

A CUSTOMIZABLE SNACK ORDERING AND DELIVERY APP

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Project Description:

A project that demonstrates the use of Android Jetpack Compose to build a UI for a snack squad app. Snack Squad is a sample project built using the Android Compose UI toolkit. It demonstrates how to create a simple e-commerce app for snacks using the Compose libraries. The user can see a list of snacks, and by tapping on a snack, and by tapping on the "Add to Cart" button, the snack will be added to the cart. The user can also see the list of items in the cart and can proceed to checkout to make the purchase.

Required Initial Steps:

Step 1:

Download Android Studio

- Visit the official Android Studio download page
- [<https://developer.android.com/studio>]
- Review and accept the terms and conditions if prompted.
- The download will begin automatically.

Step 2:

Install Android Studio:

For Windows

- Run the installer: Double-click the downloaded .exe file.
- Follow the installation wizard:
- Choose installation options (use default settings unless you have specific preferences).

- Android Studio requires a minimum of 4 GB of RAM (recommended 8 GB), and a screen resolution of at least 1280x800.
- Install Android SDK: The installer will automatically install the Android SDK, Android Emulator, and other necessary tools.
- Complete installation: Click Finish once the process is complete.
- Follow the setup wizard: Android Studio will guide you through the rest of the installation.

Step 3:

First Launch and Setup:

- Choose UI Theme**: Select between Light or Dark theme.
- Install SDK Components**: Android Studio will download necessary SDK components (such as the latest Android platform and tools). This might take some time, depending on your internet speed.

Step 4:

Configure Android Studio:

- Install additional SDK packages: You might need to install certain packages depending on your Android development needs (e.g., specific Android API versions or system images for the emulator).
- Set up the Android Emulator: If you plan to use the Android Emulator for testing, you can set it up through the AVD (Android Virtual Device) Manager.

Step5:

Verify Installation:

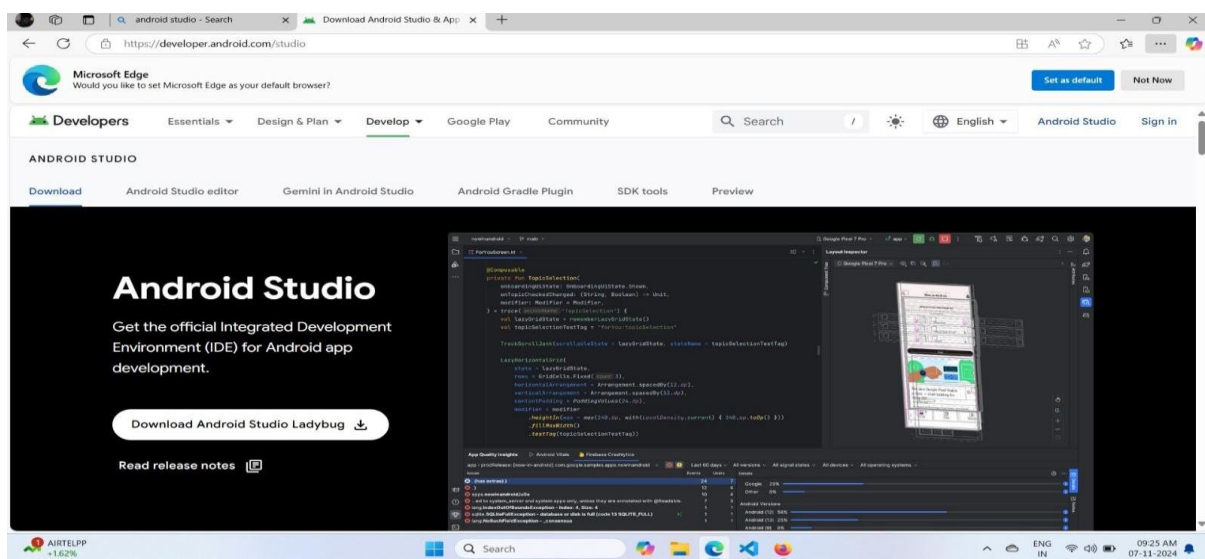
- Go to File → New → New Project.
- Choose a template (e.g., Empty Activity).
- Configure the project (e.g., name, package name).
- Click Finish.

Step 6:

Install Android Device/SDK Drivers (If needed):

- You have enabled USB debugging on the device (Settings → About phone → Tap Build number 7 times to unlock developer options → Developer options → Enable USB debugging).
- You may need to install specific drivers for your device (especially on Windows).

Screen Shorts:



Creating a New Project in an Android Studio

1. Open Android Studio

- Launch Android Studio. If you're opening it for the first time, it may take a few moments to initialize.

2. Start a New Project

- On the Welcome Screen, click "Start a new Android Studio project".
- If you have an existing project open, go to File > New > New Project.

3. Choose a Template

- Android Studio will prompt you to choose a project template. You can choose from various options, like:

- Empty Activity (for a blank app).
- Basic Activity (with a toolbar and floating action button).
- Navigation Drawer Activity (with a side navigation menu).
- Fullscreen Activity (for apps that use the whole screen).

Choose "Empty Activity" for a simple start.

4. Configure Your Project

- Name: Enter your app's name (e.g., "My First App").
- Package Name: A unique identifier (usually in reverse domain format, like `com.example.myfirstapp`).
- Save Location: Choose a location on your computer to store the project.
- Language: Choose between Java or Kotlin. (Kotlin is now the preferred language for Android development.)
- Minimum API Level: Select the lowest version of Android your app will support. Android Studio recommends an API level based on your target audience.

5. Finish

- Click Finish to create your project. Android Studio will generate the necessary files and open your new project.

