Date: 11-03-2021

Aim:
To create a mobile application that can send a mail (Gmail app), open the camera and shoot a video(Default camera app) and take notes and save in a note taking app (OneNote app).

Description of App:
We create 3 radio buttons to choose the functionality we want to use. When Submit button pressed, based on user choice one of 3 intents get fired. For mail, we use the Gmail app and for the camera we use the built in application. For notes we are using a third party application.

Device Specifications:

App runs on the minSDK version of 16 and Android version 11 using Pixel 3A API emulator and samsung device. Only default libraries were used.

Technical Concepts Learnt:
I have used Linear layout vertical orientation, Edit Text, Text View, Radio buttons, Button, Implicit Intents and exception handling and Toasts

SOURCE CODE:
MainActivity.java

```java
package com.example.redirect_app;


import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    RadioGroup radio;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```java
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        radio = (RadioGroup) findViewById(R.id.radio);
        findViewById(R.id.submit).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                int id = radio.getCheckedRadioButtonId();

                if(id==R.id.mail) {
                    Intent intent = new Intent(MainActivity.this,
MailActivity.class);
                    startActivity(intent);
                }
                else if(id==R.id.camera) {
                    Intent intent = new Intent(MainActivity.this,
CameraActivity.class);
                    startActivity(intent);
                }
                else {
                    Intent intent = new Intent(MainActivity.this,
NoteActivity.class);
                    startActivity(intent);
                }
            }
        });
    }
}
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#F8E117"
    android:orientation="vertical">

    <TextView
        android:id="@+id/title"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:foregroundGravity="center"
        android:gravity="center"
        android:text="Choose Operation"
        android:textStyle="bold" />
```

```xml
    <RadioGroup
        android:id="@+id/radio"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_margin="20dp"
        android:foregroundGravity="center"
        android:gravity="center">

        <RadioButton
            android:id="@+id/mail"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Mail" />

        <RadioButton
            android:id="@+id/notes"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Note" />

        <RadioButton
            android:id="@+id/camera"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Camera" />
    </RadioGroup>

    <Button
        android:id="@+id/submit"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="Submit" />

</LinearLayout>
```

MailActivity.java
```java
package com.example.redirect_app;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import com.example.redirect_app.R;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
```

```java
public class MailActivity extends AppCompatActivity {

    @Override
    protected void onCreate(@Nullable Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_mail);
        findViewById(R.id.submit).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(Intent.ACTION_VIEW);
                Uri data = Uri.parse("mailto:"
                        + ((TextView)findViewById(R.id.to)).getText().toString()
                        + "?subject=" +
((TextView)findViewById(R.id.subject)).getText().toString() + "&body=" +
((TextView)findViewById(R.id.body)).getText().toString());
                intent.setData(data);
                startActivity(intent);
            }
        });

    }
}
```

Activity_mail.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:background="#F8E117"
    android:orientation="vertical">

    <TextView
        android:id="@+id/head"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="30dp"
        android:gravity="center"
        android:text="Mail Page"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/to"
        android:layout_width="match_parent"
```

```xml
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="To"
        android:inputType="textPersonName" />

    <EditText
        android:id="@+id/subject"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Subject"
        android:inputType="textPersonName" />

    <EditText
        android:id="@+id/body"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Body"
        android:inputType="textPersonName" />

    <Button
        android:id="@+id/submit"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="Submit" />

</LinearLayout>
```

CameraActivity.java

```java
package com.example.redirect_app;


import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Toast;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;

public class CameraActivity extends AppCompatActivity {
    int VIDEO_CAPTURE = 101;

    @Override
    protected void onCreate(@Nullable Bundle savedInstanceState) {
```

```java
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_camera);
        findViewById(R.id.camera).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(MediaStore.ACTION_VIDEO_CAPTURE);
                startActivityForResult(intent, VIDEO_CAPTURE);


            }
        });
    }
    @Override
    protected void onActivityResult(int requestCode, int resultCode, Intent data)
{

        super.onActivityResult(requestCode, resultCode, data);
        Uri videoUri = data.getData();

        if (requestCode == VIDEO_CAPTURE) {
            if (resultCode == RESULT_OK) {
                Toast.makeText(this, "Video saved to:\n" +
                        videoUri, Toast.LENGTH_LONG).show();
            } else if (resultCode == RESULT_CANCELED) {
                Toast.makeText(this, "Video recording cancelled.",
                        Toast.LENGTH_LONG).show();
            } else {
                Toast.makeText(this, "Failed to record video",
                        Toast.LENGTH_LONG).show();
            }
        }
    }
}
```

Activity_camera.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_gravity="center"
    android:background="#F8E117"
    android:foregroundGravity="center"
    android:gravity="center"
    android:orientation="vertical">

    <Button
        android:id="@+id/camera"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
```

```
            android:text="Open Camera" />
</LinearLayout>
```

