**Practical – 9**

Practical 9

Aim: Implement Permission Manager and use Image View and Video View.

*Activity\_main.java file:*

package com.example.practical\_9;  
  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.ActivityCompat;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.util.Log;  
import android.widget.Button;  
import android.widget.ImageButton;  
import android.widget.Toast;  
  
import com.google.android.material.snackbar.Snackbar;  
  
public class MainActivity extends AppCompatActivity implements ActivityCompat.OnRequestPermissionsResultCallback {  
  
 Button b1,b2;  
  
 public void setup(){  
 b1 = findViewById(R.id.btn1);  
 b2 = findViewById(R.id.btn2);  
 }  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 setup();  
  
 b1.setOnClickListener(v -> {  
 checkpermimg();  
 });  
 b2.setOnClickListener(v -> {  
 checkpermvdo();  
 });  
 }  
  
 public void onRequestPermissionsResult(int requestCode, String[] permissions, int[] grantResults) {  
 super.onRequestPermissionsResult(requestCode, permissions, grantResults);  
 if (requestCode == 100) {  
 if (grantResults[0] == getPackageManager().PERMISSION\_GRANTED) {  
 Toast.makeText(this, "Permission Granted", Toast.LENGTH\_SHORT).show();  
// start();  
 } else {  
 Toast.makeText(this, "Permission Denied", Toast.LENGTH\_SHORT).show();  
 }  
 }  
 }  
  
 public void checkpermimg() {  
 if(ActivityCompat.checkSelfPermission(this, android.Manifest.permission.CAMERA) == getPackageManager().PERMISSION\_GRANTED) {  
 Toast.makeText(this, "Permission Granted", Toast.LENGTH\_SHORT).show();  
// b1.setback;  
 startCamera();  
 } else {  
 requestCameraPermission();  
 }  
 }  
  
 public void checkpermvdo() {  
 if(ActivityCompat.checkSelfPermission(this, android.Manifest.permission.CAMERA) == getPackageManager().PERMISSION\_GRANTED) {  
 Toast.makeText(this, "Permission Granted", Toast.LENGTH\_SHORT).show();  
// b1.setback;  
 startVideo();  
 } else {  
 requestCameraPermission();  
 }  
 }  
  
 private void startCamera() {  
 //TODO: Start Camera  
 Toast.makeText(this, "Camera Started", Toast.LENGTH\_SHORT).show();  
 Intent p = new Intent(this, ImageCap.class);  
 startActivity(p);  
 }  
  
 private void startVideo() {  
 //TODO: Start Video  
 Toast.makeText(this, "Video Started", Toast.LENGTH\_SHORT).show();  
 Intent p1 = new Intent(this, VideoCap.class);  
 startActivity(p1);  
 }  
  
 public void requestCameraPermission() {  
 if(ActivityCompat.shouldShowRequestPermissionRationale(this, android.Manifest.permission.CAMERA)) {  
 Snackbar.make(findViewById(R.id.btn1), "Permission is required to use Camera", Snackbar.LENGTH\_INDEFINITE)  
 .setAction("OK", v -> ActivityCompat.requestPermissions(this, new String[]{android.Manifest.permission.CAMERA}, 100))  
 .show();  
 } else {  
 ActivityCompat.requestPermissions(this, new String[]{android.Manifest.permission.CAMERA}, 100);  
 }  
// ActivityCompat.requestPermissions(this, new String[]{android.Manifest.permission.CAMERA}, 100);  
 }  
}

*ImageCap.java file:*

package com.example.practical\_9;  
  
import androidx.activity.result.ActivityResultLauncher;  
import androidx.activity.result.contract.ActivityResultContracts;  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.graphics.Bitmap;  
import android.os.Bundle;  
import android.provider.MediaStore;  
import android.widget.Button;  
import android.widget.ImageView;  
import android.widget.Toast;  
  
public class ImageCap extends AppCompatActivity {  
  
 ImageView iv;  
 Button b1;  
 ActivityResultLauncher<Intent> activityResultLauncher;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_image\_cap*);  
  
 iv = findViewById(R.id.*imageView*);  
 b1 = findViewById(R.id.*button*);  
  
 activityResultLauncher = registerForActivityResult(new ActivityResultContracts.StartActivityForResult(), result -> {  
 if (result.getResultCode() == *RESULT\_OK*) {  
 Bitmap bm = (Bitmap) result.getData().getExtras().get("data");  
 iv.setImageBitmap(bm);  
 }  
 else if (result.getResultCode() == *RESULT\_CANCELED*) {  
 Toast.*makeText*(this, "Camera Cancelled", Toast.*LENGTH\_SHORT*).show();  
 }  
 else {  
 Toast.*makeText*(this, "Camera Failed", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
  
 b1.setOnClickListener(v -> {  
 Toast.*makeText*(this, "Camera Started", Toast.LENGTH\_SHORT).show();  
 Intent i = new Intent(MediaStore.ACTION\_IMAGE\_CAPTURE);  
 activityResultLauncher.launch(i);  
 });  
 }  
}

