

**BAHRIA UNIVERSITY (KARACHI CAMPUS**)

Open Ended Lab – FALL SEMESTER – 2021

Software Application for Mobile Devices

Class: **BSE-5A** Morning

Lab Instructor: **Engr. Muhammad Rehan Baig**

Max Marks: 30

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**Scenario**

**OMarket is a Things Sharing/Rental Market place MVP soon to be launched for pitch. needs a Mobile application. You as an Application Developer responsible for the requirements given below.**

**Product Types that can be listed on this market are (Books, Clothes, Music, Valuables... etc.)**

**Requirements of App**

**• Authentication Area**

**- User can Authenticate from this page and this authentication information will be used over the application and on executing processes.**

**• Dashboard.**

**- Add Product Option**

**– on click the prompt will be shown that captures the details of the product on the same page.**

**- List of the products that are listed in the application for sharing and Rental purposes.**

**- On Click on any product from the list the Activity will open that contains the details of the product and a Checkout button when this button clicked the Checkout Activity will be shown with the order details.**

**- For Category music user can play music in the app background before buying without hanging the rest of the application.**

**• Order Management.**

**- It show both Orders (Orders Done by you) and (Order Received By you for your products) in the separate lists.**

**- In this Activity Real time order status will be shown after 10 seconds the order status must be updated based on Approval from the Seller. This process must be running in the background so no any process dead.**

**• Checkout.**

**- When Buyer checkout the Seller in the market place will be notified with the OFFER Message sent from Buyer and App Notification for Approval.**

**- Until the Offer not approved the Order Status will be displayed as PENDING Every point is important. Read the given scenario carefully to perform this OpenEnded Lab Late Submissions not allowed.**

**MAIN ACTIVITY**

**Graphical user interface, application, Teams

Description automatically generated**

package com.ua.oelsamd;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
  
public class MainActivity extends AppCompatActivity {  
  
 Intent LoginActivity;  
 Intent RegisterActivity;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Users.*initializeUsers*();  
 this.LoginActivity = new Intent(this, SigninActivity.class);  
 this.RegisterActivity = new Intent(this, RegisterActivity.class);  
  
 }  
  
 public void onBtnLogin(View paramView) { startActivity(this.LoginActivity); }  
  
 public void onBtnRegister(View paramView) { startActivity(this.RegisterActivity); }  
}

**LOGIN ACTIVITY**

package com.ua.oelsamd;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class SigninActivity extends AppCompatActivity {  
 EditText username;  
 EditText password;  
 Intent ProfileActivity;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_signin*);  
 username = findViewById(R.id.*loginUserTxt*);  
 password = findViewById(R.id.*loginPassTxt*);  
 this.ProfileActivity = new Intent(this, ProfileActivity.class);  
 }  
  
 public void onLogin(View view) {  
 if(username.getText().toString().equals("") || password.getText().toString().equals("") ){  
 Toast.*makeText*(getApplicationContext(),"Fill your Credentials first !!!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 User u = Users.*login*(username.getText().toString(), password.getText().toString());  
 if (u == null) {Toast.*makeText*(getApplicationContext(),"Invaid Credentials !!!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 Toast.*makeText*(getApplicationContext(),"Login Successful !!!",Toast.*LENGTH\_SHORT*).show();  
 ProfileActivity.putExtra("user",u);  
 startActivity(this.ProfileActivity);  
 }  
}

**Graphical user interface, text, application, chat or text message

Description automatically generated**

**REGISTER ACTIVITY**

**Graphical user interface, application

Description automatically generated**

package com.ua.oelsamd;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class RegisterActivity extends AppCompatActivity {  
 EditText name;  
 EditText username;  
 EditText age;  
 EditText profileUri;  
 EditText password;  
 EditText confirmpassword;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_register*);  
 name = findViewById(R.id.*registerNameTxt*);  
 username = findViewById(R.id.*registerUserTxt*);  
 age = findViewById(R.id.*registerAgeTxt*);  
 profileUri = findViewById(R.id.*registerProfileTxt*);  
 password = findViewById(R.id.*registerPassTxt*);  
 confirmpassword = findViewById(R.id.*registerConPassTxt*);  
 }  
  
