##### **ONLINE MARKETPLACE**

##### **A PROJECT REPORT**

***Submitted by***

Disha Yogesh Supekar (202101103154)

Vedshree Rajesh Kulkarni (202101103149)

*For the subject*  ***Mobile Application Development***

***of***

**Third Year**

***in***

**COMPUTER SCIENCE & ENGINEERING**

Guided by

Ms. Priyanka Deshmukh

Department of Computer Science and Engineering

**MGM’s Jawaharlal Nehru Engineering College, Chh. Sambhajinagar**

YEAR 2023 - 24

**CERTIFICATE**

This is to certify that the project report

**“ONLINE MARKETPLACE”**

Submitted by

**Disha Yogesh Supekar 202101103154**

**Vedshree Rajesh Kulkarni 202101103149**

is a bonafide work carried out by them under the supervision of Ms. Priyanka Deshmukh and it is approved for the subject MAD Lab in academic year 2023-2024 Part-II Semester VI at JNEC, MGM University, Ch. Sambhajinagar.

Date:

Ms. P. P. Borade

Ms. Priyanka Deshmukh Dr. Deepa Deshpande

GuideHead of Department **Dept. of Computer Sci. Dept. of Computer Sci.**

**& Engineering & Engineering**

Dr. H. H. Shinde

**Principal**

MGM’s Jawaharlal Nehru Engineering College, Chh. Sambhajinagar

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**Abstract**

This project presents the development of a mobile application for an online marketplace. It utilizes Java, Android Studio, and Firebase to create a user-friendly platform for browsing and purchasing products, along with an administrative interface for product and user management.

Key features include onboarding, secure authentication, a dynamic homepage displaying product categories and new arrivals, detailed product descriptions, cart management, and Razorpay integration for payments.

Administrators access an exclusive dashboard via Firebase for managing products and users. Android development concepts like fragments, RecyclerView, and Firebase Firestore were applied.

The report details requirements, design, implementation, testing, challenges, and future enhancements, serving as a guide for understanding the app's architecture and functionality.

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1. **INTRODUCTION**

**1.1 Introduction:**

In the ever-evolving landscape of e-commerce, the demand for secure, user-friendly, and feature-rich online marketplace platforms is at an all-time high. With the proliferation of smartphones and the increasing penetration of internet services, mobile applications have become the primary gateway for users to engage in online shopping. In response to this trend, our project aims to develop an Android application using Java and Android Studio that serves as a comprehensive online marketplace.

**1.2 Project Objective:**

Online Marketplace is an Android application for prioritizing user experience, security, and scalability. The key objectives are:

1. User-Friendly Interface: Create an intuitive interface for easy navigation and interaction, ensuring accessibility for users of all levels.

2.Secure Authentication: Implement robust authentication methods to safeguard user accounts and data privacy.

3. Efficient Onboarding and Navigation: Streamline the registration process to minimize user friction and encourage engagement and provide intuitive navigation.

4. Smart Purchase: Enable users to view detailed product information and make purchases accordingly and apply Android development concepts effectively to ensure a smooth user experience.

5 Comprehensive Product Management: Provide features for browsing, searching, and managing products and carts efficiently.

6. Integrated Payment: Integrate trusted payment gateways for secure transactions, adhering to industry standards.

7. Database Synchronization: Utilize Firebase for real-time data synchronization and scalable backend management.

8. Personalization: Allow users to customize profiles and view cart and address history for personalized experiences.

9. Security and Privacy: Implement stringent measures to protect user data and ensure secure transactions.

**1.3 Project Scope:**

Online Marketplace is an Android application with the following core features:

1. User Authentication:

* Implement secure user registration and login functionality using Firebase Authentication.
* Ensure only authorized users can access the app and its features.

2. Homepage Features:

* Onboarding screen to introduce new users to the app.
* Homepage with dynamic sections:
* Image slider for showcasing offers.
* Glider for browsing categories and new products.
* Grid view for displaying popular products.

3. Product Management:

* Enable users to view detailed product descriptions including images, name, price, rating, and quantity control.
* Provide options for users to add products to their cart or purchase them directly.
* Implement a cart functionality for managing selected items before checkout.

4. Admin Functionality:

* Admin access to Firebase console for managing products and users.
* Ability to reset passwords and disable/delete user accounts for security purposes.

5. Payment Integration:

* Integrate Razorpay for secure payment processing, allowing users to complete transactions seamlessly within the app.

6. Database Structure:

* Design and implement a Firestore database with 6 collections:
* Add to cart
* All products
* Category
* Current users
* New products
* Show all

7. Technology Stack:

* Utilize Java for backend logic and Android app development.
* Develop the app using Android Studio as the primary IDE.
* Implement Firebase for real-time database operations and user authentication.

8. Project Management:

* Adhere to a structured development approach with clear milestones and deliverables.
* Ensure effective communication between team members for timely updates and issue resolution.
* Conduct thorough testing to identify and fix any bugs or usability issues.

9. Scalability and Future Enhancements:

* Design the app architecture to accommodate future updates and additional features.
* Consider scalability factors such as increasing user base and expanding product categories.

**2. LITERATURE SURVEY**

**E-Commerce Trends and Statistics:** The global e-commerce market reached a total of $6.3 trillion in market value in 2023. 58.4% of the online audience makes at least one purchase every week. E-commerce websites took up 22.3% of retail sales in 2023. Mobile commerce is expected to account for 42.9% of total e-commerce sales by 2024. The average shopping cart abandonment rate is 70.19% across e-commerce markets.

**Security and Privacy:** Various studies highlight common security threats faced by e-commerce applications, including phishing attacks, SQL injection, cross-site scripting (XSS), and account takeover fraud. A Research by(2020)identifies the increasing sophistication of malware targeting mobile e-commerce applications, emphasizing the importance of implementing robust security measures. A study in(2019) explores the impact of distributed denial-of-service (DDoS) attacks on e-commerce platforms, emphasizing the need for proactive mitigation strategies to ensure uninterrupted service availability.

**Mobile Application Development for Android:** The Android Software Development Kit (SDK) and Android Studio are fundamental tools for Android app development. Research in (2019) provides an overview of the features and capabilities of Android Studio, including code editing, debugging, and performance profiling tools.

**Social E-Commerce:** In 2022, social commerce acquired the online market. However, with an impending economic collapse, customers are becoming more choosy about what they buy and have more sophisticated wants. However, this trend shows no sign of slowing down. The Social Shopping Report from Sprout shows that 98% of consumers have made at least one purchase from social media sites in 2022.

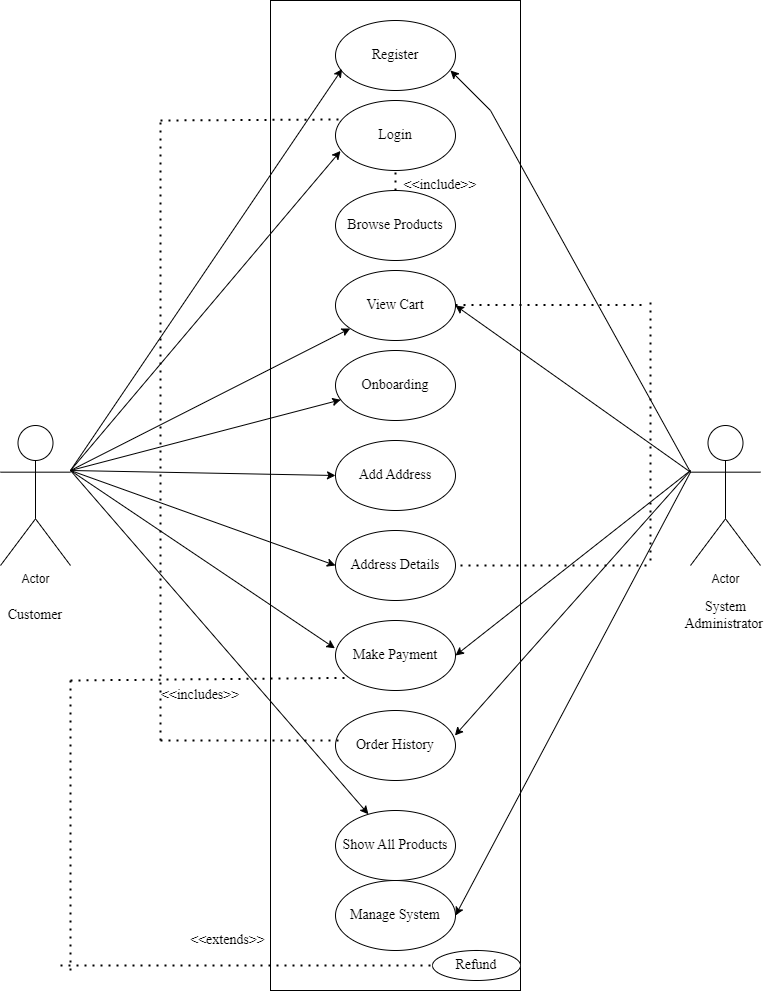
**3.** **SYSTEM DESIGN AND IMPLEMENTATION**

**3.1 Problem Definition:**

The problem addressed by this Mobile Application Development Project is the creation of a robust and user-friendly online marketplace application for Android devices. This application aims to provide a seamless shopping experience for users by incorporating essential features such as user authentication, registration, and login functionalities. Additionally, it offers a diverse range of browsing options, including an image slider for showcasing offers, category gliders for browsing different product categories, and a grid view for popular products. The system ensures secure authentication through Firebase Authentication and facilitates efficient management of user accounts, including password resets and account deletions for administrators. Furthermore, it enables users to add items to their cart, select delivery addresses, and proceed with secure payments using Razorpay integration. The project focuses on leveraging modern technologies and Android components to deliver a comprehensive solution that meets the needs of both users and administrators in the online marketplace domain.

