

Practical 6

AIM: Create an application which turns ON or OFF Torch/Flashlight of Camera.

Source Code:

Java File/s:

MainActivity.java

```
package com.example.flashlight;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.content.pm.PackageManager;
import android.graphics.Camera;
import android.hardware.camera2.CameraAccessException;
import android.hardware.camera2.CameraManager;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Chronometer;
import android.widget.CompoundButton;
import android.widget.ToggleButton;

import java.security.Policy;

public class MainActivity extends AppCompatActivity {

    ToggleButton t1,t2;
    CameraManager cm;
    String cameraId;
    int counter = 0;
    Chronometer c1;

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

        boolean isFlashAvailabe =
getApplicationContext().getPackageManager().hasSystemFeature(P
ackageManager.FEATURE_CAMERA_FLASH);
        t1 = findViewById(R.id.t1);
        t2 = findViewById(R.id.t2);
        c1 = findViewById(R.id.c1);
        counter = 0;

        if (!isFlashAvailabe){
```

```

        showFlashError();
    }

    cm = (CameraManager)
    getSystemService(Context.CAMERA_SERVICE);
    try{
        cameraId = cm.getCameraIdList()[0];
    }catch (CameraAccessException e){
        e.printStackTrace();
    }

    t2.setOnCheckedChangeListener(new
    CompoundButton.OnCheckedChangeListener() {
        @Override
        public void onCheckedChanged(CompoundButton
    compoundButton, boolean b) {
            cl.start();
            chronometer(b);
        }
    });

    t1.setOnCheckedChangeListener(new
    CompoundButton.OnCheckedChangeListener() {
        @Override
        public void onCheckedChanged(CompoundButton
    compoundButton, boolean b) {

            switchFlashLight(b);
        }
    });

}

void chronometer(boolean status) {

    if (status) {
        switchFlashLight(false);

        cl.setOnChronometerTickListener(new
    Chronometer.OnChronometerTickListener() {

            @Override
            public void onChronometerTick(Chronometer
    chronometer) {

                counter++;

                if (counter % 5 == 0) {

                    switchFlashLight(false);

```

```

        } else {
            switchFlashLight(true);
        }
    }
    });
}
else {
    switchFlashLight(false);
    cl.stop();
}
}

void switchFlashLight(boolean status){
    try{
        cm.setTorchMode(cameraId, status);
    }catch (CameraAccessException e){
        e.printStackTrace();
    }
}

void showFlashError(){

    System.out.println("No Flash Available ...");
}
}

```

Layout File/s:

activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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">

    <ToggleButton
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:id="@+id/t1"
        android:textOff="On"
        android:textOn="Off"
        />

    <ToggleButton
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/t2"

```

```
        android:textSize="13sp"
        android:textOn="Disco"
        android:textOff="Disco"
        android:layout_below="@id/t1"
        android:layout_marginTop="24dp"/>

<Chronometer
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/t2"
    android:id="@+id/c1"
    android:gravity="center"
    android:layout_marginTop="24dp"/>

</RelativeLayout>
```

Output:

