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Android Sensor Programming

Homework #12

**AndroidManifest.xml**

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

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

package="com.example.homework12">

<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>

**Activity\_main.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"

tools:context="com.example.homework12.MainActivity"

android:orientation="horizontal">

<GridView

android:id="@+id/gridview"

android:layout\_width="120dp"

android:layout\_height="match\_parent" />

<ImageSwitcher

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_alignParentStart="true"

android:id="@+id/imageSwitcher"

android:layout\_alignParentLeft="true"/>

</LinearLayout>

**MainActivity.java**

package com.example.homework12;

import android.content.Context;

import android.os.Bundle;

import android.view.View;

import android.view.ViewGroup;

import android.view.animation.AnimationUtils;

import android.widget.AdapterView;

import android.widget.BaseAdapter;

import android.widget.Button;

import android.widget.GridView;

import android.widget.ImageSwitcher;

import android.widget.ImageView;

import android.widget.Toast;

import android.widget.ViewSwitcher;

import androidx.appcompat.app.ActionBar;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private ImageSwitcher imgSwitcher;

//private Button btnViewWindows,btnViewButterfly;

Integer[] imageIDs = {R.mipmap.butterfly,

R.mipmap.windows,

R.mipmap.flowers,

R.mipmap.bridge,

R.mipmap.fall,

R.mipmap.ic\_launcher\_round};

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

imgSwitcher = (ImageSwitcher) findViewById(R.id.imageSwitcher);

imgSwitcher.setInAnimation(AnimationUtils.loadAnimation(this,

android.R.anim.fade\_in));

imgSwitcher.setOutAnimation(AnimationUtils.loadAnimation(this,

android.R.anim.fade\_out));

GridView gridView = findViewById(R.id.gridview);

gridView.setAdapter(new ImageAdapter(this));

gridView.setOnItemClickListener(new AdapterView.OnItemClickListener()

{

public void onItemClick(AdapterView parent, View v, int position, long id) {

imgSwitcher.setImageResource(imageIDs[position]);

Toast.makeText(getBaseContext(),

"pic" + (position + 1) + " selected",

Toast.LENGTH\_SHORT).show();

}

});

imgSwitcher = (ImageSwitcher) findViewById(R.id.imageSwitcher);

imgSwitcher.setInAnimation(AnimationUtils.loadAnimation(this,

android.R.anim.fade\_in));

imgSwitcher.setOutAnimation(AnimationUtils.loadAnimation(this,

android.R.anim.fade\_out));

imgSwitcher.setFactory(new ViewSwitcher.ViewFactory() {

@Override

public View makeView() {

ImageView myView = new ImageView(getApplicationContext());

myView.setScaleType(ImageView.ScaleType.FIT\_CENTER);

myView.setLayoutParams(new ImageSwitcher.LayoutParams(

ActionBar.LayoutParams.WRAP\_CONTENT, ActionBar.LayoutParams.WRAP\_CONTENT));

return myView;

}

});

}

public class ImageAdapter extends BaseAdapter {

private Context context;

public ImageAdapter(Context c) { context = c; }

//---returns the number of images---

public int getCount() { return imageIDs.length; }

//---returns the item---

public Object getItem(int position) { return position; }

//---returns the ID of an item---

public long getItemId(int position) { return position; }

//---returns an ImageView view---

public View getView(int position, View convertView, ViewGroup parent) {

ImageView imageView;

if (convertView == null) {

imageView = new ImageView(context);

imageView.setLayoutParams(new GridView.LayoutParams(150, 150));

imageView.setScaleType(ImageView.ScaleType.CENTER\_CROP);

imageView.setPadding(5, 5, 5, 5);

} else {

imageView = (ImageView) convertView;

}

imageView.setImageResource(imageIDs[position]);

return imageView;

}

}

}

**Screenshot**

|  |  |
| --- | --- |
| A screenshot of a flower  Description automatically generated | A close up of a sign  Description automatically generated |
| A close up of a flower  Description automatically generated | A close up of a flower  Description automatically generated |