*VideoCap.java file:*

package com.example.practical\_9;  
  
import androidx.activity.result.ActivityResultLauncher;  
import androidx.activity.result.contract.ActivityResultContracts;  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.provider.MediaStore;  
import android.widget.Button;  
import android.widget.Toast;  
import android.widget.VideoView;  
  
public class VideoCap extends AppCompatActivity {  
  
 VideoView vv;  
 Button b1;  
 ActivityResultLauncher<Intent> activityResultLauncher;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_video\_cap*);  
  
 vv = findViewById(R.id.*videoView*);  
 b1 = findViewById(R.id.*button2*);  
  
 activityResultLauncher = registerForActivityResult(new ActivityResultContracts.StartActivityForResult(), result -> {  
 if (result.getResultCode() == *RESULT\_OK*) {  
 vv.setVideoURI(result.getData().getData());  
 vv.start();  
 }  
 else if (result.getResultCode() == *RESULT\_CANCELED*) {  
 Toast.*makeText*(this, "Video Cancelled", Toast.*LENGTH\_SHORT*).show();  
 }  
 else {  
 Toast.*makeText*(this, "Video Failed", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
  
 b1.setOnClickListener(v -> {  
 Toast.*makeText*(this, "Video Started", Toast.*LENGTH\_SHORT*).show();  
 Intent i = new Intent(MediaStore.*ACTION\_VIDEO\_CAPTURE*);  
 activityResultLauncher.launch(i);  
 });  
 }  
}

*activity\_main.xml file:*

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/btn1"  
 android:layout\_width="269dp"  
 android:layout\_height="54dp"  
 android:text="IMAGE"  
 app:layout\_constraintBottom\_toTopOf="@+id/btn2"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.485"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.5" />  
  
 <Button  
 android:id="@+id/btn2"  
 android:layout\_width="267dp"  
 android:layout\_height="57dp"  
 android:text="VIDEO"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.493"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/btn1"  
 app:layout\_constraintVertical\_bias="0.5" />  
</androidx.constraintlayout.widget.ConstraintLayout>

*Activity\_image\_cap.xml file:*

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".ImageCap">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Button"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.752" />  
  
 <ImageView  
 android:id="@+id/imageView"  
 android:layout\_width="310dp"  
 android:layout\_height="423dp"  
 app:layout\_constraintBottom\_toTopOf="@+id/button"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.495"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.329"  
 tools:srcCompat="@tools:sample/avatars" />  
</androidx.constraintlayout.widget.ConstraintLayout>

*Activity\_video\_cap.xml file:*

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".ImageCap">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Button"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.752" />  
  
 <ImageView  
 android:id="@+id/imageView"  
 android:layout\_width="310dp"  
 android:layout\_height="423dp"  
 app:layout\_constraintBottom\_toTopOf="@+id/button"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.495"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.329"  
 tools:srcCompat="@tools:sample/avatars" />  
</androidx.constraintlayout.widget.ConstraintLayout>

*AndroidManifest.xml file:*

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools">  
  
 <uses-permission android:name="android.permission.CAMERA" />  
  
 <application  
 android:allowBackup="true"  
 android:dataExtractionRules="@xml/data\_extraction\_rules"  
 android:fullBackupContent="@xml/backup\_rules"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:supportsRtl="true"  
 android:theme="@style/Theme.Practical\_9"  
 tools:targetApi="31">  
 <activity  
 android:name=".VideoCap"  
 android:exported="false" />  
 <activity  
 android:name=".ImageCap"  
 android:exported="false" />  
 <activity  
 android:name=".MainActivity"  
 android:exported="true">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN" />  
  
 <category android:name="android.intent.category.LAUNCHER" />  
 </intent-filter>  
 </activity>  
 </application>  
  
</manifest>

*Screenshot:*

