

PRACTICAL: 6

AIM:

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

SOURCE CODE:

```
// MainActivity.java

package com.example.practical6;
import androidx.annotation.RequiresApi;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.DialogInterface;
import android.content.pm.PackageManager;
import android.hardware.camera2.CameraAccessException;
import android.hardware.camera2.CameraManager;
import android.os.Build;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.ToggleButton;

@RequiresApi(api = Build.VERSION_CODES.LOLLIPOP)

public class MainActivity extends AppCompatActivity {
    private CameraManager mCameraManager;
    private String mCameraId;
    private ToggleButton toggleButton;
    @RequiresApi(api = Build.VERSION_CODES.LOLLIPOP)
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        boolean isFlashAvailable = getApplicationContext().getPackageManager()
            .hasSystemFeature(PackageManager.FEATURE_CAMERA_FLASH);
        if (!isFlashAvailable) {
            showNoFlashError();
        }
    }
}
```

```

    }
    mCameraManager = (CameraManager) getSystemService(Context.CAMERA_SERVICE);
    try {
        mCameraId = mCameraManager.getCameraIdList()[0];
    } catch (CameraAccessException e) {
        e.printStackTrace();
    }
    toggleButton = findViewById(R.id.toggleButton);
    toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
        @RequiresApi(api = Build.VERSION_CODES.M)
        @Override
        public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
            switchFlashLight(isChecked);
        }
    });
}

public void showNoFlashError() {
    AlertDialog alert = new AlertDialog.Builder(this)
        .create();
    alert.setTitle("Oops!");
    alert.setMessage("Flash not available in this device...");
    alert.setButton(DialogInterface.BUTTON_POSITIVE, "OK", new
DialogInterface.OnClickListener() {
        public void onClick(DialogInterface dialog, int which) {
            finish();
        }
    });
    alert.show();
}

@RequiresApi(api = Build.VERSION_CODES.M)
public void switchFlashLight(boolean status) {
    try {
        mCameraManager.setTorchMode(mCameraId, status);
    } catch (CameraAccessException e) {
        e.printStackTrace();
    }
}
}

// activity_mail.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=".MainActivity">
    <ToggleButton

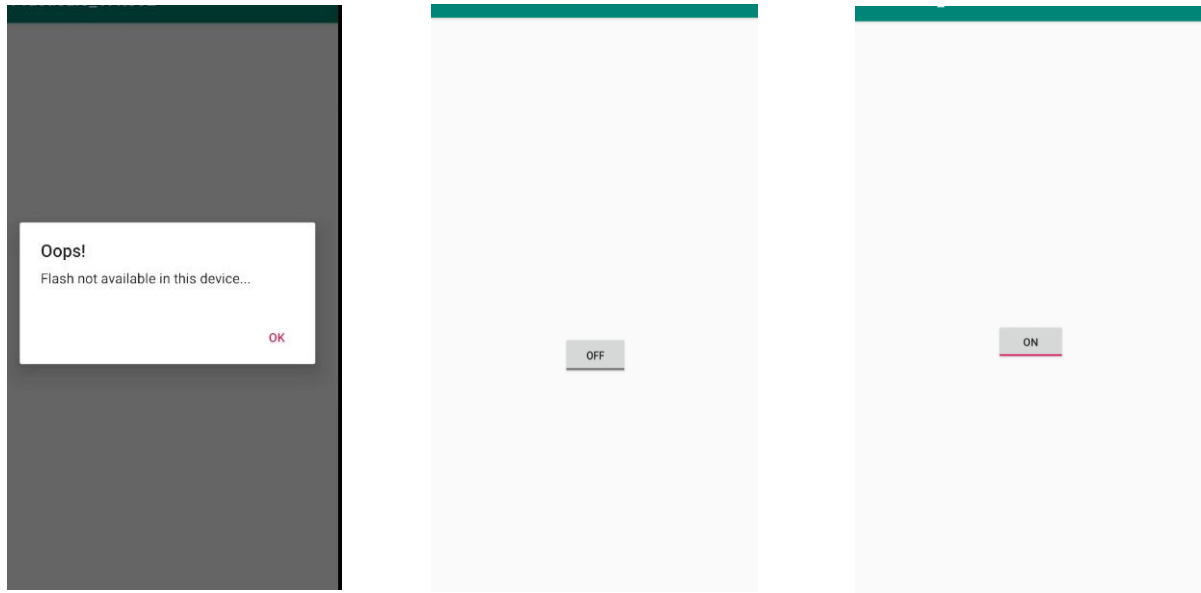
```

```
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ToggleButton"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    </androidx.constraintlayout.widget.ConstraintLayout>
```

// AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.practical6">
    <uses-feature android:name="android.hardware.camera.flash" />
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

OUTPUT:**LATEST APPLICATIONS:**

Torch/FlashLight can be used to notify the person for the message or the call. TrueCaller is using this to send flash messages.

LEARNING OUTCOME:

1. Working with android manifest file.
2. Working with device local resources.