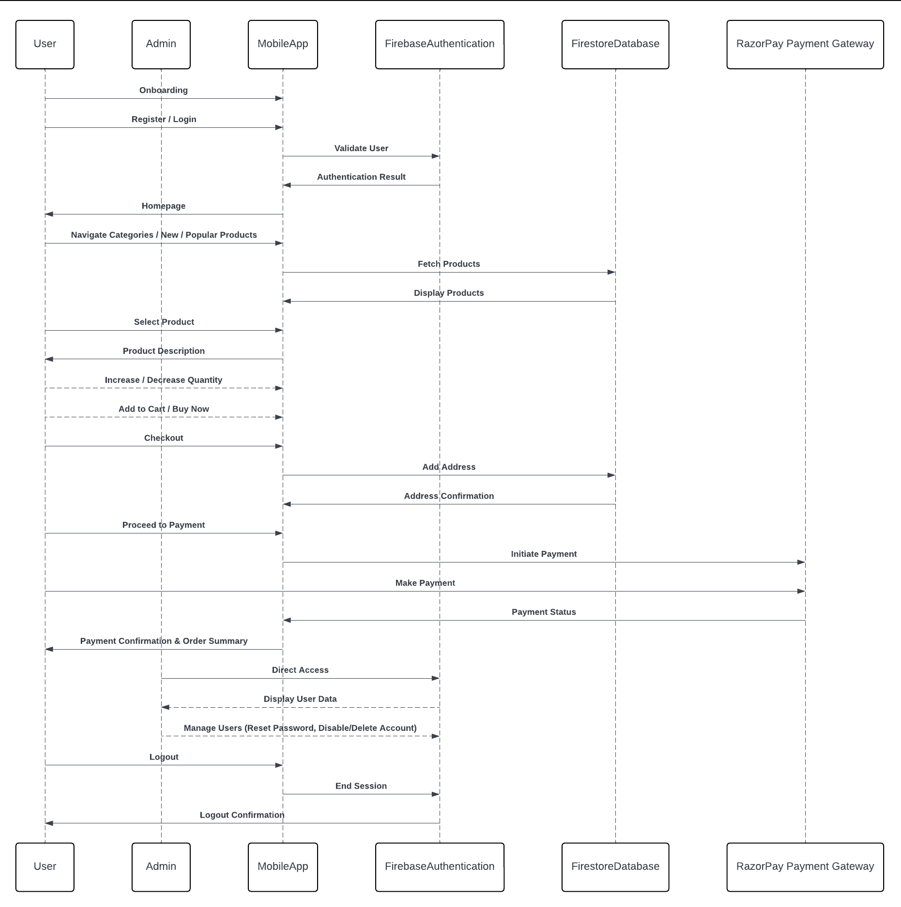
**3.2 UML Diagrams:**

3.2.1 Use Case Diagram:



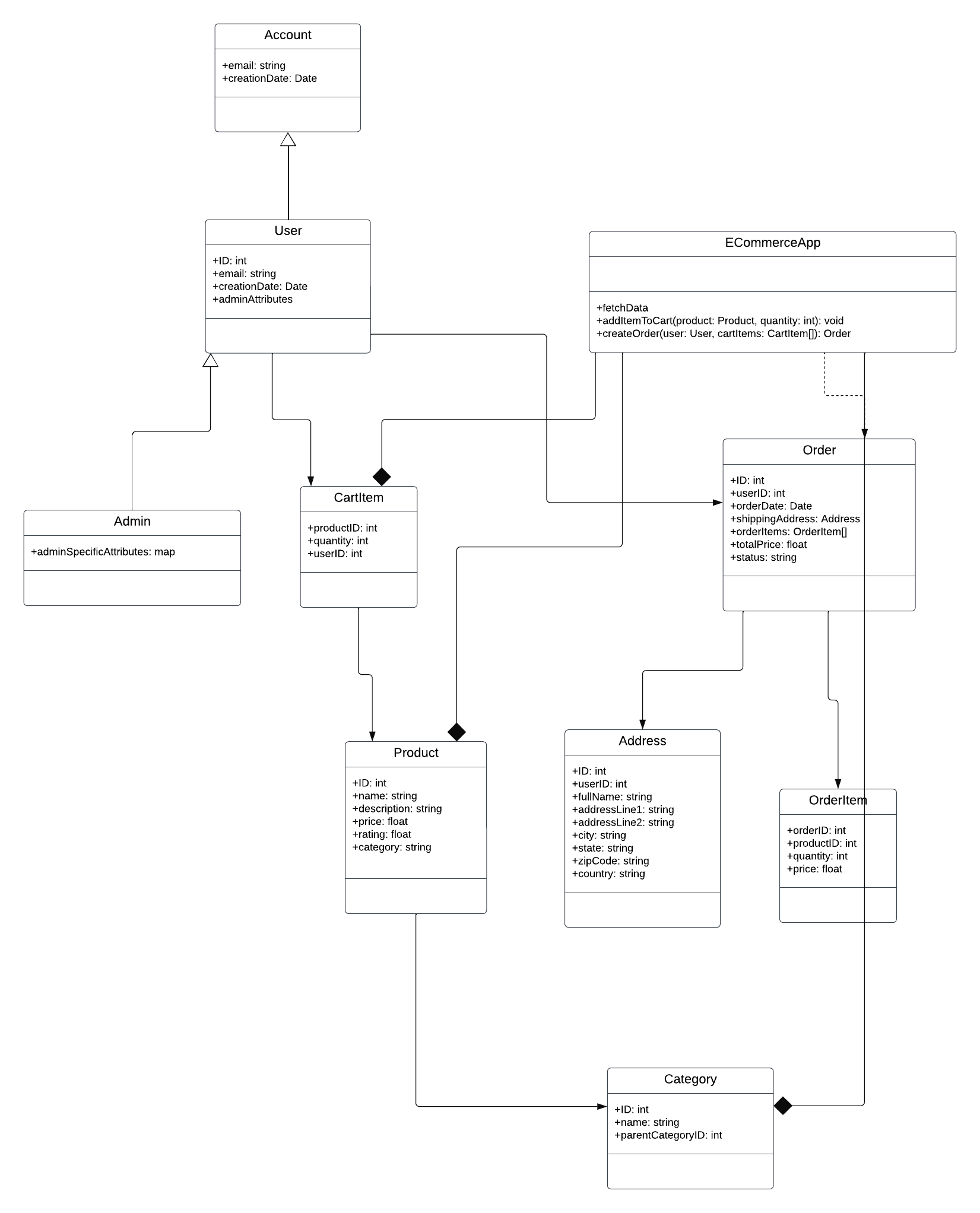
**Fig. 3.2.1 Use Case Diagram**

3.2.2 Sequence Diagram :



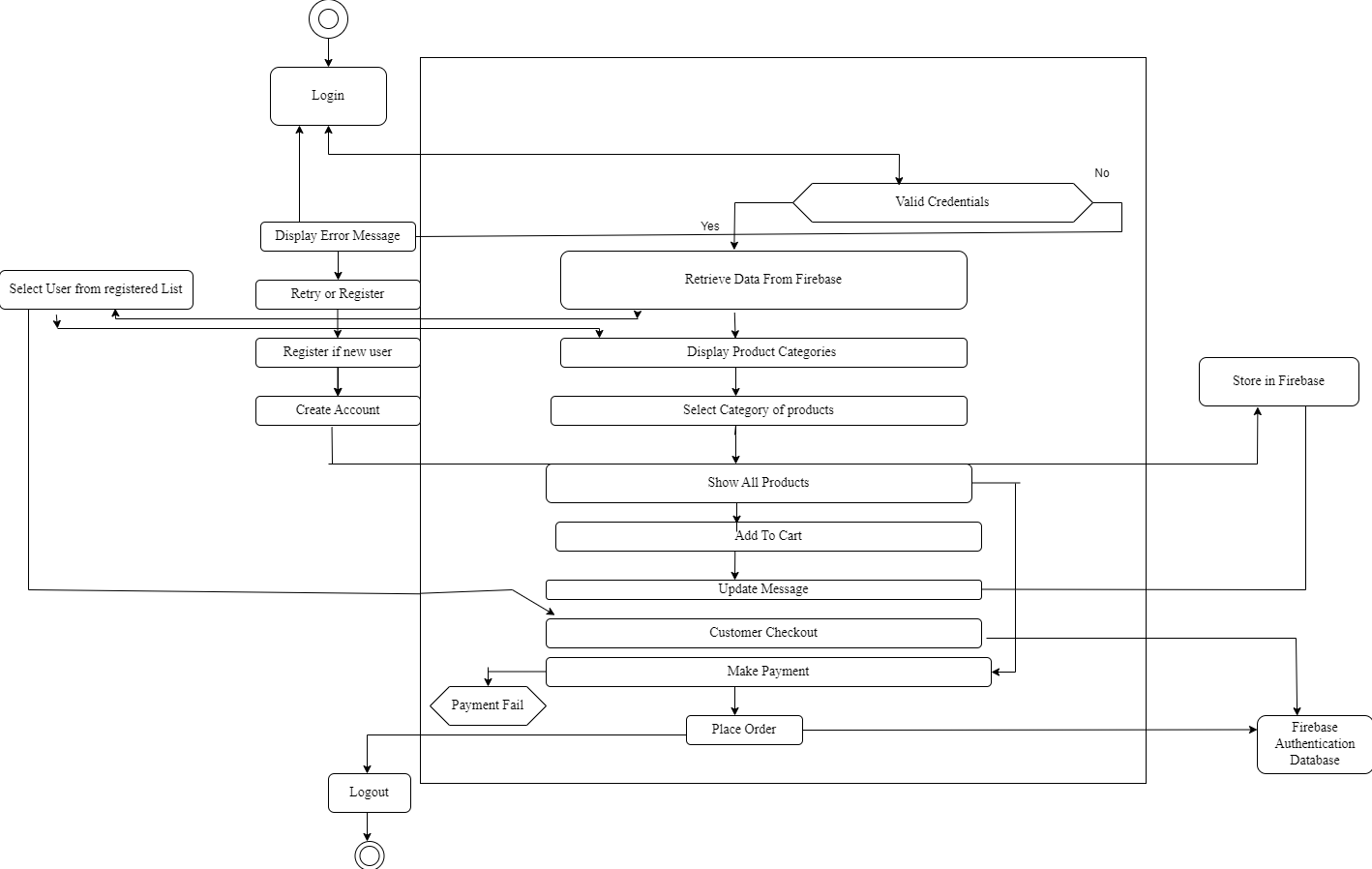
**Fig. 3.2.2 Sequence Diagram**

3.2.3 Class Diagram:



**Fig. 3.2.3 Class Diagram**

3.2.4 Activity Diagram:

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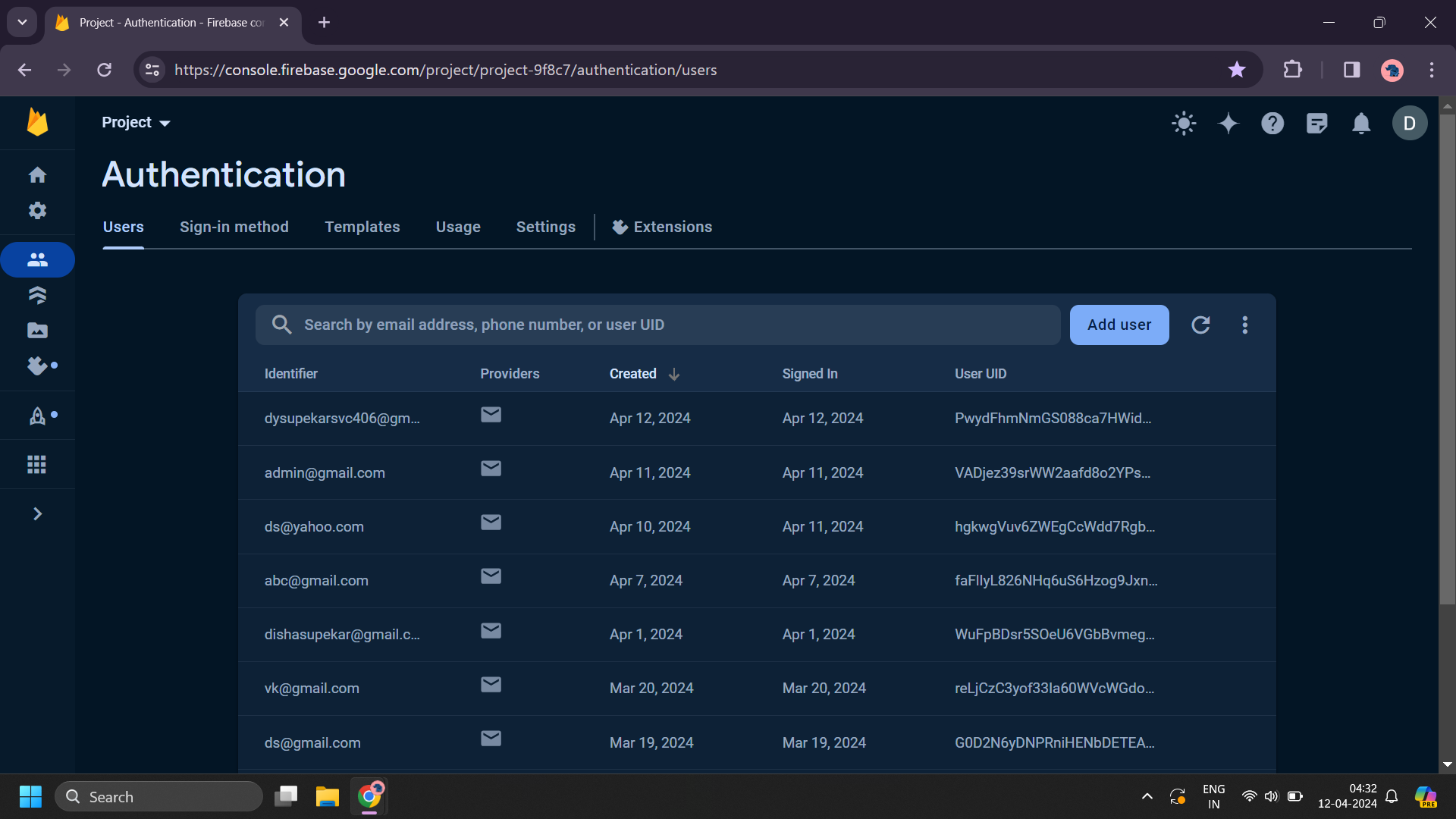
**Fig. 3.2.4 Activity Diagram**