 public void onRegister(View view) {  
 if(name.getText().toString().equals("") || username.getText().toString().equals("") || age.getText().toString().equals("") || profileUri.getText().toString().equals("") || password.getText().toString().equals("") || confirmpassword.getText().toString().equals("") ) {  
 Toast.*makeText*(getApplicationContext(),"Fill the data first !!!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 if(!(password.getText().toString().equals(confirmpassword.getText().toString()))){  
 Toast.*makeText*(getApplicationContext(),"Password is not same at Confirm Password !!!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 Users.*addUsers*(name.getText().toString(),username.getText().toString(),password.getText().toString(),profileUri.getText().toString(),age.getText().toString());  
 Toast.*makeText*(getApplicationContext(),"User Registered, Go Back to Login !!!",Toast.*LENGTH\_SHORT*).show();  
 }  
}

**Profile Activity**

Application

Description automatically generated with medium confidence

package com.ua.oelsamd;  
  
import android.content.DialogInterface;  
import android.content.Intent;  
import android.graphics.Bitmap;  
import android.graphics.BitmapFactory;  
import android.os.AsyncTask;  
import android.os.Bundle;  
import android.text.InputType;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.EditText;  
import android.widget.ImageView;  
import android.widget.LinearLayout;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AlertDialog;  
import androidx.appcompat.app.AppCompatActivity;  
  
import java.io.IOException;  
import java.net.MalformedURLException;  
import java.net.URL;  
  
public class ProfileActivity extends AppCompatActivity {  
 TextView name;  
 TextView username;  
 TextView age;  
 static ImageView *pic*;  
 Intent OrdersRecievedActivity;  
 Intent OrdersDoneActivity;  
 Intent ProductsActivity;  
 static User *u*;  
 static String *a*="null";  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_profile*);  
 this.OrdersRecievedActivity = new Intent(this, OrdersRecievedActivity.class);  
 this.OrdersDoneActivity = new Intent(this, OrdersDoneActivity.class);  
 this.ProductsActivity = new Intent(this, ProductsActivity.class);  
 username = findViewById(R.id.*profileUserNameTxt*);  
 name = findViewById(R.id.*profileUserTxt*);  
 age = findViewById(R.id.*profileAgeTxt*);  
 *pic* = findViewById(R.id.*profilePic*);  
 *u* = (User) getIntent().getSerializableExtra("user");  
 username.setText(username.getText()+*u*.username);  
 name.setText(name.getText()+*u*.name);  
 age.setText(age.getText()+*u*.age);  
 }  
  
 public void onNewProduct(View view) {  
  
 AlertDialog.Builder builder = new AlertDialog.Builder(this);  
 builder.setTitle("Add New Product");  
 LinearLayout linearLayout = new LinearLayout(this);  
 linearLayout.setOrientation(LinearLayout.*VERTICAL*);  
 LinearLayout.LayoutParams params = new LinearLayout.LayoutParams(ViewGroup.LayoutParams.*MATCH\_PARENT*, ViewGroup.LayoutParams.*WRAP\_CONTENT*);  
 params.leftMargin= 50;  
 params.rightMargin= 50;  
 params.topMargin = 50;  
 params.bottomMargin = 50;  
  
 EditText nameinput = new EditText(this);  
 nameinput.setInputType(InputType.*TYPE\_CLASS\_TEXT*);  
 nameinput.setHint("Product Name");  
 nameinput.setLayoutParams(params);  
 linearLayout.addView(nameinput);  
  
 EditText descriptioninput = new EditText(this);  
 descriptioninput.setInputType(InputType.*TYPE\_CLASS\_TEXT*);  
 descriptioninput.setHint("Product Description");  
 descriptioninput.setLayoutParams(params);  
 linearLayout.addView(descriptioninput);  
  
 EditText priceinput = new EditText(this);  
 priceinput.setInputType(InputType.*TYPE\_CLASS\_NUMBER*);  
 priceinput.setHint("Product Price");  
 priceinput.setLayoutParams(params);  
 linearLayout.addView(priceinput);  
  