NoteActivity.java
```java
package com.example.redirect_app;


import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;

public class NoteActivity extends AppCompatActivity {

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

        findViewById(R.id.submit).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent noteIntent = new Intent(Intent.ACTION_SEND)
                        .putExtra(Intent.EXTRA_TITLE,
((TextView)findViewById(R.id.title)).getText().toString())
                        .putExtra(Intent.EXTRA_TEXT,
((TextView)findViewById(R.id.message)).getText().toString());
                noteIntent.setType("text/plain");
                startActivity(Intent.createChooser(noteIntent, "Create note
using"));
            }
        });
    }
}
```

Activity_note.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:background="#F8E117"
    android:orientation="vertical">
```

```xml
<TextView
    android:id="@+id/head"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="30dp"
    android:gravity="center"
    android:text="Note Page"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<EditText
    android:id="@+id/title"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Title"
    android:inputType="textPersonName" />

<EditText
    android:id="@+id/message"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Message"
    android:inputType="textPersonName" />

<Button
    android:id="@+id/submit"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="Submit" />

</LinearLayout>
```

Screeenshots:

Redirect_app

Choose Operation

◯ Mail

◯ Note

◉ Camera

SUBMIT

Sample Note

11 March 2021   17:29

Hello

Redirect_app

Note Page

Sample Note

Hello

SUBMIT

Redirect_app

Choose Operation

◯ Mail

⊙ Note

◯ Camera

SUBMIT

← Compose

From venkataramanv80@gmail.com

To dhruv@outlook.com ⌄

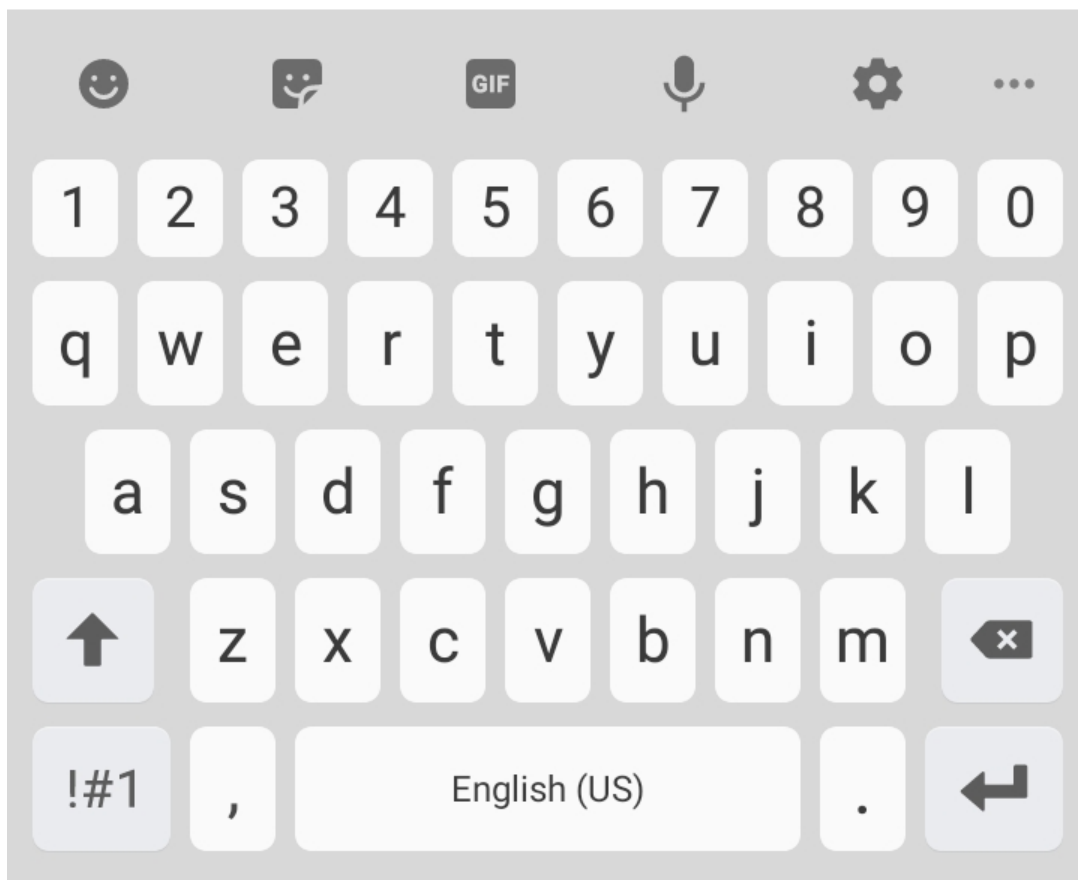Simple email

Good morning bro. How are you?|

Best Regards

V Venkataraman

Redirect_app

Mail Page

dhruv@outlook.com

Simple email

Good morning bro. How are you?

SUBMIT

Redirect_app

Choose Operation

◯ Mail

◯ Note

◯ Camera

SUBMIT

9:16

Outcome:
App was coded and run successfully without any errors and bugs.