**3.3 Implementation:**

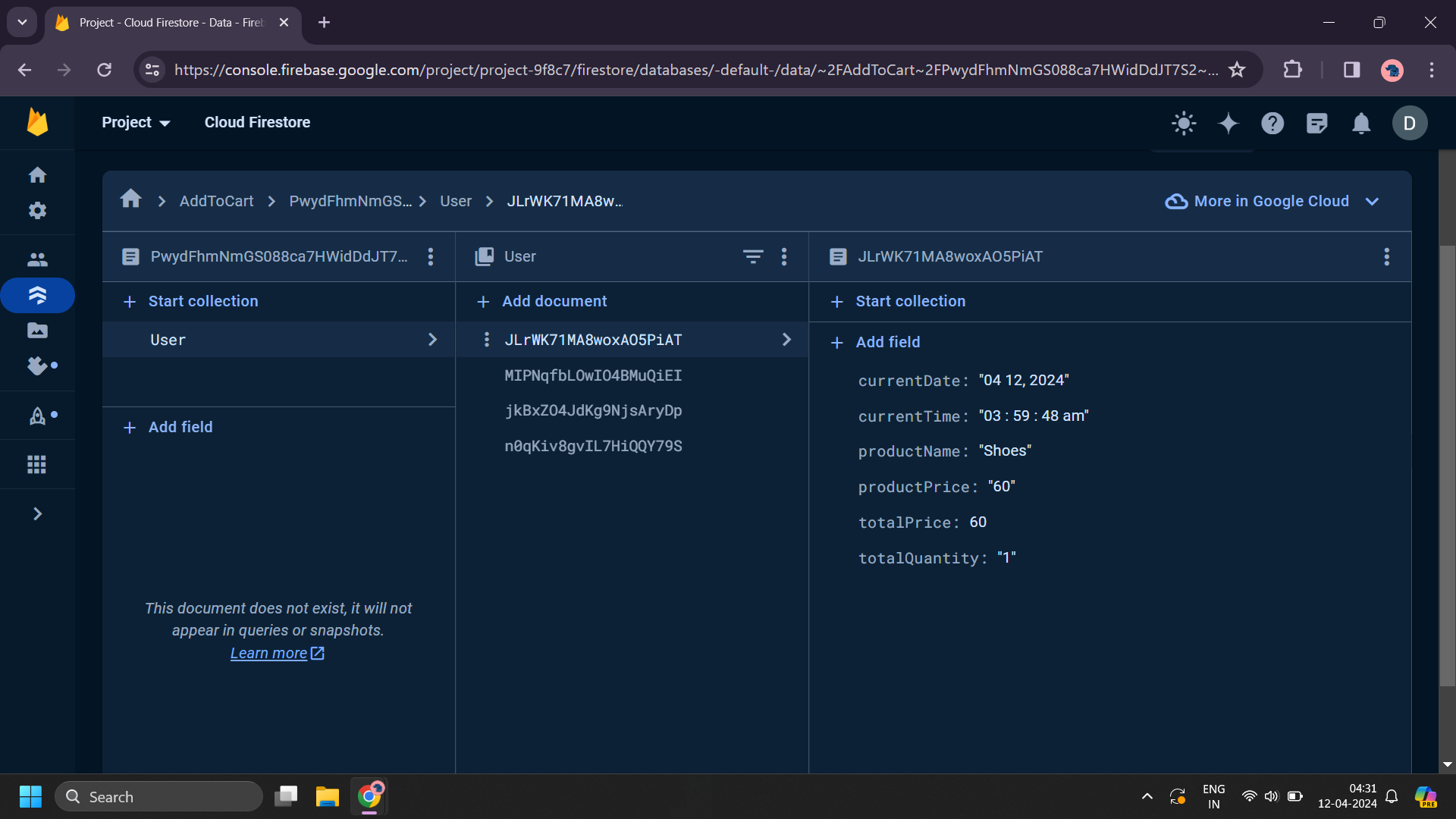
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| --- | --- |
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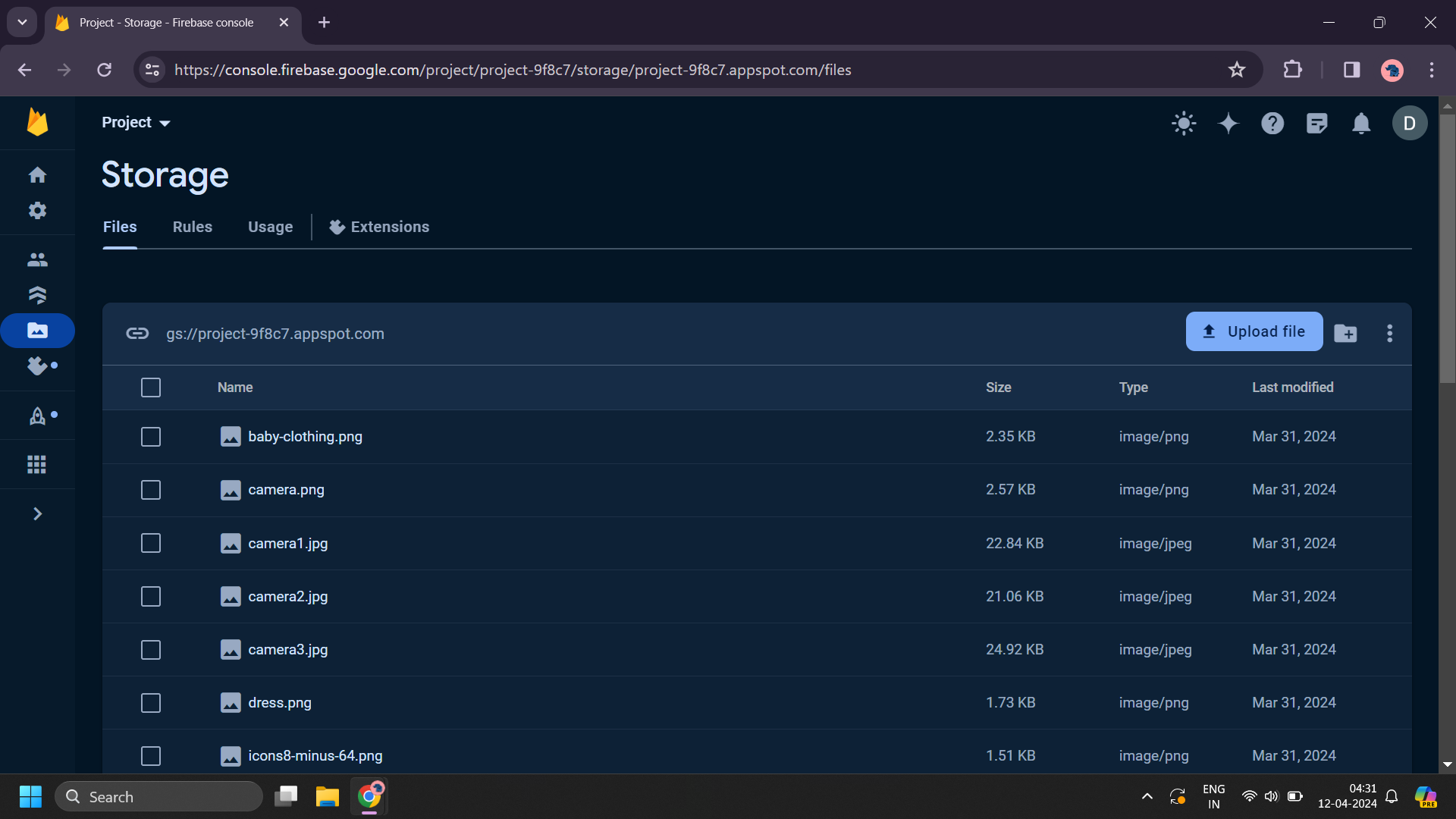
| **Fig.** **3.3.9 Add Address** | **Fig. 3.3.10 View Address** |
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| **Fig. 3.3.11 Payment Details** | **Fig. 3.3.12 Checkout** |

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**Fig. 3.3.13 Firebase Authentication**

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**Fig. 3.3.14 Firebase Database**

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**Fig. 3.3.15 Firebase Storage**