6. Start Coding

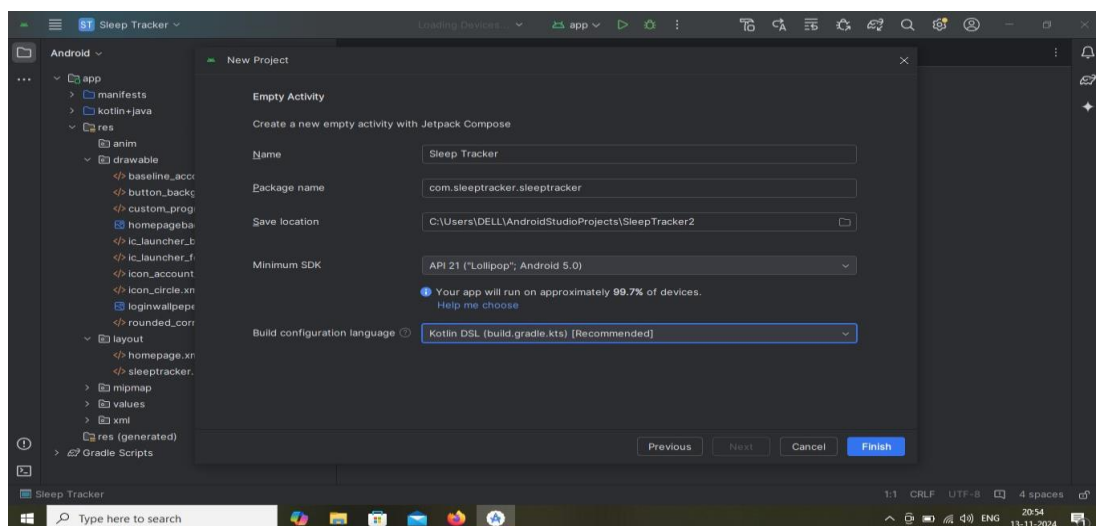
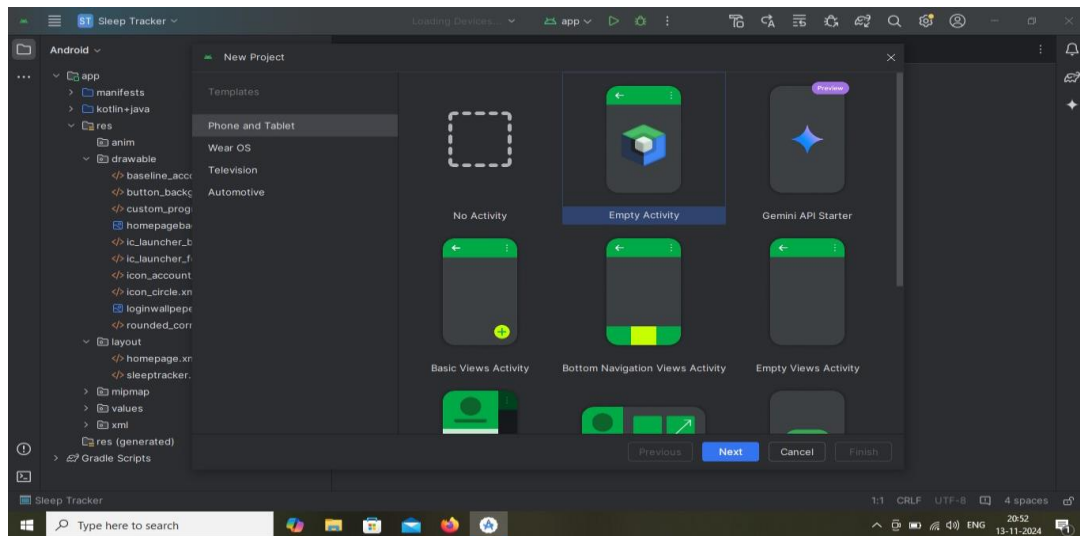
- After the project is created, you'll see:
- MainActivity.java/Kotlin: The main entry point for your app.
- activity_main.xml: The layout file for the main activity (UI design).
- You can now edit the code and design for your new Android app.

7. Run Your App

- To test your app, you can either:
- Use an Android Emulator by creating a virtual device (AVD).
- Connect an Android device via USB and enable developer mode.

Click the green Run button (a play icon) in the top toolbar to build and run your app

Screenshots:



Add requirements dependencies:

1. Project-Level build.gradle (root-level)

This file is where you configure project-wide settings, dependencies for Gradle itself, and repositories that will be used for all modules.

2. App-Level build.gradle (module-level)

This file contains the configurations for the Android application module. It's where you specify your dependencies, Android-specific build options, and signing configurations.

3. Sync the Project

- Click on the Sync Now button that appears in the top right corner of Android Studio.
- Go to File > Sync Project with Gradle Files to sync your changes. This will fetch the necessary dependencies and sync the project.

4. Optional: Adding Repositories

- You can add other repositories if you're using custom libraries. For example, you might add a repository in your all projects section.

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You can add other repositories if you're using custom libraries. For example, you might add a repository in your allprojects section

Make sure you include essential dependencies for Android development:

- AndroidX Libraries: Most modern Android libraries are part of AndroidX (e.g., androidx.appcompat, androidx.core).
- Google Libraries: If you're using Firebase, Google Play services, or other Google libraries, you'll need to include them as well.

