

SMD TASK March 6, 2025

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Main activity.java

```
package com.example.permissions;

import android.os.Bundle;
import android.Manifest;
import android.annotation.SuppressLint;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.widget.Button;
import android.widget.Toast;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    private static final int
        CAMERA_PERMISSION_REQUEST_CODE = 1;
    private static final int
        LOCATION_PERMISSION_REQUEST_CODE = 2;
    private static final int
        INTERNET_PERMISSION_REQUEST_CODE = 3;
    private static final int
        STORAGE_PERMISSION_REQUEST_CODE = 4;
    Button cameraButton, locationBtn, internetBtn,
        storageBtn;
    @SuppressWarnings("MissingInflatedId")
    @Override
    protected void onCreate(Bundle
        savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        // Initialize buttons
        cameraButton = findViewById(R.id.button);
        locationBtn = findViewById(R.id.button2);
        internetBtn = findViewById(R.id.button3);
        storageBtn = findViewById(R.id.button4); //
        // Add a button for storage permission
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// Add padding for system bars
ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
    Insets systemBars =
        insets.getInsets(WindowInsetsCompat.Type.systemBars
            ());
    v.setPadding(systemBars.left,
        systemBars.top, systemBars.right,
        systemBars.bottom);
    return insets;
});

// Set an OnClickListener for each button
// to request permissions
cameraButton.setOnClickListener(v ->
    requestCameraPermission());
locationBtn.setOnClickListener(v ->
    requestLocationPermission());
internetBtn.setOnClickListener(v ->
    requestInternetPermission());
storageBtn.setOnClickListener(v ->
    requestStoragePermission());
}

// Request camera permission
private void requestCameraPermission() {
    if (ContextCompat.checkSelfPermission(this,
        Manifest.permission.CAMERA)
        !=
        PackageManager.PERMISSION_GRANTED) {
        ActivityCompat.requestPermissions(this,
            new String[]{Manifest.permission.CAMERA},
            CAMERA_PERMISSION_REQUEST_CODE);
    } else {
        Toast.makeText(this, "Camera permission already granted", Toast.LENGTH_SHORT).show();
    }
}

// Request location permission
private void requestLocationPermission() {
    if (ContextCompat.checkSelfPermission(this,
        Manifest.permission.ACCESS_FINE_LOCATION) != PackageManager.PERMISSION_GRANTED
        && ContextCompat.checkSelfPermission(this,
            Manifest.permission.ACCESS_COARSE_LOCATION) !=
            PackageManager.PERMISSION_GRANTED) {
        ActivityCompat.requestPermissions(this,
            new
            String[]{Manifest.permission.ACCESS_FINE_LOCATION,

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        Manifest.permission.ACCESS_COARSE_LOCATION},
        LOCATION_PERMISSION_REQUEST_CODE);
    } else {
        Toast.makeText(this, "Location permission already granted",
            Toast.LENGTH_SHORT).show();
    }
}
// Inform user that internet permission is
// granted by default
private void requestInternetPermission() {
    Toast.makeText(this, "Internet permission is granted by default", Toast.LENGTH_SHORT).show();
}
// Request external storage permission
private void requestStoragePermission() {
// For Android 9 (API 28) and below,
// request both read and write external storage
// permissions
    if (ContextCompat.checkSelfPermission(this,
        Manifest.permission.READ_EXTERNAL_STORAGE) !=
        PackageManager.PERMISSION_GRANTED ||
        ContextCompat.checkSelfPermission(this,
            Manifest.permission.WRITE_EXTERNAL_STORAGE) !=
            PackageManager.PERMISSION_GRANTED) {
        ActivityCompat.requestPermissions(this,
            new String[]{
Manifest.permission.READ_EXTERNAL_STORAGE,Manifest.permission.WRITE_EXTERNAL_STORAGE
            }, STORAGE_PERMISSION_REQUEST_CODE);
        Toast.makeText(this, "Requesting storage permissions", Toast.LENGTH_SHORT).show();
// Add a toast here
    } else {
        Toast.makeText(this, "Storage permission already granted",
            Toast.LENGTH_SHORT).show();
    }
}
// Handle the user's response to permissions
@Override
public void onRequestPermissionsResult(int requestCode, String[] permissions, int[] grantResults) {
    super.onRequestPermissionsResult(requestCode,
        permissions, grantResults);
    switch (requestCode) {
        case CAMERA_PERMISSION_REQUEST_CODE:
            if (grantResults.length > 0 &&
                grantResults[0] ==

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```

        PackageManager.PERMISSION_GRANTED) {
            Toast.makeText(this, "Camera permission granted", Toast.LENGTH_SHORT).show();
        } else {
            Toast.makeText(this, "Camera permission denied", Toast.LENGTH_SHORT).show();
        }
        break;
    case LOCATION_PERMISSION_REQUEST_CODE:
        if (grantResults.length > 0 &&
            grantResults[0] ==
                PackageManager.PERMISSION_GRANTED) {
            Toast.makeText(this, "Location permission granted", Toast.LENGTH_SHORT).show();
        } else {
            Toast.makeText(this, "Location permission denied", Toast.LENGTH_SHORT).show();
        }
        break;
    case STORAGE_PERMISSION_REQUEST_CODE:
        if (grantResults.length > 0) {
            boolean readGranted =
                grantResults[0] ==
                    PackageManager.PERMISSION_GRANTED;
            boolean writeGranted =
                grantResults[1] ==
                    PackageManager.PERMISSION_GRANTED;
            if (readGranted &&
                writeGranted) {
                Toast.makeText(this,
                    "Storage permission granted",
                    Toast.LENGTH_SHORT).show();
            } else {
                Toast.makeText(this,
                    "Storage permission denied",
                    Toast.LENGTH_SHORT).show();
            }
        }
        break;
    default:
        super.onRequestPermissionsResult(requestCode,
            permissions, grantResults);
    }
}
}

```

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:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<Button
    android:id="@+id/button"
    android:layout_width="192dp"
    android:layout_height="62dp"
    android:layout_marginStart="109dp"
    android:layout_marginTop="127dp"
    android:layout_marginEnd="111dp"
    android:text="Request Camera permission"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    tools:ignore="TextSizeCheck" />
<Button
    android:id="@+id/button2"
    android:layout_width="192dp"
    android:layout_height="62dp"
    android:layout_marginStart="109dp"
    android:layout_marginTop="19dp"
    android:layout_marginEnd="110dp"
    android:text="Request Location permission"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button"
    tools:ignore="TextSizeCheck" />
<Button
    android:id="@+id/button3"
    android:layout_width="192dp"
    android:layout_height="62dp"
    android:layout_marginStart="108dp"
    android:layout_marginTop="45dp"
    android:layout_marginEnd="111dp"
    android:layout_marginBottom="354dp"
    android:text="Request Internet permission"
```

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        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.516"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button2"
        app:layout_constraintVertical_bias="0.163"
        tools:ignore="TextSizeCheck" />
<Button
    android:id="@+id/button4"
    android:layout_width="218dp"
    android:layout_height="85dp"
    android:layout_marginStart="108dp"
    android:layout_marginTop="68dp"
    android:layout_marginEnd="111dp"
    android:layout_marginBottom="316dp"
    android:text="Request External storage permission"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.516"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button3"
    tools:ignore="TextSizeCheck" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Manifest 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">

    <!-- Permissions -->
    <uses-feature
        android:name="android.hardware.camera"
        android:required="false" />

    <uses-permission android:name="android.permission.MANAGE_EXTERNAL_STORAGE"
        tools:ignore="ScopedStorage" />
    <uses-permission android:name="android.permission.CAMERA" />
    <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />
    <uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION" />

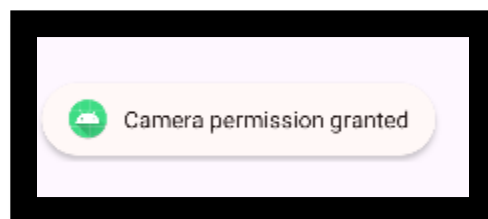
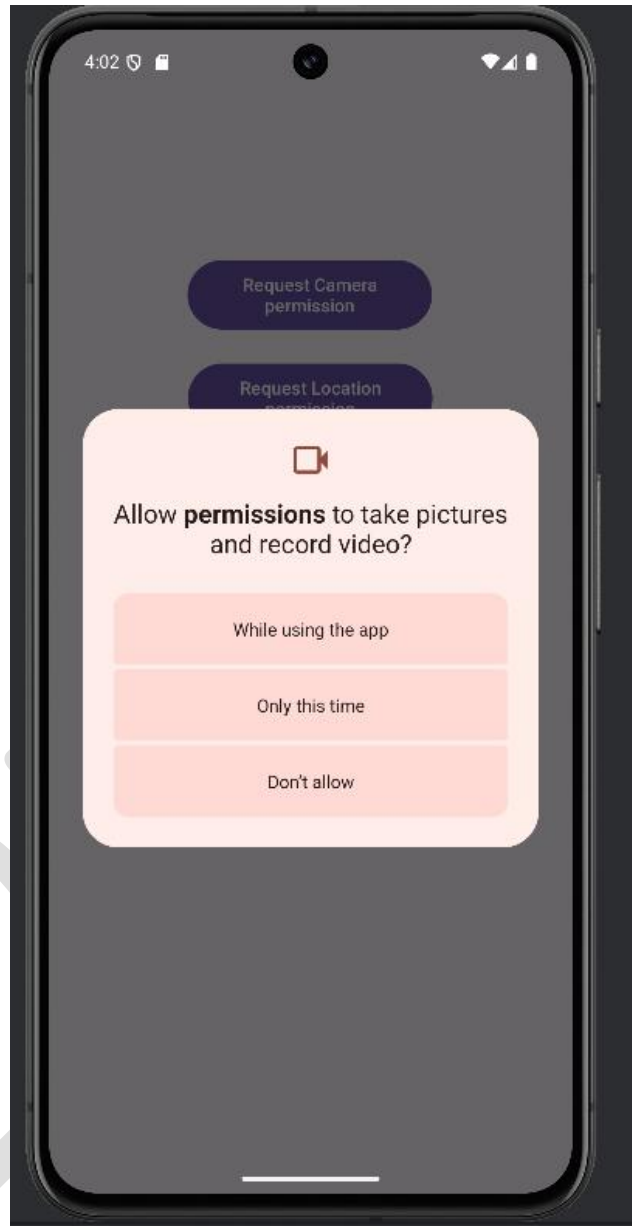
```