  
  
  
 builder.setView(linearLayout);  
  
  
 builder.setPositiveButton("Confirm", new DialogInterface.OnClickListener() {  
 @Override  
 public void onClick(DialogInterface dialog, int which) {  
  
 Products.*addProduct*(nameinput.getText().toString(),descriptioninput.getText().toString(), Integer.*parseInt*(priceinput.getText().toString()));  
 Toast.*makeText*(getApplicationContext(),"Product Added",Toast.*LENGTH\_SHORT*).show();  
  
 }  
 }  
 );  
 builder.setNegativeButton("Cancel", new DialogInterface.OnClickListener() {  
 @Override  
 public void onClick(DialogInterface dialog, int which) {  
 dialog.cancel();  
 }  
 });  
 builder.show();  
  
 }  
  
  
 public void onBtnProducts(View view) {  
 startActivity(this.ProductsActivity);  
 }  
  
 public void onBtnRecieved(View view) {  
 startActivity(this.OrdersRecievedActivity);  
 }  
  
  
 public void onBtnDone(View view) {  
 startActivity(this.OrdersDoneActivity);  
 }  
}

**Add New Product Popup**

Graphical user interface, application, Teams

Description automatically generated

**Products Activity**

**Graphical user interface, text, application, email

Description automatically generated**

package com.ua.oelsamd;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.app.ActivityManager;  
import android.content.Context;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.ArrayAdapter;  
import android.widget.ListView;  
import android.widget.TextView;  
  
public class ProductsActivity extends AppCompatActivity {  
  
 static ListView *ProductsList*;  
  
 static TextView *music*;  
  
 Intent SpecificProductActivity;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_products*);  
 *ProductsList* = (ListView) findViewById(R.id.*productsList*);  
 loadList();  
 *music* = (TextView) findViewById(R.id.*music*);  
  
 this.SpecificProductActivity = new Intent(this, SpecificProductActivity.class);  
 }  
  
 public void loadList(){  
 ArrayAdapter<String> adapter;  
 adapter = new ArrayAdapter<String>(this, R.layout.*activity\_view\_list*, R.id.*textView*, Products.*productsNameArray*);  
 *ProductsList*.setAdapter(adapter);  
 }  
  
 public void ViewProduct(View view) {  
 TextView nameTXT = (TextView) view;  
 String name = nameTXT.getText().toString();  
  
 if(name.equals("Music")){  
 if (isMyServiceRunning(service.class)) {  
 *music*.setText("");  
 stopService(new Intent(this, service.class));  
 } else {  
 *music*.setText("Press to Stop Music");  
 startService(new Intent(this, service.class));  
 }  
 }  
 else{  
 SpecificProductActivity.putExtra("productname", name);  
 startActivity(this.SpecificProductActivity);  
 }  
  
  
 }  
  
 private boolean isMyServiceRunning(Class<?> serviceClass) {  
 ActivityManager manager = (ActivityManager) getSystemService(Context.*ACTIVITY\_SERVICE*);  
 for (ActivityManager.RunningServiceInfo service : manager.getRunningServices(Integer.*MAX\_VALUE*)) {  
 if (serviceClass.getName().equals(service.service.getClassName())) {  
 return true;  
 }  
 }  
 return false;  
 }  
  
 public void stopMusic(View view) {  
 if (isMyServiceRunning(service.class)) {  
 *music*.setText("");  
 stopService(new Intent(this, service.class));  
 }  
 }  
  
  
}

**Product Detail ACTIVITY**

**Graphical user interface, application, Teams

Description automatically generated**

package com.ua.oelsamd;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.ImageView;  
import android.widget.TextView;  
  
public class SpecificProductActivity extends AppCompatActivity {  
  
 TextView name;  
 TextView description;  
 TextView price;  
 String u;  
 Intent CheckoutActivity;  
 String productname;  
 int productPrice;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_specific\_product*);  
  
 this.CheckoutActivity = new Intent(this, CheckoutActivity.class);  
 name = findViewById(R.id.*productName*);  
 description = findViewById(R.id.*productDesc*);  
 price = findViewById(R.id.*productPrice*);  
 u = (String) getIntent().getStringExtra("productname");  
  
 for(int i=0; i < Products.*products*.length; i++){  
 if(Products.*products*[i].productName.equals(u)){  
 name.setText(name.getText()+Products.*products*[i].productName);  
 description.setText(description.getText()+Products.*products*[i].productDescription);  
 price.setText(price.getText()+""+Products.*products*[i].price);  
 productname = Products.*products*[i].productName;  
 productPrice = Products.*products*[i].price;  
 }  
 }  
  