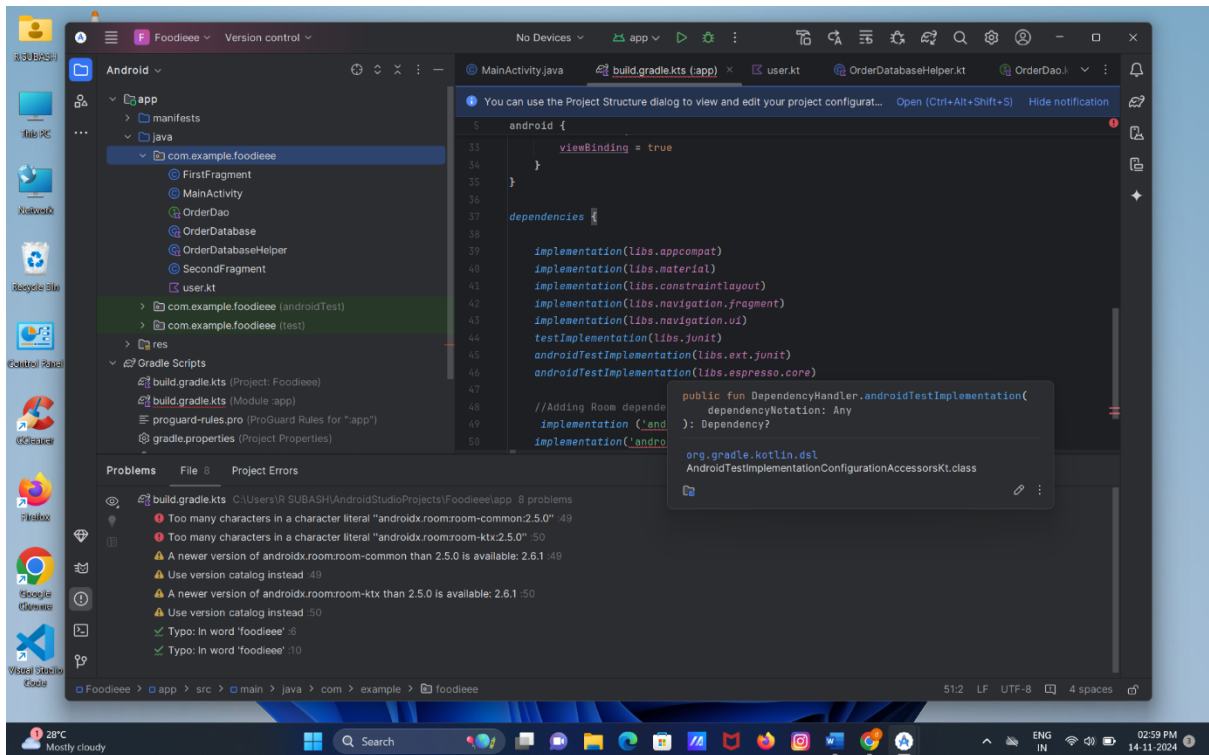
6. Gradle Version and Wrapper

- In case you need to update the version of Gradle or the Android Gradle Plugin, modify the gradle-wrapper.properties file in the gradle/wrapper directory. You can update the version like this:

Final Notes:

- After modifying Gradle files, always perform a **Gradle sync** to make sure everything is set up properly.
- Ensure that all libraries and versions in the dependencies are compatible with each other

Screenshots:



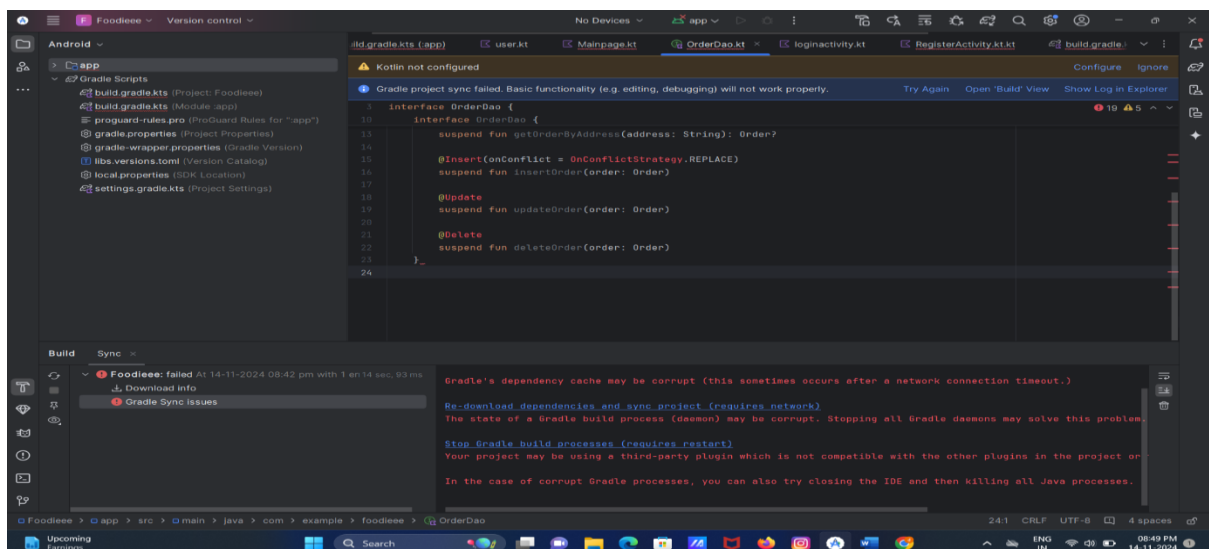
Creating the database classes

1.Database 1(create user data class)

Add Room dependencies to your project

In your build.gradle file (app module), add the following dependencies for Room

Screenshots:



Create an userDao interface

Step 1:

Add Room dependencies to build.gradle

First, we need to add the necessary Room dependencies to your project.

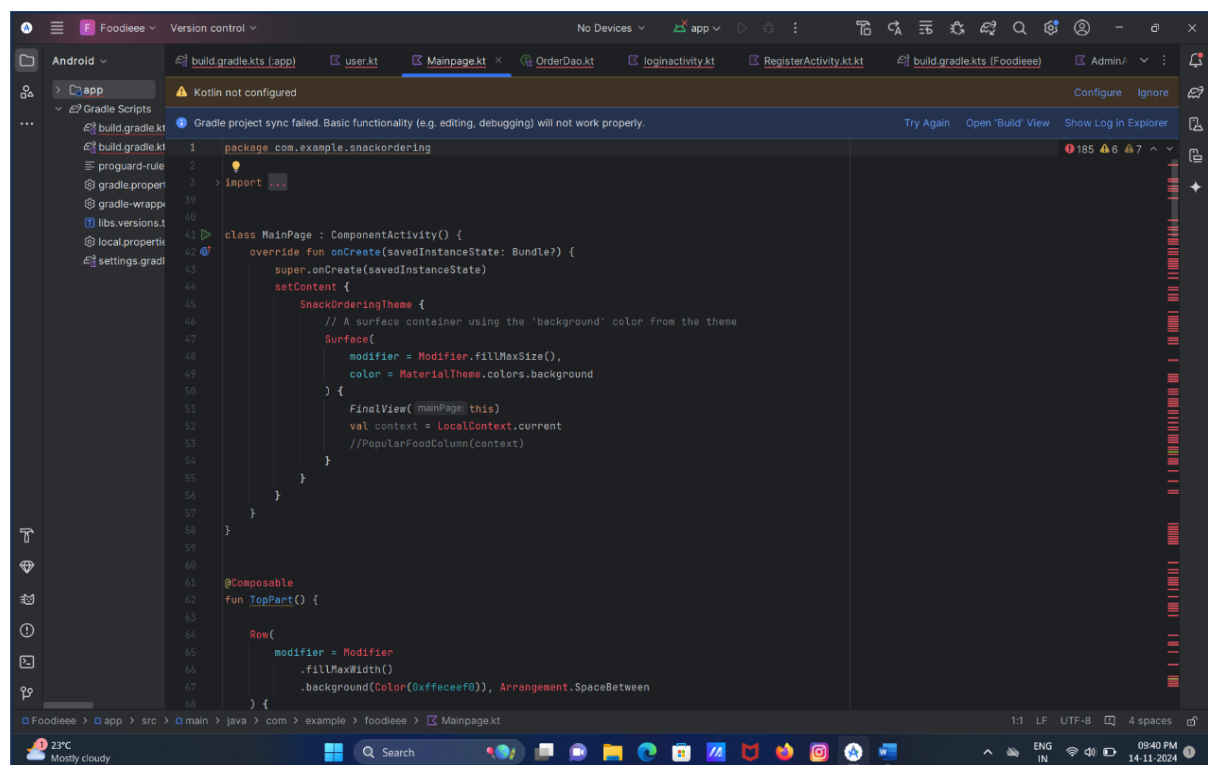
- Open the build.gradle file (app level).
- Add the following dependencies