| **OnBoardingActivity.java**  package com.example.project.activities;  import androidx.appcompat.app.AppCompatActivity;  import androidx.core.content.ContextCompat;  import androidx.core.text.HtmlCompat;  import androidx.viewpager.widget.ViewPager;  import android.content.Intent;  import android.os.Bundle;  import android.view.View;  import android.view.WindowManager;  import android.view.animation.Animation;  import android.view.animation.AnimationUtils;  import android.widget.Button;  import android.widget.LinearLayout;  import android.widget.TextView;  import com.example.project.R;  import com.example.project.adapters.SliderAdapter;  public class OnBoardingActivity extends AppCompatActivity {  ViewPager viewPager;  LinearLayout dotsLayout;  Button btn;  SliderAdapter sliderAdapter;  TextView[] dots;  Animation animation;  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  *//Hide status bar* getWindow().setFlags(WindowManager.LayoutParams.*FLAG\_FULLSCREEN*, WindowManager.LayoutParams.*FLAG\_FULLSCREEN*);  setContentView(R.layout.*activity\_on\_boarding*);  *// Hide toolbar*  if (getSupportActionBar() != null) {  getSupportActionBar().hide();}  viewPager = findViewById(R.id.*slider*);  dotsLayout = findViewById(R.id.*dots*);  btn = findViewById(R.id.*get\_started\_btn*);  addDots(0);  viewPager.addOnPageChangeListener(changeListener);  *// Call Adapter*  sliderAdapter = new SliderAdapter(this);  viewPager.setAdapter(sliderAdapter);  btn.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) { startActivity(new Intent(OnBoardingActivity.this, RegisterActivity.class));  finish();}});}  private void addDots(int position) {  dots = new TextView[3];  dotsLayout.removeAllViews();  for (int i = 0; i < dots.length; i++) {  dots[i] = new TextView(this); dots[i].setText(HtmlCompat.*fromHtml*("&#8226;", HtmlCompat.*FROM\_HTML\_MODE\_LEGACY*)); *// Replaced Html.fromHtml() with HtmlCompat.fromHtml()*  dots[i].setTextSize(35);  dotsLayout.addView(dots[i]);}  if (dots.length > 0) { dots[position].setTextColor(ContextCompat.*getColor*(this, R.color.*pink*)); *// Replaced getColor() with ContextCompat.getColor()*  }}  ViewPager.OnPageChangeListener changeListener = new ViewPager.OnPageChangeListener() {  @Override  public void onPageScrolled(int position, float positionOffset, int positionOffsetPixels) {}  @Override  public void onPageSelected(int position) {  addDots(position);  if (position == 0) {  btn.setVisibility(View.*INVISIBLE*);  } else if (position == 1) {  btn.setVisibility(View.*INVISIBLE*);  } else {animation = AnimationUtils.*loadAnimation*(OnBoardingActivity.this, R.anim.*slide\_animation*);  btn.setAnimation(animation);  btn.setVisibility(View.*VISIBLE*);}}  @Override  public void onPageScrollStateChanged(int state) {  }};} | **RegisterActivity.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import android.content.Intent;  import android.content.SharedPreferences;  import android.os.Bundle;  import android.text.TextUtils;  import android.view.View;  import android.widget.EditText;  import android.widget.Toast;  import com.example.project.R;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.auth.AuthResult;  import com.google.firebase.auth.FirebaseAuth;  public class RegisterActivity extends AppCompatActivity {  EditText name, email, password;  private FirebaseAuth auth;  SharedPreferences sharedPreferences;  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_register);  if (getSupportActionBar() != null) {  getSupportActionBar().hide(); }  auth = FirebaseAuth.getInstance();  if (auth.getCurrentUser()!=null){  startActivity(new Intent(RegisterActivity.this, MainActivity.class));  finish(); }  name = findViewById(R.id.name);  email = findViewById(R.id.email);  password = findViewById(R.id.password);  sharedPreferences = getSharedPreferences("onBoardingScreen",MODE\_PRIVATE);  boolean isFirstTime = sharedPreferences.getBoolean("firstTime",true);  if(isFirstTime){  SharedPreferences.Editor editor = sharedPreferences.edit();  editor.putBoolean("firstTime",false);  editor.commit();  Intent intent = new Intent(RegisterActivity.this, OnBoardingActivity.class);  startActivity(intent);  finish();}}  public void signup(View view){  String userName = name.getText().toString();  String userEmail = email.getText().toString();  String userPassword = password.getText().toString();  if(TextUtils.isEmpty(userName)){  Toast.makeText(this,"Enter Name!",Toast.LENGTH\_SHORT).show();  return;}  if(TextUtils.isEmpty(userEmail)){  Toast.makeText(this,"Enter Email!",Toast.LENGTH\_SHORT).show();  return;}  if(TextUtils.isEmpty(userPassword)){  Toast.makeText(this,"Enter Password!",Toast.LENGTH\_SHORT).show();  return;}  if(userPassword.length()<6){  Toast.makeText(this,"Password is too short!, Enter minimum 6 characters",Toast.LENGTH\_SHORT).show();  return; } auth.createUserWithEmailAndPassword(userEmail,userPassword).addOnCompleteListener(RegisterActivity.this, new OnCompleteListener<AuthResult>() {  @Override  public void onComplete(@NonNull Task<AuthResult> task) {  if (task.isSuccessful()){  Toast.makeText(RegisterActivity.this, "Successfully Registered",Toast.LENGTH\_SHORT).show();  startActivity(new Intent(RegisterActivity.this,MainActivity.class));  } else { Toast.makeText(RegisterActivity.this,"Registration Failed"+task.getException(),Toast.LENGTH\_SHORT).show(); }}});  //startActivity(new Intent(RegisterActivity.this,MainActivity.class));}  public void signin(View view){  startActivity(new Intent(RegisterActivity.this, LoginActivity.class));}} |
| --- | --- |
| **LoginActivity.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import android.annotation.SuppressLint;  import android.content.Intent;  import android.net.Uri;  import android.os.Bundle;  import android.text.TextUtils;  import android.view.View;  import android.widget.EditText;  import android.widget.Toast;  import com.example.project.R;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.auth.AuthResult;  import com.google.firebase.auth.FirebaseAuth;  public class LoginActivity extends AppCompatActivity {  EditText email, password;  private FirebaseAuth auth;  @SuppressLint("MissingInflatedId")  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_login);  if (getSupportActionBar() != null) {  getSupportActionBar().hide();}  auth = FirebaseAuth.getInstance();  email = findViewById(R.id.email);  password = findViewById(R.id.password);}  public void signup(View view){  startActivity(new Intent(LoginActivity.this, RegisterActivity.class)); }  public void signin(View view){  String userEmail = email.getText().toString();  String userPassword = password.getText().toString();  if(TextUtils.isEmpty(userEmail)){  Toast.makeText(this,"Enter Email!",Toast.LENGTH\_SHORT).show();  return;}if(TextUtils.isEmpty(userPassword)){  Toast.makeText(this,"Enter Password!",Toast.LENGTH\_SHORT).show();  return;} if(userPassword.length()<6){  Toast.makeText(this,"Password is too short!, Enter minimum 6 characters",Toast.LENGTH\_SHORT).show();  return;}  auth.signInWithEmailAndPassword(userEmail, userPassword).addOnCompleteListener(LoginActivity.this, new OnCompleteListener<AuthResult>() {  @Override  public void onComplete(@NonNull Task<AuthResult> task) {  if(task.isSuccessful()){  checkAdminStatus(); // Check if the logged-in user is an admin }else{  Toast.makeText(LoginActivity.this,"Login Failed!"+task.getException(),Toast.LENGTH\_SHORT).show(); }}});}  private void checkAdminStatus() {  String userEmail = email.getText().toString();  boolean isAdmin = userEmail.equals("admin@gmail.com"); // Example: assuming "admin@gmail.com" is an admin email  if(isAdmin) { // Redirect the admin to the Firebase Authentication Users page  String url = "https://console.firebase.google.com/project/your-project-id/authentication/users";  Intent intent = new Intent(Intent.ACTION\_VIEW);  intent.setData(Uri.parse(url));  startActivity(intent);  finish();} else {  startActivity(new Intent(LoginActivity.this, MainActivity.class));  finish(); // Finish LoginActivity to prevent returning to it when pressing back  }}} | **MainActivity.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import androidx.appcompat.widget.Toolbar;  import androidx.fragment.app.Fragment;  import androidx.fragment.app.FragmentTransaction;  import android.content.Intent;  import android.os.Bundle;  import android.view.Menu;  import android.view.MenuItem;  import com.example.project.R;  import com.example.project.fragments.HomeFragment;  import com.google.firebase.auth.FirebaseAuth;  public class MainActivity extends AppCompatActivity {  Fragment homeFragment;  FirebaseAuth auth;  Toolbar toolbar;  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_main);  auth = FirebaseAuth.getInstance();  toolbar = findViewById(R.id.home\_toolbar);  setSupportActionBar(toolbar); getSupportActionBar().setDisplayHomeAsUpEnabled(true); getSupportActionBar().setHomeAsUpIndicator(R.drawable.ic\_baseline\_menu\_24);  homeFragment = new HomeFragment();  loadFragment(homeFragment);  }  private void loadFragment(Fragment homeFragment) {  FragmentTransaction transaction = getSupportFragmentManager().beginTransaction(); transaction.replace(R.id.home\_container,homeFragment);  transaction.commit();  }  @Override  public boolean onCreateOptionsMenu(Menu menu)  { getMenuInflater().inflate(R.menu.main\_menu,menu);  return true;  }  @Override  public boolean onOptionsItemSelected(@NonNull MenuItem item) {  int id = item.getItemId();  if( id == R.id.menu\_logout)  {  auth.signOut();  startActivity(new Intent(MainActivity.this, RegisterActivity.class));  finish();  }  else if(id == R.id.menu\_my\_cart)  {  startActivity(new Intent(MainActivity.this, CartActivity.class));  }  return true;  }  } |