 }  
  
 public void onCheckOut(View view) {  
  
 CheckoutActivity.putExtra("productname", productname);  
 CheckoutActivity.putExtra("productprice", productPrice);  
 startActivity(this.CheckoutActivity);  
  
 }  
}

**Checkout ACTIVITY**

**Graphical user interface, application, Teams

Description automatically generated**

package com.ua.oelsamd;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class CheckoutActivity extends AppCompatActivity {  
  
 TextView name;  
 TextView price;  
 String u;  
 int productprice;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_checkout*);  
  
 name = findViewById(R.id.*checkoutName*);  
 price = findViewById(R.id.*checkoutPrice*);  
 u = (String) getIntent().getStringExtra("productname");  
 productprice = (int) getIntent().getIntExtra("productprice",0);  
  
 name.setText(name.getText()+""+u);  
 price.setText(price.getText()+""+productprice);  
 }  
  
 public void onConfirmCheckOut(View view) {  
 Products.*addProductSale*(u);  
  
 Toast.*makeText*(getApplicationContext(),"Checkout Successful",Toast.*LENGTH\_SHORT*).show();  
  
 }  
}

**Music Started after clicking Music**

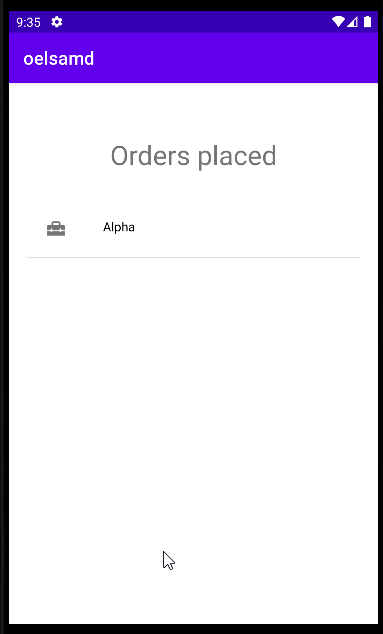
**Graphical user interface, application

Description automatically generated**

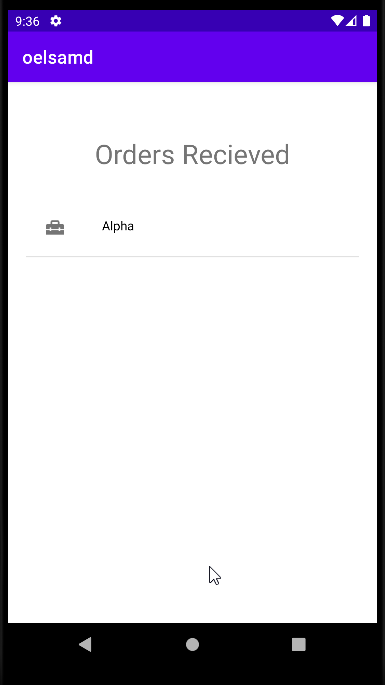
**Service Class**

package com.ua.oelsamd;  
  
import android.app.Service;  
import android.content.Intent;  
import android.media.MediaPlayer;  
import android.os.IBinder;  
import android.widget.Toast;  
  
public class service extends Service {  
 MediaPlayer musicPlayer;  
 @Override  
 public IBinder onBind(Intent intent) {  
 return null;  
 }  
 @Override  
 public void onCreate() {  
 super.onCreate();  
 musicPlayer = MediaPlayer.*create*(this, R.raw.*abc*);  
 musicPlayer.setLooping(false);  
 }  
 @Override  
 public int onStartCommand(Intent intent, int flags, int startId) {  
 Toast.*makeText*(this, "Music Service started by user.", Toast.*LENGTH\_LONG*).show();  
 musicPlayer.start();  
 return *START\_STICKY*;  
 }  
 @Override  
 public void onDestroy() {  
 super.onDestroy();  
 musicPlayer.stop();  
 Toast.*makeText*(this, "Music Service destroyed by user.", Toast.*LENGTH\_LONG*).show();  
 }  
}

**ORDERS PLACED ACTIVITY**

****

**ORDERS RECIEVED ACTIVITY**

****

**USER CLASSES**

package com.ua.oelsamd;  
  
import java.io.Serializable;  
import java.util.ArrayList;  
import java.util.List;  
  
public class Users {  
 public static List<User> *users* = new ArrayList<User>();  
  
 public static boolean *garageOpen* = false;  
  
 public static void initializeUsers(){  
 *addUsers*("alpha","Alpha", "abc", "https://www.logolynx.com/images/logolynx/8b/8bac15590417ece600984c760ed1fe96.jpeg","20");  
 *addUsers*("bravo","Bravo", "abc", "https://www.logolynx.com/images/logolynx/8b/8bac15590417ece600984c760ed1fe96.jpeg","20");  
 *addUsers*("charlie","Charlie", "abc", "https://www.logolynx.com/images/logolynx/8b/8bac15590417ece600984c760ed1fe96.jpeg","20");  
 }  
  
 public static void addUsers(String name, String username, String password, String profileUri, String age){  
 User u = new User(name,username,password,profileUri,age);  
 *users*.add(u);  
 }  
  
 public static User login(String username, String password){  
 for (User u: *users*) {  
 if(u.username.equals(username) && u.password.equals(password)){  
 return u;  
 }  
 }  
 return null;  
 }  
}  
  
class User implements Serializable {  
 String name;  
 String username;  
 String password;  
 String profileUri;  
 String age;  
  
 User(String name, String username, String password, String profileUri, String age){  
 this.name = name;  
 this.username = username;  
 this.password = password;  
 this.profileUri = profileUri;  
 this.age = age;  
 }  
 User(){  
 this.name = "";  
 this.username = "";  
 this.password = "";  
 this.profileUri = "";  
 this.age = "";  
 }  
}

**Products CLASSES**

package com.ua.oelsamd;  
  
public class Products {  
 public static Product *products*[] = {new Product("Alpha","Rifle with many things",120),new Product("Music","Music",1)};  
 public static String *productsNameArray*[] = {"Alpha","Music"};  
 public static String *productsOrdered*[] = new String[0];  
  
 public static void addProduct(String productName, String productDescription, int price){  
  
 int newlength = *products*.length + 1;  
 Product newProducts[] = new Product[newlength];  
 String newProductsName[] = new String[newlength];  
 for (int i=0; i<newlength;i++){  
 if(i==newlength-1){  
 newProducts[i]= new Product(productName,productDescription,price);  
 newProductsName[i]= productName;  
 }  
 else{  
 newProducts[i]=*products*[i];  
 newProductsName[i]= *productsNameArray*[i];  
 }  
 }  
 *products* =newProducts;  
 *productsNameArray* =newProductsName;  
 }  
  
 public static void addProductSale(String productName){  
  
 int newlength = *productsOrdered*.length + 1;  
 String newProductsName[] = new String[newlength];  
 for (int i=0; i<newlength;i++){  
 if(i==newlength-1){  
 newProductsName[i]= productName;  
 }  
 else{  
 newProductsName[i]= *productsOrdered*[i];  
 }  
 }  
 *productsOrdered* =newProductsName;  
 }  
}  
  
  
class Product {  
 String productName;  
 String productDescription;  
 int price;  
 String status;  
  
 Product(String productName, String productDescription, int price){  
 this.productName=productName;  
 this.productDescription=productDescription;  
 this.price=price;  
 this.status="PENDING";  
 }  
  
 public void changeStatus(){  
 this.status="Approved";  
 }  
  
}

**MAIN FOLDER OF THE APPLICATION IS ALSO IN THE COMPRESSED FILE**