Step 2:

Create the User data class

The User data class will represent the User entity in the database. Here's how you can define it:

Screenshots:



Create an user database class

Step 1:

Add Room dependencies to build.gradle

In your app/build.gradle file, add the following dependencies for Room:

Step 2:

Create the User Entity Class

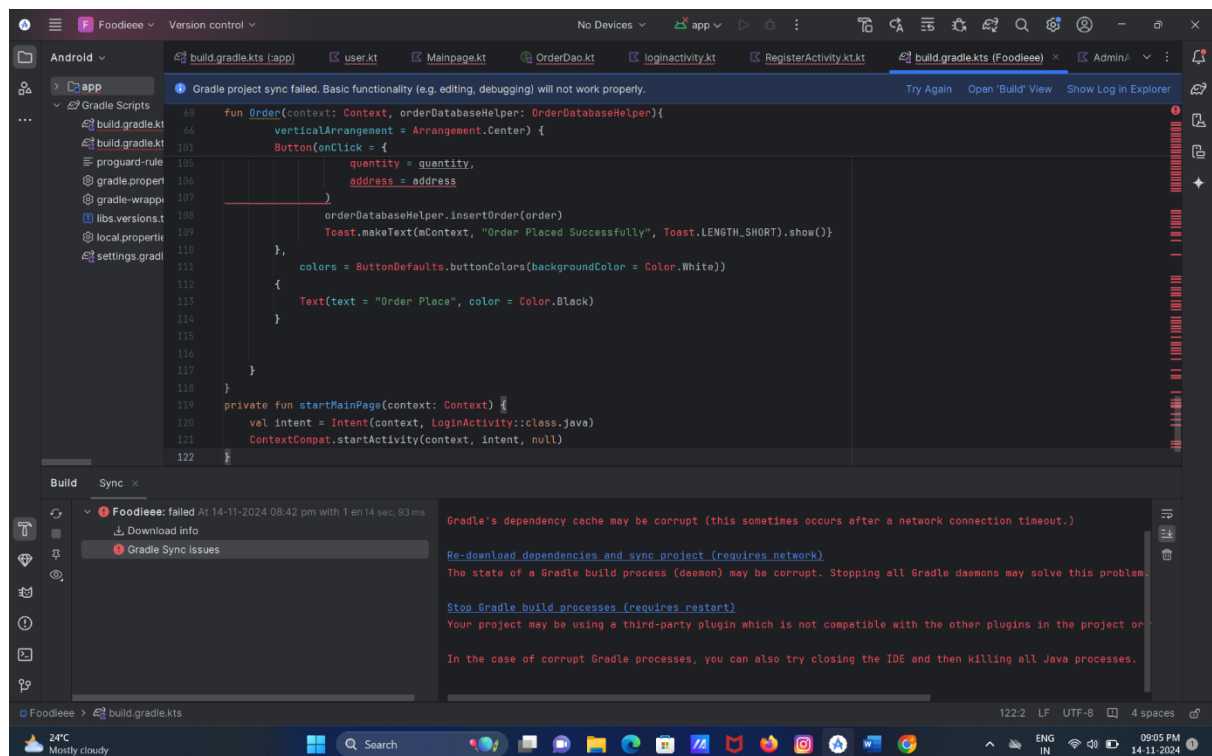
The User class represents the data you want to store in the database. Each User will be stored as a row in a users table.

Step 3:

Create the UserDao Interface

The UserDao (Data Access Object) defines the methods to interact with the database. These methods will be used to insert, update, delete, and query users.

Screenshots:



Create a userdatabase helper

Steps:

- Create a User Database Helper class.
- Define a User table schema.
- Add methods for database operations (Create, Read, Update, Delete).

Here's an example implementation:

Step 1:

Create a UserDatabaseHelper class

Create a new Java or Kotlin class called UserDatabaseHelper (or any name you prefer).