| **ShowAllActivity.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import androidx.appcompat.widget.Toolbar;  import androidx.recyclerview.widget.GridLayoutManager;  import androidx.recyclerview.widget.RecyclerView;  import android.annotation.SuppressLint;  import android.os.Bundle;  import android.view.View;  import com.example.project.R;  import com.example.project.adapters.ShowAllAdapter;  import com.example.project.models.ShowAllModel;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.firestore.DocumentSnapshot;  import com.google.firebase.firestore.FirebaseFirestore;  import com.google.firebase.firestore.QuerySnapshot;  import java.util.ArrayList;  import java.util.List;  public class ShowAllActivity extends AppCompatActivity {  RecyclerView recyclerView;  ShowAllAdapter showAllAdapter;  List<ShowAllModel> showAllModelList;  Toolbar toolbar;  FirebaseFirestore firestore;  @SuppressLint("WrongViewCast")  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_show\_all);  toolbar = findViewById(R.id.show\_all\_toolbar);  setSupportActionBar(toolbar); getSupportActionBar().setDisplayHomeAsUpEnabled(true);  toolbar.setNavigationOnClickListener(new View.OnClickListener () {  @Override  public void onClick(View v) {  finish();  }});  String type = getIntent().getStringExtra("type");  firestore = FirebaseFirestore.getInstance();  recyclerView = findViewById(R.id.show\_all\_rec);  recyclerView.setLayoutManager(new GridLayoutManager(this, 2));  showAllModelList = new ArrayList<>();  showAllAdapter = new ShowAllAdapter(this, showAllModelList);  recyclerView.setAdapter(showAllAdapter);  if(type == null || type.isEmpty()){  firestore.collection("ShowAll")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc :task.getResult().getDocuments()){  ShowAllModel showAllModel = doc.toObject(ShowAllModel.class);  showAllModelList.add(showAllModel); showAllAdapter.notifyDataSetChanged();}}}});}  if(type != null && type.equalsIgnoreCase("men")){  firestore.collection("ShowAll").whereEqualTo("type","men")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc :task.getResult().getDocuments()){  ShowAllModel showAllModel = doc.toObject(ShowAllModel.class);  showAllModelList.add(showAllModel); showAllAdapter.notifyDataSetChanged();  }} }});  }  if(type != null && type.equalsIgnoreCase("women")){ firestore.collection("ShowAll").whereEqualTo("type","women")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc :task.getResult().getDocuments()){  ShowAllModel showAllModel = doc.toObject(ShowAllModel.class);  showAllModelList.add(showAllModel); showAllAdapter.notifyDataSetChanged();  }} }}); }  if(type != null && type.equalsIgnoreCase("watch")){  firestore.collection("ShowAll").whereEqualTo("type","watch")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc :task.getResult().getDocuments()){  ShowAllModel showAllModel = doc.toObject(ShowAllModel.class);  showAllModelList.add(showAllModel); showAllAdapter.notifyDataSetChanged();  }}}});}  if(type != null && type.equalsIgnoreCase("camera")){ firestore.collection("ShowAll").whereEqualTo("type","camera")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc :task.getResult().getDocuments()){  ShowAllModel showAllModel = doc.toObject(ShowAllModel.class); showAllModelList.add(showAllModel);  showAllAdapter.notifyDataSetChanged();  }} }}); }  if(type != null && type.equalsIgnoreCase("kids")){  firestore.collection("ShowAll").whereEqualTo("type","kids")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc :task.getResult().getDocuments()){  ShowAllModel showAllModel = doc.toObject(ShowAllModel.class);  showAllModelList.add(showAllModel); showAllAdapter.notifyDataSetChanged(); } }} }); }  if(type != null && type.equalsIgnoreCase("shoes")){ firestore.collection("ShowAll").whereEqualTo("type","shoes")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc :task.getResult().getDocuments()){  ShowAllModel showAllModel = doc.toObject(ShowAllModel.class);  showAllModelList.add(showAllModel); showAllAdapter.notifyDataSetChanged();  }}}}); }}}  **AddressActivity.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import androidx.appcompat.widget.Toolbar;  import androidx.recyclerview.widget.LinearLayoutManager;  import androidx.recyclerview.widget.RecyclerView;  import android.content.Intent;  import android.os.Bundle;  import android.view.View;  import android.widget.Button;  import com.example.project.R;  import com.example.project.adapters.AddressAdapter;  import com.example.project.models.AddressModel;  import com.example.project.models.NewProductsModel;  import com.example.project.models.PopularProductsModel;  import com.example.project.models.ShowAllModel;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.auth.FirebaseAuth;  import com.google.firebase.firestore.DocumentSnapshot;  import com.google.firebase.firestore.FirebaseFirestore;  import com.google.firebase.firestore.QuerySnapshot;  import java.util.ArrayList;  import java.util.List;  public class AddressActivity extends AppCompatActivity implements AddressAdapter.SelectedAddress{  Button addAddress;  RecyclerView recyclerView;  private List<AddressModel> addressModelList;  private AddressAdapter addressAdapter ;  FirebaseFirestore firestore;  FirebaseAuth auth;  Button addAddressBtn,paymentBtn;  Toolbar toolbar;  String mAddress = "";  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_address);  toolbar = findViewById(R.id.address\_toolbar);  setSupportActionBar(toolbar); getSupportActionBar().setDisplayHomeAsUpEnabled(true);  toolbar.setNavigationOnClickListener(new View.OnClickListener () {  @Override  public void onClick(View v) {  finish();} });  //get data from detailed activity  Object obj = getIntent().getSerializableExtra("item");  firestore = FirebaseFirestore.getInstance();  auth = FirebaseAuth.getInstance();  recyclerView = findViewById(R.id.address\_recycler);  paymentBtn = findViewById(R.id.payment\_btn);  recyclerView.setLayoutManager(new LinearLayoutManager(getApplicationContext()));  addressModelList = new ArrayList<>();  addressAdapter = new AddressAdapter(getApplicationContext(),addressModelList, this);  recyclerView.setAdapter(addressAdapter); firestore.collection("CurrentUser").document(auth.getCurrentUser().getUid()) .collection("Address").get().addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if(task.isSuccessful()) {  for(DocumentSnapshot doc : task.getResult().getDocuments()) {  AddressModel addressModel = doc.toObject(AddressModel.class);  addressModelList.add(addressModel);  addressAdapter.notifyDataSetChanged(); }}}});  paymentBtn.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  //startActivity(new Intent(AddressActivity.this, PaymentActivity.class));  double amount = 0;  if(obj instanceof NewProductsModel) {  NewProductsModel newProductsModel = (NewProductsModel) obj;  amount = newProductsModel.getPrice(); }  if(obj instanceof PopularProductsModel) {  PopularProductsModel popularProductsModel = (PopularProductsModel) obj;  amount =popularProductsModel.getPrice();}  if(obj instanceof ShowAllModel){  ShowAllModel showAllModel= (ShowAllModel) obj;  amount = showAllModel.getPrice();}  Intent intent = new Intent(AddressActivity.this,PaymentActivity.class);  intent.putExtra("amount",amount);  startActivity(intent);}});  addAddress = findViewById(R.id.add\_address\_btn);  addAddress.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  startActivity(new Intent(AddressActivity.this, AddAddressActivity.class));}});}  @Override  public void setAddress(String address) {  mAddress=address;  }  } | **CartActivity.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import androidx.appcompat.widget.Toolbar;  import androidx.localbroadcastmanager.content.LocalBroadcastManager;  import androidx.recyclerview.widget.LinearLayoutManager;  import androidx.recyclerview.widget.RecyclerView;  import android.annotation.SuppressLint;  import android.content.BroadcastReceiver;  import android.content.Context;  import android.content.Intent;  import android.content.IntentFilter;  import android.os.Bundle;  import android.view.View;  import android.widget.Button;  import android.widget.TextView;  import com.example.project.R;  import com.example.project.adapters.MyCartAdapter;  import com.example.project.models.MyCartModel;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.auth.FirebaseAuth;  import com.google.firebase.firestore.DocumentSnapshot;  import com.google.firebase.firestore.FirebaseFirestore;  import com.google.firebase.firestore.QuerySnapshot;  import java.util.ArrayList;  import java.util.List;  public class CartActivity extends AppCompatActivity {  int overAllTotalAmount;  Toolbar toolbar;  TextView overAllAmount;  RecyclerView recyclerView;  List<MyCartModel> cartModelList;  MyCartAdapter cartAdapter;  Button buyNow;  private FirebaseAuth auth;  private FirebaseFirestore firestore;  @SuppressLint("MissingInflatedId")  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_cart);  auth = FirebaseAuth.getInstance();  firestore = FirebaseFirestore.getInstance();  toolbar = findViewById(R.id.my\_cart\_toolbar);  buyNow = findViewById(R.id.buy\_now);  setSupportActionBar(toolbar);  getSupportActionBar().setDisplayHomeAsUpEnabled(true);  toolbar.setNavigationOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  finish();}});  //get data from my cart adapter  //BroadcastReceiver mMessageReceiver = null; LocalBroadcastManager.getInstance(this).registerReceiver(mMessageReceiver, new IntentFilter("MyTotalAmount"));  recyclerView = findViewById(R.id.cart\_rec);  overAllAmount = findViewById(R.id.total\_price);  recyclerView.setLayoutManager(new LinearLayoutManager(this));  cartModelList = new ArrayList<>();  cartAdapter = new MyCartAdapter(this, cartModelList);  recyclerView.setAdapter(cartAdapter);  Button buyNow = findViewById(R.id.buy\_now);  buyNow.