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Lab: 04 & 05

MOS – Mobile Operating System

AIM: Android Components – Intent. Show Communication between two Activity. And for lab 05, perform application to record video or capture photo using camera.

CODE:

File name: Activity.xmls

```
<?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:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="50dp"
        app:layout_constraintBottom_toBottomOf="parent"
        android:layout_marginLeft="50dp"
        app:layout_constraintLeft_toLeftOf="parent"
        android:text="@string/click"
        android:id="@+id/btnClick"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="50dp"
        app:layout_constraintBottom_toBottomOf="parent"
        android:layout_marginRight="50dp"
        app:layout_constraintRight_toRightOf="parent"
        android:text="@string/click1"
        android:id="@+id/btnClick1"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        android:layout_marginTop="30dp"
        app:layout_constraintTop_toTopOf="parent"
```

```
    android:text="@string/instruction"
    android:id="@+id/textView"/>
```

```
<ImageView
    android:id="@+id/profile"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    app:layout_constraintRight_toRightOf="parent"
    android:layout_marginRight="220dp"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_marginTop="100dp"
    tools:srcCompat="@tools:sample/avatars" />
```

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Capture photo"
    android:id="@+id/btnCapture"
    app:layout_constraintLeft_toLeftOf="parent"
    android:layout_marginLeft="200dp"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_marginTop="130dp"
/>
```

```
<EditText
    android:layout_width="250dp"
    android:layout_height="40dp"
    android:inputType="textPersonName"
    android:hint="    Enter your name    "
    android:id="@+id/name"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_marginTop="260dp"
    app:layout_constraintLeft_toLeftOf="parent"
    android:layout_marginLeft="60dp"/>
```

```
<EditText
    android:id="@+id/editTextPhone"
    android:layout_width="250dp"
    android:layout_height="40dp"
    android:hint="    Enter your Phone number    "
    android:ems="10"
    android:inputType="phone"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_marginTop="310dp"
    app:layout_constraintLeft_toLeftOf="parent"
    android:layout_marginLeft="60dp"/>
```

```
<EditText
    android:id="@+id/editTextDate"
    android:layout_width="250dp"
    android:layout_height="40dp"
    android:hint="    Enter your Birthdate    "
    android:ems="10"
    android:inputType="date"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_marginTop="360dp"
    app:layout_constraintLeft_toLeftOf="parent"
    android:layout_marginLeft="60dp"/>
```

```
<EditText
```

```

        android:id="@+id/editTextTextEmailAddress"
        android:layout_width="250dp"
        android:layout_height="40dp"
        android:hint="    Enter your email address    "
        android:ems="10"
        android:inputType="textEmailAddress"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="410dp"
        app:layout_constraintLeft_toLeftOf="parent"
        android:layout_marginLeft="60dp"/>

```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

File Name: MainActivity.java

```

package com.example.lab_4_intend;

import androidx.activity.result.contract.ActivityResultContracts;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.content.ContextWrapper;
import android.content.Intent;
import android.graphics.Bitmap;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.Toast;
import android.view.Menu;

import java.io.File;
import java.io.FileOutputStream;
import java.io.IOException;

public class MainActivity extends AppCompatActivity {

    private static final int CAMERA_REQUEST = 1888;
    ImageView imageView;
    EditText varName, varPhone, varBirth, varEmail;
    String n, p, b, e;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        varName = (EditText) findViewById(R.id.name);
        varPhone = (EditText) findViewById(R.id.editTextPhone);
        varBirth = (EditText) findViewById(R.id.editTextDate);
        varEmail = (EditText) findViewById(R.id.editTextTextEmailAddress);

        imageView = (ImageView) this.findViewById(R.id.profile);
        Button photoButton = (Button) this.findViewById(R.id.btnCapture);
        photoButton.setOnClickListener(new View.OnClickListener() {
            @Override

```

```

        public void onClick(View v) {
            Intent cameraIntent = new
Intent(MediaStore.ACTION_IMAGE_CAPTURE);
            startActivityForResult(cameraIntent, CAMERA_REQUEST);
        }
    });

    Button BtnClick = findViewById(R.id.btnClick);
    Button BtnClick1 = findViewById(R.id.btnClick1);
    BtnClick.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            ImageView pimg = findViewById(R.id.profile);
            pimg.buildDrawingCache();
            Bitmap bmap = pimg.getDrawingCache();
            String str = saveToInternalStorage(bmap);

