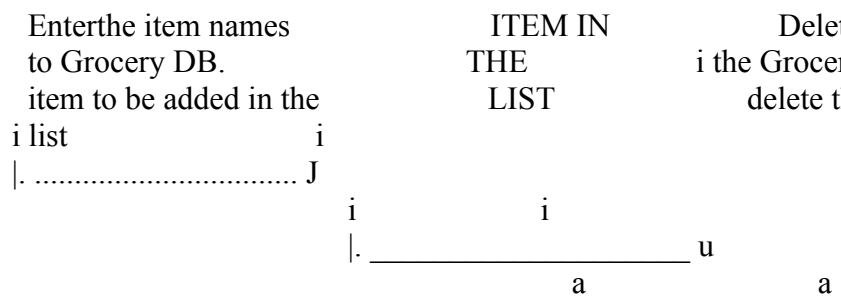
2 LITERATURE SURVEY

2.1 Existing problem Existing approaches or method to solve this problem

As we can't remember everything,users forget to buy things they want to buy however with assistance of this app users can make the list of grocery items.to overcome this problem we have came out the advance solution for it i.e this grocery application.

2.2 Proposed solution What is the method or solution suggested by you?
The primary goal of this project is to make an app that stores the user items in a list,where user can easily look into it and can go through the list.
We are going to build a grocery application in android using Android Studio. Many times we forget to purchase things that we want to buy, after all, we can't remember all the items, so with the help of this app, you can note down your grocery items that you are going to purchase, by doing this you can't forget any items that you want to purchase
The user can modify and delete the added item in the list.this will make the user work easy and user can check-it out the list whenever he visit the store.
3 THEORITICAL ANALYSIS

3.1 Block diagram Diagrammatic overview of the project.



3.2 Hardware / Software designing Hardware and software requirements of the project
As a developer we are going to to build the application we need some requires to accomplish the application.

- 0 we need to install Android studio in our system where we as a developer going to run the application
- 0 Before writing the code we need to design the user interface for the application by using figma.
- 0 After designing the UI for the application ,we need to start building the application.

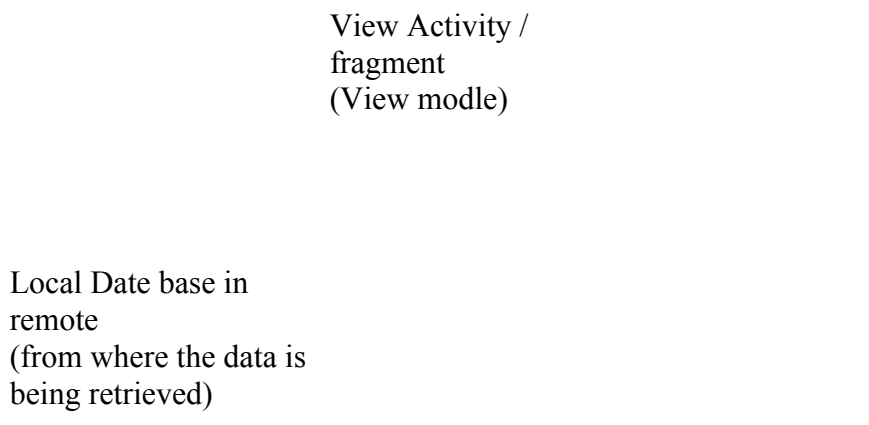
4 EXPERIMENTAL INVESTIGATIONS Analysis or the investigation made while working on the solution.
Now we will code the UI part of the row in the |ist.below we can observe that the give inputs are working correctly now we need to go further for Ul part.

Go to app > res > layout. Right-click on layout, go to new, and then add a Layout Resource File

and name it as GroceryAdapterWe will code adapter class for recycle view. In the GroceryAdapter class, we will add constructor value by storing entities class as a list in list variable and create an instance of the view model. In Grocery Adapter we will override three functions: onCreateViewHolder, getItemCount, and onbindViewHolder

we will also create an inner class called grocery view holder. Go to the app > java > com.example.application-name. Right-click on com.example.application-name go to new and create a new Package called Adapter and then right-click on Adapter package and create a Kotlin file/class name it GroceryAdapter.

5 FLOWCHART Diagram showing the control flow of the solution



6 RESULT Final findings (Output) of the project along with screenshots.

To enter grocery item, quantity, and price from the user we have to create an interface. To implement this interface we will use DialogBox. First we need to create an Ul of dialog box. In this dialog box we will add three edit text and two text view. Two text view one for save and other for cancel. After clicking the save text all data saved into the database and by clicking on the cancel text dialog box closes. Go to the app > res > layout. Right-click on layout, go to new and then add a Layout Resource File and name it as GroceryDialog. To add a click-listener on save text we have to create an interface first in which we create a function. Go to the app > java > com.example.applicationname > Ul. Right-click on the UI package and create a Kotlin file/class and create an interface name it as DialogListener.

after completing all the pas now we need all the sub parts in the main program file and run the application.the application will run successfully.

(NOTE: developer change the background color according there choice,the application is responsive ,the user needed to be guided that this application will work and can be helpful to him.

below is the expected output for the above mention problem.

Step By Step Process Step 1

1.First we need to Create a New Project To create a new project in Android Studio please refer to How to Create/Start a New Project in Android Studio. Note that select Kotlin as the programming language.

2.Before going to the coding section first you have to do some pre-task Before going to the coding part first add these libraries in your gradle file and also apply the plugin as 'kotlin-kapt'. To add these library go to Gradle Scripts > build.gradle (Module: app).

3.Then we need to Implement Room Database where Entities class The entities class contains all the columns in the database and it should be annotated with @Entity (tablename = "Name of table"). Entity class is a data class. And @Column info annotation is used to enter column

variable name and datatype. We will also add Primary Key for auto-increment. Go to app > java > com.example.app|ication-name. Right-click on com.example.app|ication-name go to new and create Kotlin file/class and name the file as GroceryEntities. See the code below to completely understand and implement.
DAO Interface The DAO is an interface in which we create all the functions that we want to implement on the database. This interface also annotated with @Dao. Now we will create a function using suspend function which is a co-routines function. Here we create three functions, First is the insert function to insert items in the database and annotated with @Insert, Second is for deleting items from the database annotated with @Delete and Third is for getting all items annotated with @Query. Go to the app > java > com.example.app|ication-name. Right-click on com.example.application-name go to new and create Kotlin file/class and name the file as GroceryDao. See the code below to implement.
Database class Database class annotated with @Database(entities = [Name of Entity class.class], version = 1) these entities are the entities array list all the data entities associating with the database and version shows the current version of the database. This database class inherits from the Room Database class. In GroceryDatabase class we will make an abstract method to get an instance of DAO and further use this method from the DA0 instance to interact with the database. Go to the app > java > com.example.application-name. Right-click on com.example.application-name go to new and create Kotlin file/class as GroceryDatabase.

4: Now we will implement the Architectural Structure in the App a) Repository class The repository is one of the design structures. The repository class gives the data to the ViewModel class and then the ViewModel class uses that data for Views. The repository will choose the appropriate data locally or on the network. Here in our Grocery Repository class data fetch locally from the Room database. We will add constructor value by creating an instance of the database and stored in the db variable in the Grocery Repository class. Go to the app > java > com.example.application-name. Right-click on com.example.application-name go to new and create Kotlin file/class as GroceryRepository. Go to app > java > com.example.application-name. Right-click on com.example.application-name go to new and create a new Package called UI and then right-click on Ul package and create a Kotlin file/class.

5:Boom here we get ready to run our application .we can observe in the given picture our output. where it is asking the user to enter the items into list.

7 ADVANTAGES & DISADVANTAGES List of advantages and disadvantages of the purposed solution

Here we go with the advantages of grocery application.

:PSPNT‘

we can list out the grocery item into the cart.

this allows the user to make note of the items which the user is going to by in further.

we can make use this application in super markets,mall etc.

this application can be the one of the finest bring on change in the tech world as well as market.

Here we go with the disadvantages of the grocery application.

1.This application might get crash when high number of user try to use this at a single time.

2.ANDROID version of the application plays an key roles.As the world is upgrading day by day with it version and generation.

3.this application doesnt allow user to directly plays order.

8 APPLICATIONS The areas where this solution can be applied
Grocey App is a kind of app that generally used to maintain our day-to-day grocery items or list of grocery that we have to buy or we are going to buy.
This Application can be useful for user in following areas:
1.ln super market,whenever we visit super market we often forget few items,this grocery application will let us to note down all the item in the queue form.
2.this application can also be useful in malls.
3.THis application can also be used at Kirana and general / grocery store.

9 CONCLUSION Conclusion summarizing the entire work and findings.

This grocery application will help to store the list of data items include name of item, price and quantity required. Users can store his data in the list, the grocery application very helpful to users.We can even update this application in future by adding images to the particular items and we even make separate day to day collection of our grocery item.

10.Future SCOPE
This grocery application will help to store the list of data items include name of item, price and quantity required. Admins store his/her data in the list, the grocery application very helpful to users.
This application helps to store the list of items by Admin. In Future we can also add scheduled addition of items according to requirement of user

in future we can make this application more interesting by adding few feature like:
1.user panel
2.colorfu| grids
3.images for that particular product
4.transcript in every language(that people can understand)

NOTE:-
This application will run successfully in all android devices.
The below mention links contains the source code of the application program.
The source might show crash error in older version of Android studio.as the software has update which has bought lot changes in the that system software.
URL 0F PROJECT:-

GitHub Link:-
https://github.com/smartinternz02/SI-GuidedProject-60924-1661749136

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I wish to show my appreciation regrading this project.
the efforts and hard of this platform for conducting this virtual internship program and giving us opportunity .
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for a common goal of talent creation) for their guidance and constant supervision as well as for providing necessary information.

11 BIBILOGRAPHY

I have taken References of previous works or websites visited/books referred for analysis about the project from"
.https://youtu.be/5YmJLB8f3W0

https://www.geeksforgeeks.org/introduction-to-android-development/#:~:text=Google%20first%20publicly%20announced%20Android,with%20the%20version%20Android%201.0

https://www.geeksforgeeks.org/introduction-to-kotlin/

l have referred to many articles of running the TO DO LIST application as the Grocery application has similar kind of principles.