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  startActivity(new Intent(CartActivity.this, AddAddressActivity.class));  } }); firestore.collection("AddToCart").document(auth.getCurrentUser().getUid()) .collection("User").get().addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if (task.isSuccessful()) {  for (DocumentSnapshot doc : task.getResult().getDocuments()) {  MyCartModel myCartModel = doc.toObject(MyCartModel.class);  cartModelList.add(myCartModel);  cartAdapter.notifyDataSetChanged();  }}}});}  public BroadcastReceiver mMessageReceiver = new BroadcastReceiver() {  @SuppressLint("SetTextI18n")  @Override  public void onReceive(Context context, Intent intent) {  int totalBill = intent.getIntExtra("totalAmount", 0);  overAllAmount.setText("Total Amount: " + totalBill + "$");}};}  **AddAddress.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import androidx.appcompat.widget.Toolbar;  import android.annotation.SuppressLint;  import android.content.Intent;  import android.os.Bundle;  import android.view.View;  import android.widget.Button;  import android.widget.EditText;  import android.widget.Toast;  import com.example.project.R;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.auth.FirebaseAuth;  import com.google.firebase.firestore.DocumentReference;  import com.google.firebase.firestore.FirebaseFirestore;  import java.util.HashMap;  import java.util.Map;  public class AddAddressActivity extends AppCompatActivity {  EditText name, address, city, postalCode, phoneNumber;  Toolbar toolbar;  Button addAddressBtn;  FirebaseFirestore firestore;  FirebaseAuth auth;  @SuppressLint({"RestrictedApi", "MissingInflatedId"})  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_add\_address);  toolbar = findViewById(R.id.add\_address\_toolbar);  setSupportActionBar(toolbar);  getSupportActionBar().setDisplayHomeAsUpEnabled(true);  toolbar.setNavigationOnClickListener(new View.OnClickListener () {  @Override  public void onClick(View v) {  finish();}});  auth = FirebaseAuth.getInstance();  firestore = FirebaseFirestore.getInstance();  name = findViewById(R.id.ad\_name);  address = findViewById(R.id.ad\_address);  city = findViewById(R.id.ad\_city);  postalCode = findViewById(R.id.ad\_code);  phoneNumber = findViewById(R.id.ad\_phone);  //addAddressBtn = findViewById(R.id.add\_address\_btn);  addAddressBtn = findViewById(R.id.ad\_add\_address);  addAddressBtn.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  String userName = name.getText().toString();  String userCity = city.getText().toString();  String userAddress = address.getText().toString();  String userCode = postalCode.getText().toString();  String userNumber = phoneNumber.getText().toString();  String final\_address = "";  if (!userName.isEmpty()) {  final\_address += userName;}  if (!userCity.isEmpty()) {  final\_address += userCity; }  if (!userAddress.isEmpty()) {  final\_address += userAddress;}  if (!userCode.isEmpty()) {  final\_address += userCode; }  if (!userNumber.isEmpty()) {  final\_address += userNumber; }  if (!userName.isEmpty() && !userCity.isEmpty() && !userAddress.isEmpty() && !userCode.isEmpty() && !userNumber.isEmpty()) {  Map<String,String> map = new HashMap<>();  map.put("userAddress",final\_address); firestore.collection("CurrentUser").document(auth.getCurrentUser().getUid()) .collection("Address").add(map).addOnCompleteListener(new OnCompleteListener<DocumentReference>() {  @Override  public void onComplete(@NonNull Task<DocumentReference> task) {  if(task.isSuccessful()){ Toast.makeText(AddAddressActivity.this, "Address Added",Toast.LENGTH\_SHORT).show();  startActivity(new Intent(AddAddressActivity.this,DetailedActivity.class ));  finish(); } } }); } else {  Toast.makeText(AddAddressActivity.this,"Kindly Fill All The Fields", Toast.LENGTH\_SHORT).show();  }}});}}  **PaymentActivity.java**  package com.example.project.activities;  import androidx.appcompat.app.AppCompatActivity;  import androidx.appcompat.widget.Toolbar;  import android.app.Activity;  import android.os.Bundle;  import android.util.Log;  import android.view.View;  import android.widget.Button;  import android.widget.TextView;  import android.widget.Toast;  import com.example.project.R;  import com.razorpay.Checkout;  import com.razorpay.PaymentResultListener;  import org.json.JSONObject;  public class PaymentActivity extends AppCompatActivity implements PaymentResultListener {  double amount = 0.0;  Toolbar toolbar;  TextView subTotal,discount,shipping,total;  Button paymentBtn;  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_payment);  //Toolbar  toolbar = findViewById(R.id.payment\_toolbar);  setSupportActionBar(toolbar); getSupportActionBar().setDisplayHomeAsUpEnabled(true);  toolbar.setNavigationOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  finish();  } });  amount = getIntent().getDoubleExtra("amount",0.0);  subTotal = findViewById(R.id.sub\_total);  discount = findViewById(R.id.discount);  shipping = findViewById(R.id.shipping);  total = findViewById(R.id.total\_amt);  paymentBtn = findViewById(R.id.pay\_btn);  subTotal.setText(amount+"$");  paymentBtn.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  paymentMethod(); } });}  private void paymentMethod() {  Checkout checkout = new Checkout();  final Activity activity = PaymentActivity.this;  try {  JSONObject options = new JSONObject();  //Set Company Name  options.put("name", "My E-Commerce App");  //Ref no  options.put("description", "Reference No. #123456");  //Image to be display  options.put("image", "https://s3.amazonaws.com/rzp-mobile/images/rzp.png");  //options.put("order\_id", "order\_9A33XWu170gUtm");  // Currency type  options.put("currency", "USD");  //double total = Double.parseDouble(mAmountText.getText().toString());  //multiply with 100 to get exact amount in rupee  amount = amount \* 100;  //amount  options.put("amount", amount);  JSONObject preFill = new JSONObject();  //email  preFill.put("email", "developer.kharag@gmail.com");  //contact  preFill.put("contact", "7489347378");  options.put("prefill", preFill);  checkout.open(activity, options);  } catch (Exception e) {  Log.e("TAG", "Error in starting Razorpay Checkout", e);}}  @Override  public void onPaymentSuccess(String s) {  Toast.makeText(this, "Payment Successful", Toast.LENGTH\_SHORT).show();}  @Override  public void onPaymentError(int i, String s) {  Toast.makeText(this, "Payment Cancel", Toast.LENGTH\_SHORT).show();}} |
| **DetailedActivity.java**  package com.example.project.activities;  import androidx.annotation.NonNull;  import androidx.appcompat.app.AppCompatActivity;  import androidx.appcompat.widget.Toolbar;  import android.annotation.SuppressLint;  import android.content.Intent;  import android.os.Bundle;  import android.view.View;  import android.widget.Button;  import android.widget.ImageView;  import android.widget.TextView;  import android.widget.Toast;  import com.bumptech.glide.Glide;  import com.example.project.R;  import com.example.project.models.NewProductsModel;  import com.example.project.models.PopularProductsModel;  import com.example.project.models.ShowAllModel;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.auth.FirebaseAuth;  import com.google.firebase.firestore.DocumentReference;  import com.google.firebase.firestore.FirebaseFirestore;  import java.text.SimpleDateFormat;  import java.util.Calendar;  import java.util.HashMap;  public class DetailedActivity extends AppCompatActivity {  ImageView detailedImg;  TextView rating, name, description, price, quantity;  Button addToCart, buyNow;  ImageView addItems, removeItems;  Toolbar toolbar;  int totalQuantity = 1;  int totalPrice = 0;  //New Products  NewProductsModel newProductsModel = null;  //Popular Products  PopularProductsModel popularProductsModel = null;  //Show All  ShowAllModel showAllModel = null;  FirebaseAuth auth;  private FirebaseFirestore firestore;  @SuppressLint("WrongViewCast")  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.activity\_detailed);  toolbar = findViewById(R.id.detailed\_toolbar);  setSupportActionBar(toolbar); getSupportActionBar().setDisplayHomeAsUpEnabled(true);  toolbar.setNavigationOnClickListener(new View.OnClickListener () {  @Override  public void onClick(View v) {  finish(); }});  firestore = FirebaseFirestore.getInstance();  auth = FirebaseAuth.getInstance();  final Object obj = getIntent().getSerializableExtra("detailed");  if(obj instanceof NewProductsModel){  newProductsModel = (NewProductsModel) obj;  } else if(obj instanceof PopularProductsModel){  popularProductsModel = (PopularProductsModel) obj;  } else if(obj instanceof ShowAllModel){  showAllModel = (ShowAllModel) obj;  }  detailedImg=findViewById(R.id.detailed\_img);  quantity=findViewById(R.id.quantity);  name=findViewById(R.id.detailed\_name);  rating=findViewById(R.id.rating);  description=findViewById(R.id.detailed\_desc);  price=findViewById(R.id.detailed\_price);  addToCart=findViewById(R.id.add\_to\_cart);  buyNow=findViewById(R.id.buy\_now);  addItems=findViewById(R.id.add\_item);  removeItems=findViewById(R.id.remove\_item);  //New Products  if (newProductsModel != null){ Glide.with(getApplicationContext()).load(newProductsModel.getImg\_url()).into(detailedImg);  name.setText(newProductsModel.getName());  rating.setText(newProductsModel.getRating());  description.setText(newProductsModel.getDescription()); price.setText(String.valueOf(newProductsModel.getPrice()));  totalPrice = newProductsModel.getPrice() \* totalQuantity;  }  //Popular Products  if (popularProductsModel != null){ Glide.with(getApplicationContext()).load(popularProductsModel.getImg\_url()).into(detailedImg);  name.setText(popularProductsModel.getName());  rating.setText(popularProductsModel.getRating());  description.setText(popularProductsModel.getDescription()); price.setText(String.valueOf(popularProductsModel.getPrice()));  totalPrice = popularProductsModel.getPrice() \* totalQuantity;  }  //Show Products  if (showAllModel != null){ Glide.with(getApplicationContext()).load(showAllModel.getImg\_url()).into(detailedImg);  name.setText(showAllModel.getName());  rating.setText(showAllModel.getRating());  description.setText(showAllModel.getDescription()); price.setText(String.valueOf(showAllModel.getPrice()));  totalPrice = showAllModel.getPrice() \* totalQuantity; }  //Buy Now  buyNow.