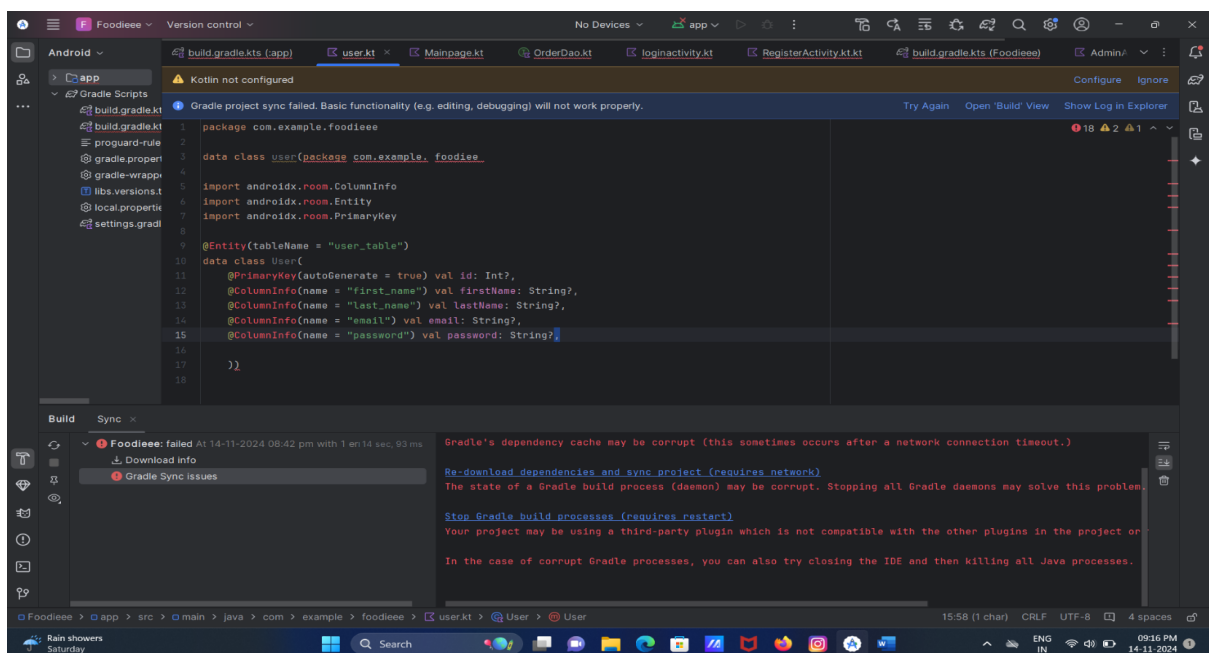
In Java

Step 2:

Using the UserDatabaseHelper class

Once you've created the helper class, you can use it in your activities or fragments to interact with the database. Here's an example of how you can use it to add a user and retrieve users.

Screenshots:



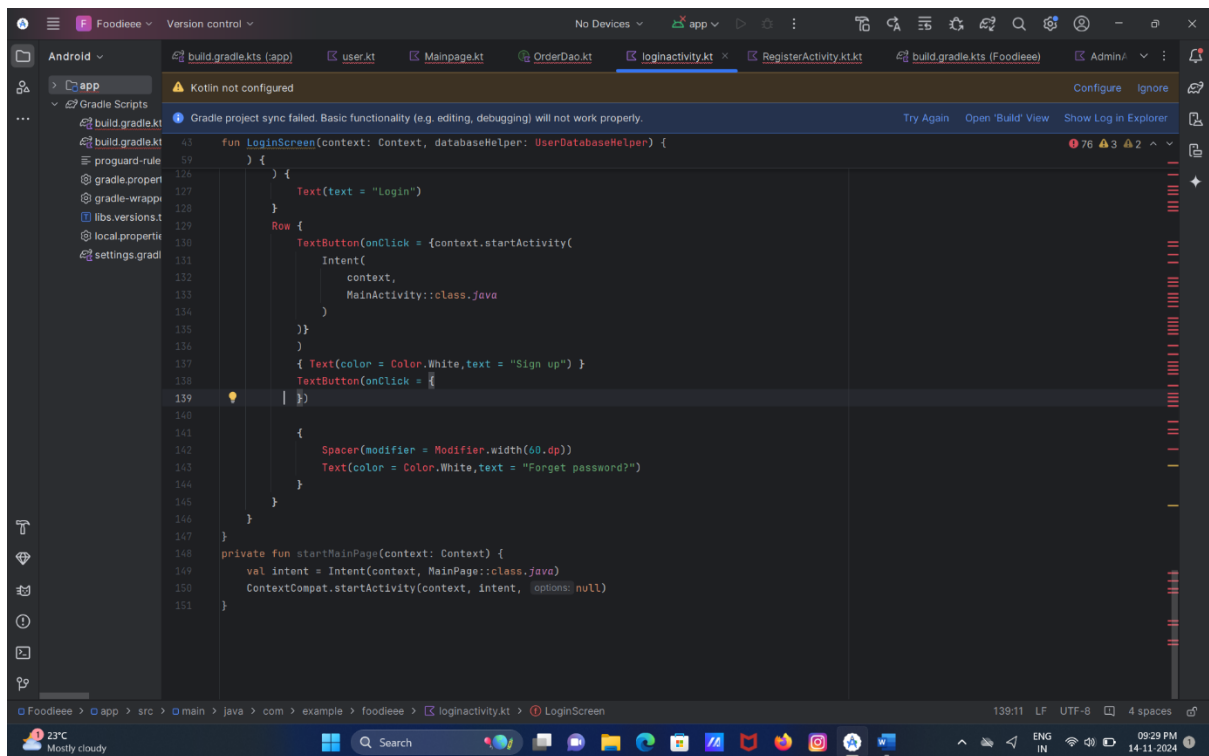
BULIDING APPLICATION UI AND CONNECTING TO DATABASE

Creating a login activity.kt with database

Steps:

- Create the Login Activity.kt file.
- Create the Login UI (Layout XML file).
- Connect the Login Activity to the User Database Helper.
- Handle user login (check credentials from the database)

Screenshots:

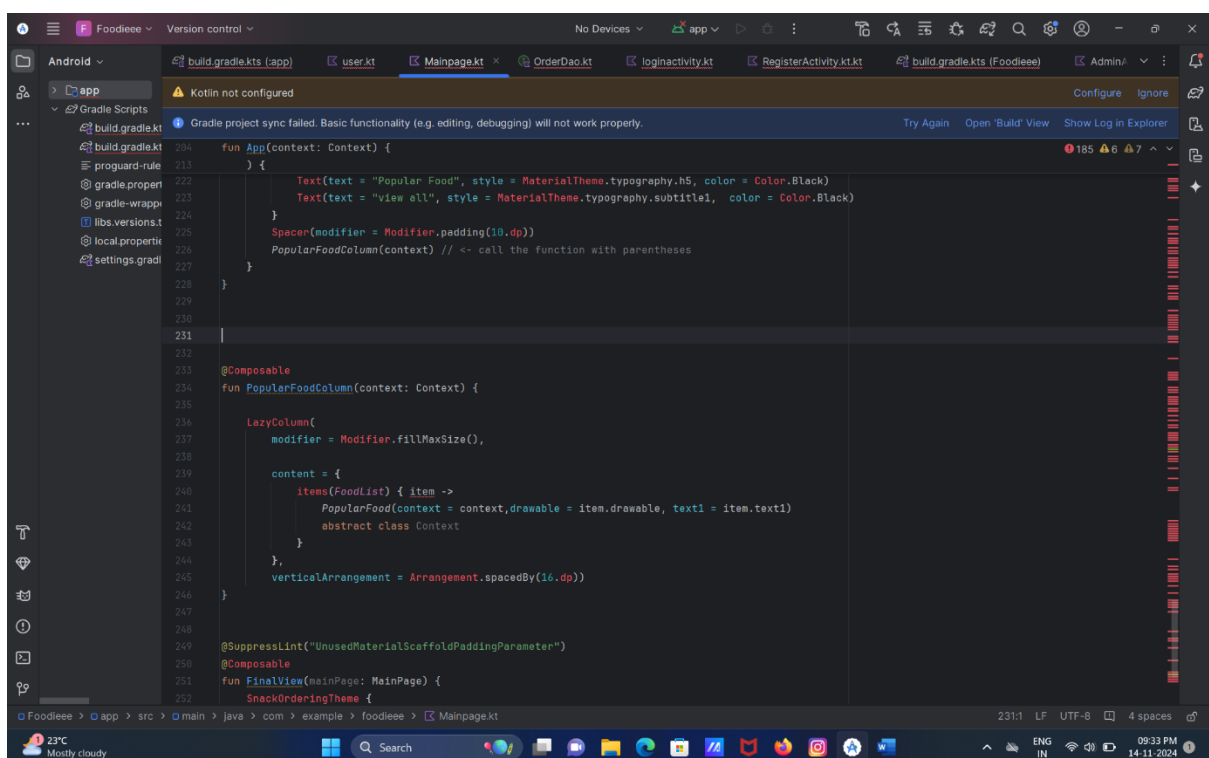


Creating a mainactivity.kt with database

Steps:

- Create the MainActivity.kt file.
- Design the UI for the MainActivity.
- Interact with the database in MainActivity.kt

Screenshots:



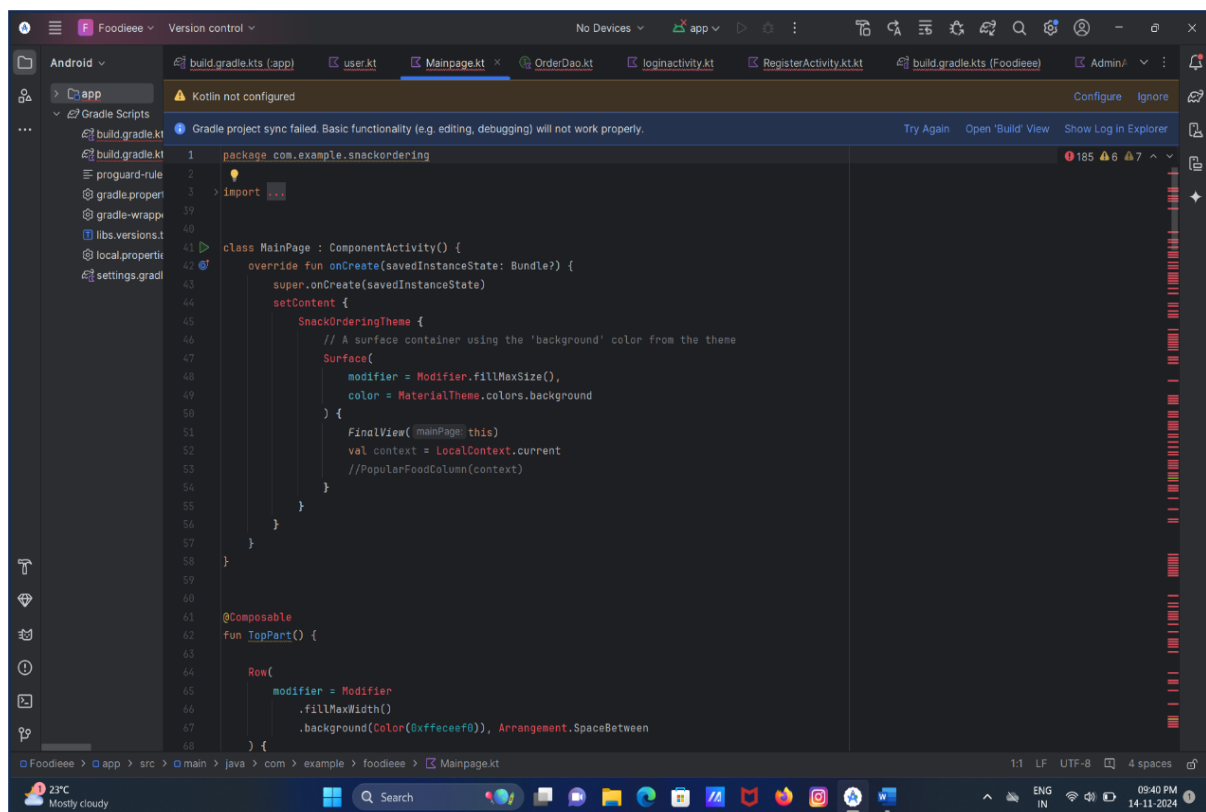
Creating a mainpage.kt file

steps:

- Open Project Explorer: In the Android Studio, open the Project view (usually on the left side).
- Navigate to the Package: Locate the package where you want to place MainPage.kt. Typically, you'll find it under app > java > com.example.yourprojectname.
- Create New Kotlin File:

- Right-click on the desired package folder.
- Select New > Kotlin File/Class.
- Name the File: In the pop-up window:
 - Enter MainPage as the file name.
 - Ensure the Kind is set to Class or File (choose Class if this will be an Activity, File if it contains functions only).
 - Click OK.
- Define the Class (if it's an Activity):
 - If MainPage.kt will be an Activity, make it extend AppCompatActivity:

Screenshots:



Creating a target activity.kt

steps to follow:

- Open Project Explorer: Open the Project view in Android Studio.
- Navigate to the Package:
 - Find the package where you want to add TargetActivity.kt (usually under app > java > com.example.yourprojectname).
- Create New Activity:
 - Right-click on the package folder.
 - Select New > Activity > Empty Activity.
- Configure the New Activity:
 - In the pop-up window, set the Activity Name to TargetActivity.
 - The Layout Name will be auto-filled as activity_target.
 - Click Finish.
- TargetActivity.kt File:
 - Android Studio will automatically create the TargetActivity.kt file, which looks like this by default

Creating admin activity.kt

- ☐ Open Project Explorer: Open the Project view in Android Studio.
- ☐ Navigate to the Package:
 - Find the package where you want to add AdminActivity.kt (usually under app > java > com.example.yourprojectname).
- ☐ Create New Activity:
 - Right-click on the package folder.
 - Select New > Activity > Empty Activity.
- ☐ Configure the New Activity:

- In the pop-up window:
 - Set the Activity Name to AdminActivity.
 - The Layout Name will be automatically set to activity_admin.
- Click Finish.