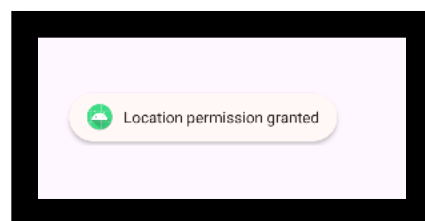
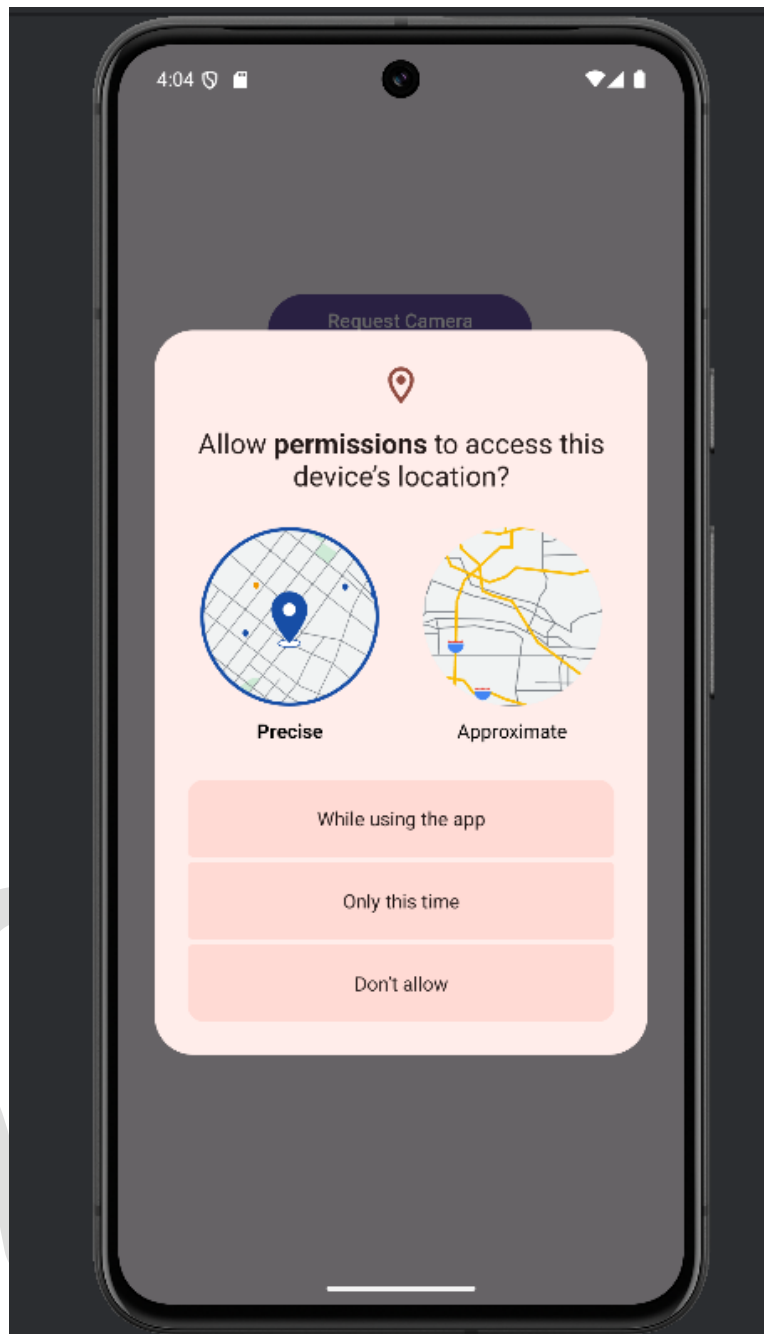
```
<uses-permission android:name="android.permission.INTERNET" />

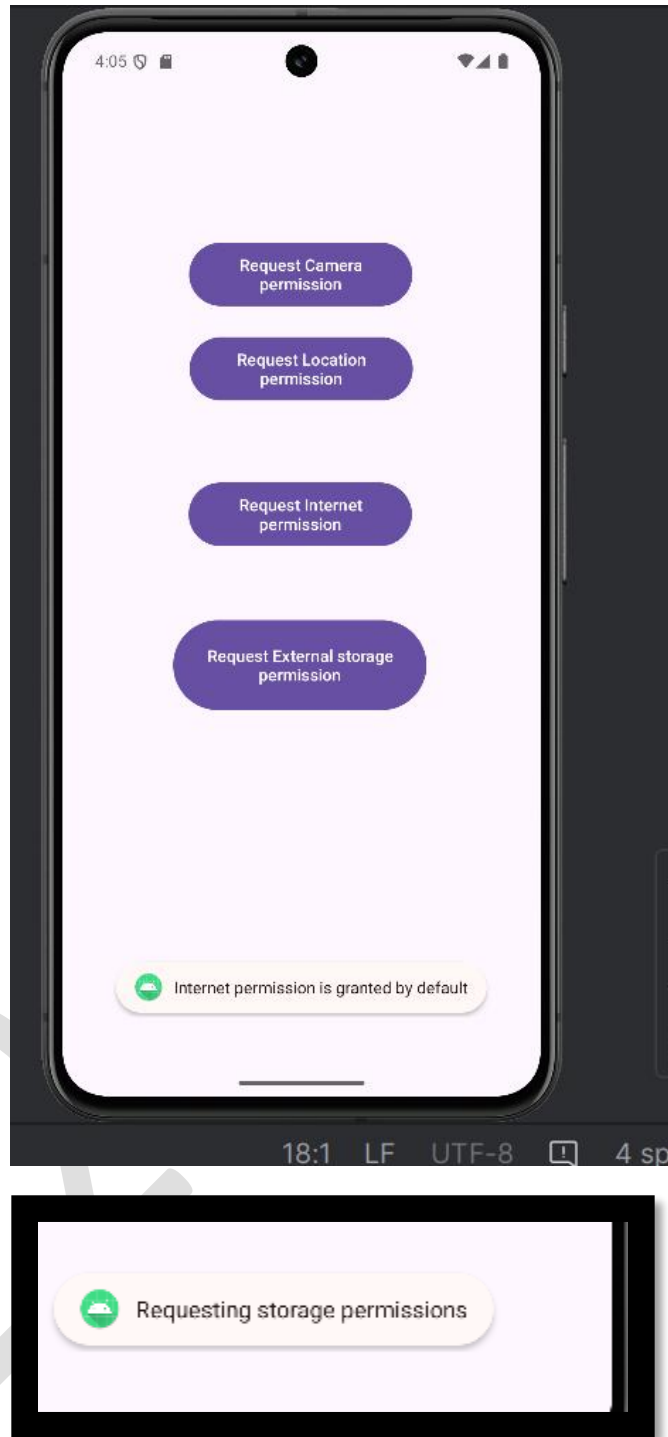
<application
    android:allowBackup="true"
    android:dataExtractionRules="@xml/data_extraction_rules"
    android:fullBackupContent="@xml/backup_rules"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportRtl="true"
    android:theme="@style/Theme.Permissions"
    tools:targetApi="31">

    <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>
```


Output:
Requesting camera permissions







End of file