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  //startActivity(new Intent(DetailedActivity.this, AddressActivity.class));  Intent intent = new Intent(DetailedActivity.this,AddressActivity.class);  if(newProductsModel != null){  intent.putExtra("item",newProductsModel);}  if(popularProductsModel != null) {  intent.putExtra("item",popularProductsModel);}  if(showAllModel != null) {  intent.putExtra("item",showAllModel); }  startActivity(intent);}});  //Add To Cart  addToCart.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  addtoCart();}});  addItems.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  if (totalQuantity < 10) {  totalQuantity++;  quantity.setText(String.valueOf(totalQuantity));  if (newProductsModel != null) {  totalPrice = newProductsModel.getPrice() \* totalQuantity; }  if (popularProductsModel != null) {  totalPrice = popularProductsModel.getPrice() \* totalQuantity;}  if (showAllModel != null) {  totalPrice = showAllModel.getPrice() \* totalQuantity; }}}});  removeItems.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  if(totalQuantity>10){  totalQuantity--;  quantity.setText(String.valueOf(totalQuantity));  } }});}  private void addtoCart() {  String saveCurrentTime, saveCurrentDate;  Calendar calForDate = Calendar.getInstance();  SimpleDateFormat currentDate = new SimpleDateFormat("MM dd, yyyy");  saveCurrentDate = currentDate.format(calForDate.getTime());  SimpleDateFormat currentTime = new SimpleDateFormat("HH : mm : ss a");  saveCurrentTime = currentTime.format(calForDate.getTime());  final HashMap<String,Object> cartMap = new HashMap<>();  cartMap.put("productName",name.getText().toString());  cartMap.put("productPrice",price.getText().toString());  cartMap.put("currentTime",saveCurrentTime);  cartMap.put("currentDate",saveCurrentDate);  cartMap.put("totalQuantity", quantity.getText().toString());  cartMap.put("totalPrice",totalPrice); firestore.collection("AddToCart").document(auth.getCurrentUser().getUid()) .collection("User").add(cartMap).addOnCompleteListener(new OnCompleteListener<DocumentReference>() {  @Override  public void onComplete(@NonNull Task<DocumentReference> task) {  Toast.makeText( DetailedActivity.this , "Added To Cart" , Toast.LENGTH\_SHORT).show();  finish();}});}} | **HomeFragment.java**  package com.example.project.fragments;  import android.app.ProgressDialog;  import android.content.Intent;  import android.os.Bundle;  import androidx.annotation.NonNull;  import androidx.fragment.app.Fragment;  import androidx.recyclerview.widget.GridLayoutManager;  import androidx.recyclerview.widget.LinearLayoutManager;  import androidx.recyclerview.widget.RecyclerView;  import android.util.Log;  import android.view.LayoutInflater;  import android.view.View;  import android.view.ViewGroup;  import android.widget.LinearLayout;  import android.widget.ProgressBar;  import android.widget.TextView;  import android.widget.Toast;  import com.denzcoskun.imageslider.models.SlideModel;  import com.denzcoskun.imageslider.constants.ScaleTypes;  import com.example.project.R;  import com.example.project.activities.ShowAllActivity;  import com.example.project.adapters.CategoryAdapter;  import com.example.project.adapters.NewProductsAdapter;  import com.example.project.adapters.PopularProductsAdapter;  import com.example.project.models.CategoryModel;  import com.example.project.models.NewProductsModel;  import com.example.project.models.PopularProductsModel;  import com.google.android.gms.tasks.OnCompleteListener;  import com.google.android.gms.tasks.Task;  import com.google.firebase.firestore.FirebaseFirestore;  import com.google.firebase.firestore.QueryDocumentSnapshot;  import com.google.firebase.firestore.QuerySnapshot;  import java.util.ArrayList;  import java.util.List;  import com.denzcoskun.imageslider.ImageSlider;  public class HomeFragment extends Fragment {  TextView catShowAll, popularShowAll, newProductsShowAll;  LinearLayout linearLayout;  ProgressDialog progressDialog;  RecyclerView catRecyclerview, newProductRecyclerview, popularRecyclerview;  // Category recyclerview  CategoryAdapter categoryAdapter;  List<CategoryModel> categoryModelList;  //New Product Recyclerview  NewProductsAdapter newProductsAdapter;  List<NewProductsModel> newProductsModelList;  //Popular Products  PopularProductsAdapter popularProductsAdapter;  List<PopularProductsModel> popularProductsModelList;  //FireStore  FirebaseFirestore db;  public HomeFragment() {  // Required empty public constructor}  @Override  public View onCreateView(LayoutInflater inflater, ViewGroup container,  Bundle savedInstanceState) {  // Inflate the layout for this fragment  View root = inflater.inflate(R.layout.fragment\_home, container, false);  progressDialog = new ProgressDialog(getActivity());  catRecyclerview = root.findViewById(R.id.rec\_category);  newProductRecyclerview = root.findViewById(R.id.new\_product\_rec);  popularRecyclerview = root.findViewById(R.id.popular\_rec);  catShowAll = root.findViewById(R.id.category\_see\_all);  popularShowAll = root.findViewById(R.id.popular\_see\_all);  newProductsShowAll = root.findViewById(R.id.newProducts\_see\_all);  catShowAll.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(getContext(), ShowAllActivity.class);  startActivity(intent); } });  popularShowAll.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(getContext(), ShowAllActivity.class);  startActivity(intent); }});  newProductsShowAll.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(getContext(), ShowAllActivity.class);  startActivity(intent); }});  db = FirebaseFirestore.getInstance();  linearLayout = root.findViewById(R.id.home\_layout);  linearLayout.setVisibility(View.GONE);  //Image Slider  ImageSlider imageSlider = root.findViewById(R.id.image\_slider);  List<SlideModel> slideModels = new ArrayList<>();  slideModels.add(new SlideModel(R.drawable.banner1,"Discount On Shoes",ScaleTypes.CENTER\_CROP));  slideModels.add(new SlideModel(R.drawable.banner2,"Discount On Perfume",ScaleTypes.CENTER\_CROP));  slideModels.add(new SlideModel(R.drawable.banner3,"70% OFF",ScaleTypes.CENTER\_CROP));  imageSlider.setImageList(slideModels);  progressDialog.setTitle("Welcome to Online Marketplace");  progressDialog.setMessage("Please wait..");  progressDialog.setCanceledOnTouchOutside(false);  progressDialog.show();  //Category  catRecyclerview.setLayoutManager(new LinearLayoutManager(getActivity(),RecyclerView.HORIZONTAL,false));  categoryModelList = new ArrayList<>();  categoryAdapter = new CategoryAdapter(getContext(),categoryModelList);  catRecyclerview.setAdapter(categoryAdapter);  db.collection("Category")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if (task.isSuccessful()){  for(QueryDocumentSnapshot document : task.getResult()) {  CategoryModel categoryModel = document.toObject(CategoryModel.class); categoryModelList.add(categoryModel); categoryAdapter.notifyDataSetChanged(); linearLayout.setVisibility(View.VISIBLE);  progressDialog.dismiss();  }}else{ Toast.makeText(getActivity(),""+task.getException(),Toast.LENGTH\_SHORT).show(); }}});  //New Products  newProductRecyclerview.setLayoutManager(new LinearLayoutManager(getActivity(),RecyclerView.HORIZONTAL,false));  newProductsModelList = new ArrayList<>();  newProductsAdapter = new NewProductsAdapter(getContext(),newProductsModelList); newProductRecyclerview.setAdapter(newProductsAdapter);  db.collection("NewProducts").get() .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if (task.isSuccessful()){  for(QueryDocumentSnapshot document : task.getResult()) { NewProductsModel newProductsModel = document.toObject(NewProductsModel.class); newProductsModelList.add(newProductsModel); newProductsAdapter.notifyDataSetChanged(); }}else{ Toast.makeText(getActivity(),""+task.getException(),Toast.LENGTH\_SHORT).show(); } } });  //Popular Products  popularRecyclerview.setLayoutManager(new GridLayoutManager(getActivity(),2));  popularProductsModelList = new ArrayList<>();  popularProductsAdapter = new PopularProductsAdapter(getContext(),popularProductsModelList);  popularRecyclerview.setAdapter(popularProductsAdapter);  db.collection("AllProducts")  .get()  .addOnCompleteListener(new OnCompleteListener<QuerySnapshot>() {  @Override  public void onComplete(@NonNull Task<QuerySnapshot> task) {  if (task.isSuccessful()){  for(QueryDocumentSnapshot document : task.getResult()) { PopularProductsModel popularProductsModel = document.toObject(PopularProductsModel.class); popularProductsModelList.add(popularProductsModel); popularProductsAdapter.notifyDataSetChanged(); }}else{ Toast.makeText(getActivity(),""+task.getException(),Toast.LENGTH\_SHORT).show();}}});  return root;  //return inflater.inflate(R.layout.fragment\_home, container, false);}} |

**4.** **CONCLUSIONS**

In summary, the Online Marketplace (E-Commerce) Mobile Application is a versatile platform poised for significant growth and innovation in the digital marketplace. With its current features and outlined future scope, the app offers a robust solution for users and sellers seeking seamless transactions and efficient management.

By prioritizing user feedback and remaining adaptable to emerging trends, the app can continue to enhance the user experience and attract a broader audience. Integration of advanced technologies like augmented reality and blockchain presents exciting opportunities for further differentiation and competitive advantage.

Through strategic partnerships and continuous refinement, the Online Marketplace app is positioned for sustained success and expansion in the dynamic e-commerce landscape. It represents a compelling solution for both users and sellers seeking convenience, reliability, and value in their online transactions.

In conclusion, the Online Marketplace (E-Commerce) Mobile Application is poised to play a pivotal role in shaping the future of online commerce, providing a user-friendly and efficient platform for buying and selling goods in the digital age.

**5. FUTURE SCOPE**

Future Scope of the Online Marketplace (E-Commerce) Mobile Application:

* User Experience: Enhance interface, add personalized recommendations, advanced search filters, and chat support.
* Payment Options: Integrate more gateways, including digital wallets, UPI, and international methods.
* Social Integration: Allow sign-in via social media, enable sharing, and analyze user behavior.
* Analytics: Implement tools to track interactions, sales data, and generate reports for decision-making.
* Optimization: Scale for growth, optimize performance, and implement caching and CDNs.
* Localization: Support multiple languages, currencies, and customize experiences based on location.
* AR Integration: Enable visualization of products in real-world environments.
* Voice Commerce: Integrate voice recognition for search and purchasing.
* Supply Chain: Streamline inventory management and order fulfillment with real-time updates.
* Blockchain: Explore blockchain for secure transactions, product authentication, and supply chain transparency.

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