□ AdminActivity.kt File:

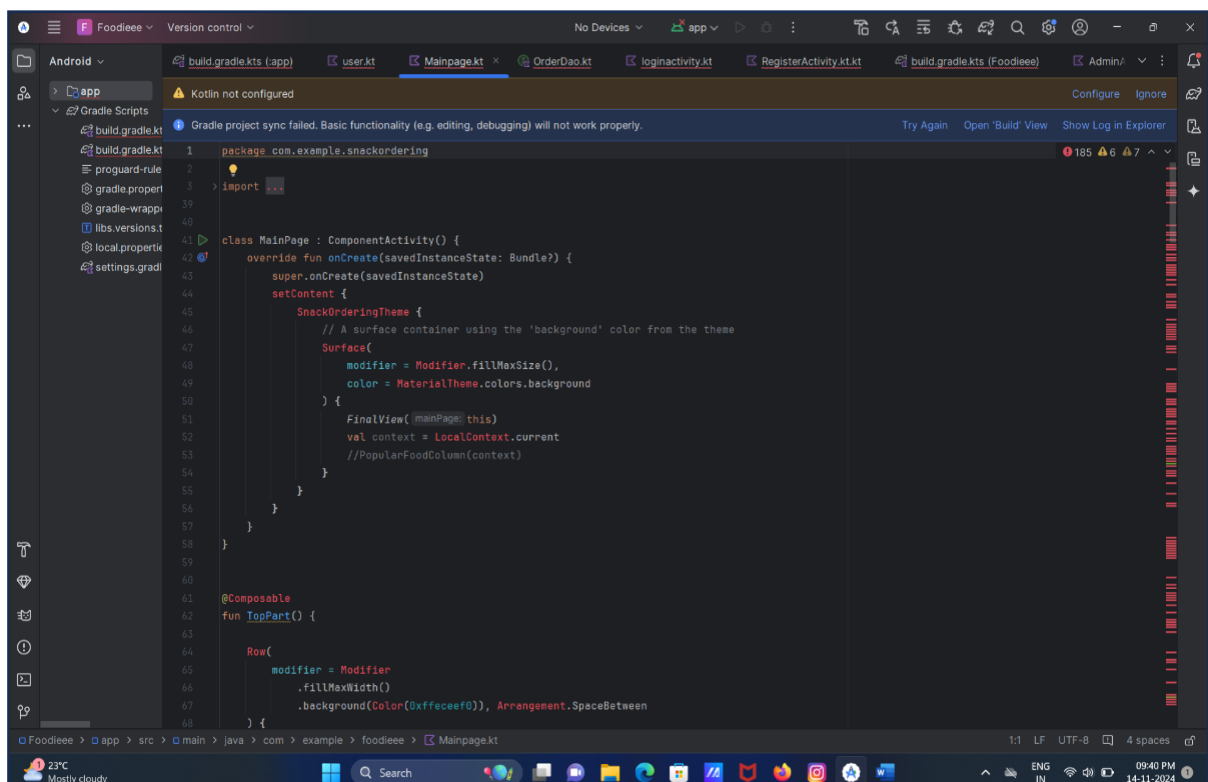
- Android Studio will create the AdminActivity.kt file with a basic setup

Modifying AndroidManifest.XML

Steps to Modify AndroidManifest.xml

- Locate the Manifest File:
 - Open your project in Android Studio.
 - In the Project view, navigate to app > manifests > AndroidManifest.xml. This is where the file is located by default.
- Understanding the Structure: The AndroidManifest.xml file typically has the following structure

Screenshots:



RUNNING THE APPLICATIONS:

LOGIN ACTIVITY:

```
package com.example.snackordering
import android.content.Context

import android.content.Intent import android.os.Bundle

import androidx.activity.ComponentActivity import
androidx.activity.compose.setContent import
androidx.compose.foundation.Image import
androidx.compose.foundation.layout.*import androidx.compose.material.*
import androidx.compose.runtime.* import androidx.compose.ui.Alignment
import androidx.compose.ui.Modifier
import androidx.compose.ui.graphics.Color import
androidx.compose.ui.layout.ContentScaleimport
androidx.compose.ui.res.painterResource import
androidx.compose.ui.text.font.FontFamilyimport
androidx.compose.ui.text.font.FontWeightimport androidx.compose.ui.unit.dp
import androidx.compose.ui.unit.sp

import androidx.core.content.ContextCompat

class LoginActivity : ComponentActivity() {

    private lateinit var databaseHelper: UserDatabaseHelper
    override fun onCreate(savedInstanceState: Bundle?) {

        super.onCreate(savedInstanceState)

        databaseHelper =
        UserDatabaseHelper(this).setContent
        {
            SnackOrderingTheme {
                // A surface container using the 'background' color from the
                themeSurface(
```



```

        modifier = Modifier.fillMaxSize(),
        color = MaterialTheme.colors.background
    ) {
        LoginScreen(this, databaseHelper)
    }
}
}
}
}

@Composable
fun LoginScreen(context: Context, databaseHelper: UserDatabaseHelper) {

    Image(painterResource(id = R.drawable.order), contentDescription =
        "", alpha = 0.3F,
        contentScale = ContentScale.FillHeight,

    )

    var username by remember {
        mutableStateOf("") } var password by
    remember { mutableStateOf("") }
    var error by remember { mutableStateOf("") }

    Column(
        modifier = Modifier.fillMaxSize(),
        horizontalAlignment =
            Alignment.CenterHorizontally,

```

```
verticalArrangement = Arrangement.Center  
) {
```

```
Text(  
    fontSize = 36.sp,  
    fontWeight =  
    FontWeight.ExtraBold,  
    fontFamily =  
    FontFamily.Cursive, color =  
    Color.White,  
    text = "Login"
```

```
)  
Spacer(modifier = Modifier.height(10.dp))
```

```
TextField(  
    value = username,  
    onValueChange = { username  
    = it },label = {  
    Text("Username") }, modifier  
    = Modifier.padding(10.dp)  
    .width(280.dp)  
)
```

```
TextField(  
    value = password,  
    onValueChange = {  
    password = it },label = {  
    Text("Password") }, modifier
```

```

        = Modifier.padding(10.dp)
        .width(280.dp)
    )

    if
    (error.isNotEmpty() { Text(
        text = error,
        color = MaterialTheme.colors.error,
        modifier = Modifier.padding(vertical = 16.dp)
    )
    }

    Button(
        onClick = {
            if (username.isNotEmpty() &&
                password.isNotEmpty()) { val user =
                databaseHelper.getUserByUsername(username)if
                (user != null && user.password == password) {
                    error = "Successfully
                    log in"
                    context.startActivity(
                        Intent(
                            context,
                            MainPage::class.java
                            va
                        )
                    )
                }
            }
        }
    )
}

```

```

        )
        //onLoginSuccess()
    }

    if (user != null && user.password ==
        "admin") {error = "Successfully log in"
        context.startActivity(
            Intent(
                context,
                AdminActivity::clas
                s.java
            )
        )
    }
    else {
        error = "Invalid username or password"
    }

} else {
    error = "Please fill all fields"
}

},
modifier = Modifier.padding(top = 16.dp)
) {
    Text(text = "Login")
}
Row {
    TextButton(onClick =
        {context.startActivity(Intent(

```

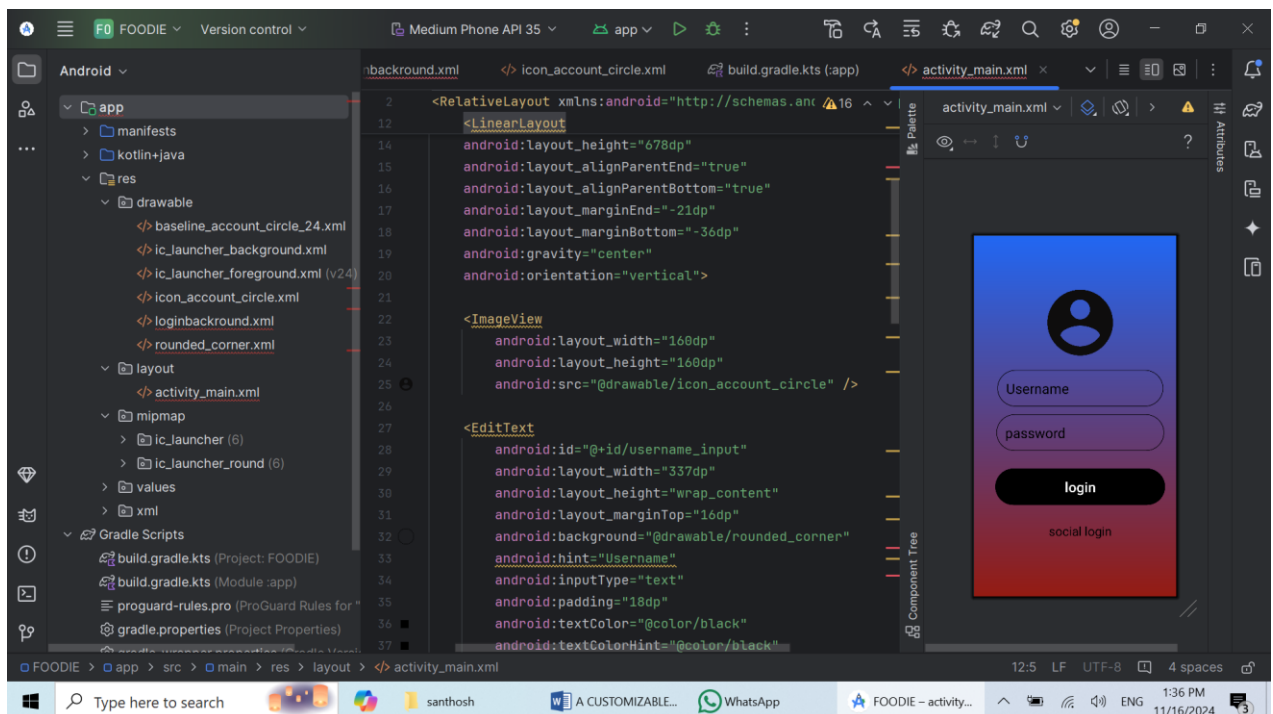
```

        context,
        MainActivity::class.java
        va
    )
})
)
{ Text(color = Color.White,text = "Sign up") }
TextButton(onClick = {
})

{
    Spacer(modifier = Modifier.width(60.dp))
    Text(color = Color.White,text = "Forget
password?")
}
}
}
}
private fun startMainPage(context: Context) {
    val intent = Intent(context, MainPage::class.java)
    ContextCompat.startActivity(context, intent, null)
}

```

Screenshort:



CONCLUSION:

In conclusion, the development of a customizable snack ordering and delivery app addresses the growing demand for convenience and personalization in the foodservice industry. By providing users with an intuitive interface that allows them to easily customize their snack orders, select from a wide range of options, and track their deliveries in real-time, this app enhances the overall user experience. The app's seamless integration of payment systems, diverse snack choices, and user-centric features such as order history, preferences, and loyalty rewards, positions it as a comprehensive solution for on-the-go snack lovers.

Moreover, with real-time tracking, notifications, and reliable delivery partnerships, the app ensures that customers receive their orders promptly and accurately. This not only improves customer satisfaction but also fosters brand loyalty. By embracing technological advancements and catering to evolving consumer needs, this snack ordering and delivery app has the potential to disrupt the snack industry and create a lasting impact on how consumers interact with food delivery services. With ongoing updates and future scalability, this platform can adapt to a growing market and further enhance the snack consumption experience.