            //Toast.makeText(MainActivity.this, "Explicit Intent
Success", Toast.LENGTH_SHORT).show();

            Toast.makeText(MainActivity.this, str, Toast.LENGTH_SHORT).show();

            n = varName.getText().toString();
            p=varPhone.getText().toString();
            b=varBirth.getText().toString();
            e=varEmail.getText().toString();

            Intent intent = new
Intent(getApplicationContext(), display.class);

            intent.putExtra("Name", n);
            intent.putExtra("Phone", p);
            intent.putExtra("BOD", b);
            intent.putExtra("Email", e);
            intent.putExtra("img", str);
            startActivity(intent);
        }
    });
    BtnClick1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Toast.makeText(MainActivity.this, "Implicit Intent
Success", Toast.LENGTH_SHORT).show();
            Intent i = new Intent(Intent.ACTION_VIEW);
            i.setData(Uri.parse("https://nirmauni.ac.in/"));
            startActivity(i);
        }
    });
}

protected void onActivityResult(int requestCode, int resultCode, Intent
data) {
    super.onActivityResult(requestCode, resultCode, data);
    if (requestCode == CAMERA_REQUEST) {
        Bitmap photo = (Bitmap) data.getExtras().get("data");
        imageView.setImageBitmap(photo);
    }
}

private String saveToInternalStorage(Bitmap bitmapImage) {

```

```

        ContextWrapper cw = new ContextWrapper(getApplicationContext());

        File directory = cw.getDir("imageDir",Context.MODE_PRIVATE);
        File mypath = new File(directory,"profile.jpg");

        FileOutputStream fos = null;
        try {
            fos = new FileOutputStream(mypath);
            bitmapImage.compress(Bitmap.CompressFormat.PNG,100,fos);
        } catch (Exception e) {
            e.printStackTrace();
        } finally {
            try {
                fos.close();
            } catch (IOException e) {
                e.printStackTrace();
            }
        }
        return directory.getAbsolutePath();
    }
}

```

File name: display_activity.xml

```

<?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=".display">

    <ImageView
        android:id="@+id/profile"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        app:layout_constraintRight_toRightOf="parent"
        android:layout_marginRight="220dp"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="100dp"
        tools:srcCompat="@tools:sample/avatars" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        android:id="@+id/result" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btnBack"
        android:text="Home"
        app:layout_constraintBottom_toBottomOf="parent"
        android:layout_marginBottom="40dp"
        app:layout_constraintRight_toRightOf="parent"

```

```
        app:layout_constraintLeft_toLeftOf="parent"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

File Name: display.java

```
package com.example.lab_4_intend;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.TextView;
import android.widget.Toast;

import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;

public class display extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_display);

        Bundle extras = getIntent().getExtras();

        String sName = extras.getString("Name");
        String sPhone = extras.getString("Phone");
        String sDOB = extras.getString("DOB");
        String sEmail = extras.getString("Email");
        String simg = extras.getString("img");
        loadImageFromStorage(simg);

        final TextView tName = (TextView) findViewById(R.id.result);
        tName.setText("\nName: "+sName+"\nPhone: "+sPhone+"\nDOB: "+sDOB+"\nEmail: "+sEmail);

        Toast.makeText(display.this, "Your Profile is ready", Toast.LENGTH_SHORT).show();
        Button btnHome = findViewById(R.id.btnBack);
        btnHome.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(display.this, "Redirect to Home Menu", Toast.LENGTH_SHORT).show();
                Intent in = new Intent(getApplicationContext(), MainActivity.class);
                startActivity(in);
            }
        });
    }

    private void loadImageFromStorage(String path) {
```

```

        try {
            File f = new File(path, "profile.jpg");
            Bitmap b = BitmapFactory.decodeStream(new FileInputStream(f));
            ImageView img = (ImageView) findViewById(R.id.profile);
            img.setImageBitmap(b);
        }
        catch (FileNotFoundException e) {
            e.printStackTrace();
        }
    }
}

```

File Name: strings.xml

```

<resources>
    <string name="app_name">Lab_4_Intend</string>
    <string name="click"><b>Submit</b></string>
    <string name="click1"><b>Visit Website</b></string>
    <string name="instruction"><u>Lab Work 4(Intent) and
5 (Camera)</u></string>
</resources>

```

OUTPUT:









