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**Home.java**

package com.example.sairameshg.prci;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class Home extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_home);

}

public void onB1Click(View v)

{

Intent intentbegin=new Intent(getApplicationContext(),begin.class);

startActivity(intentbegin);

}

public void onB2Click(View v)

{

Intent intentbegin=new Intent(getApplicationContext(),guidelines\_1.class);

startActivity(intentbegin);

}

}

**Information\_3.java**

package com.example.sairameshg.prci;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class information\_3 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_information\_3);

}

public void onB14Click(View v)

{

Intent intentSignUP=new Intent(getApplicationContext(),capture.class);

startActivity(intentSignUP);

}

}

**Information\_1.java**

package com.example.sairameshg.prci;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class information\_1 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_information\_1);

}

public void onB08Click(View v)

{

// Button B1=(Button)findViewById(R.id.B1);

Intent intentSignUP=new Intent(getApplicationContext(),information.class);

startActivity(intentSignUP);

}

}

**Information.java**

package com.example.sairameshg.prci;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class information extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_information);

}

public void onB09Click(View v)

{

Intent intentSignUP=new Intent(getApplicationContext(),information\_3.class);

startActivity(intentSignUP);

}

**}**

**Guidelines\_2.java**

package com.example.sairameshg.prci;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class guidelines\_2 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_guidelines\_2);

}

public void onB12Click(View v)

{

Intent intentSignUP=new Intent(getApplicationContext(),Home.class);

startActivity(intentSignUP);

}

}

**Begin.java**

package com.example.sairameshg.prci;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class begin extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_begin);

}

public void onB3Click(View v)

{

Intent intentcapture=new Intent(getApplicationContext(),capture.class);

startActivity(intentcapture);

}

public void onB4Click(View v)

{

Intent intentinformation=new Intent(getApplicationContext(),information\_1.class);

startActivity(intentinformation);

}

}

**Capture.java**

package com.example.sairameshg.prci;

import android.util.Log;

//import android.util.log;

import android.content.Intent;

import android.content.pm.PackageManager;

import android.graphics.Bitmap;

import android.os.Bundle;

import android.provider.MediaStore;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

import android.widget.Button;

import android.widget.ImageView;

import android.support.v7.app.ActionBarActivity;

import android.support.v7.app.ActionBar;

import android.widget.TextView;

import org.opencv.core.Core;

import org.opencv.core.DMatch;

import org.opencv.core.Mat;

import org.opencv.core.CvType;

// import org.opencv.core.DMatch;

import org.opencv.core.Mat;

import org.opencv.core.MatOfDMatch;

import org.opencv.core.MatOfKeyPoint;

// import org.opencv.features2d.DMatch;

import org.opencv.features2d.DescriptorExtractor;

import org.opencv.features2d.DescriptorMatcher;

import org.opencv.features2d.FeatureDetector;

import org.opencv.features2d.Features2d;

import org.opencv.imgcodecs.Imgcodecs;

// import org.opencv.highgui.Highgui;

public class capture extends AppCompatActivity {

static final int REQUEST\_IMAGE\_CAPTURE = 1;

ImageView buckysImageView;

TextView textView1;

TextView textView2;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_capture);

Button buckyButton = (Button) findViewById(R.id.buckysButton);

buckysImageView = (ImageView) findViewById(R.id.buckysImageView);

textView1=(TextView ) findViewById(R.id.textView1) ;

textView2=(TextView ) findViewById(R.id.textView2) ;

//Disable the button if the user has no camera

if (!hasCamera())

buckyButton.setEnabled(false);

}

//Check if the user has a camera

private boolean hasCamera() {

return getPackageManager().hasSystemFeature(PackageManager.FEATURE\_CAMERA\_ANY);

}

//Launching the camera

public void launchCamera(View view) {

Intent intent = new Intent(MediaStore.ACTION\_IMAGE\_CAPTURE);

//Take a picture and pass results along to onActivityResult

startActivityForResult(intent, REQUEST\_IMAGE\_CAPTURE);

}

//If you want to return the image taken

@Override

protected void onActivityResult(int requestCode, int resultCode, Intent data) {

if (requestCode == REQUEST\_IMAGE\_CAPTURE && resultCode == RESULT\_OK) {

//Get the photo

Bundle extras = data.getExtras();

Bitmap photo = (Bitmap) extras.get("data");

buckysImageView.setImageBitmap(photo);

// Prci();

}

}

public void Prci(View v){

// Log.d("test");

// Set image path

String filename = "/home/akshay/AndroidStudioProjects/TakePhoto/app/src/main/res/drawable/g.jpg";

String filename1 = "/home/akshay/AndroidStudioProjects/TakePhoto/app/src/main/res/drawable/a.jpg";

String filename2 = "/home/akshay/AndroidStudioProjects/TakePhoto/app/src/main/res/drawable/b.jpg";

String filename3 = "/home/akshay/AndroidStudioProjects/TakePhoto/app/src/main/res/drawable/c.jpg";

String filename4 = "/home/akshay/AndroidStudioProjects/TakePhoto/app/src/main/res/drawable/d.jpg";

String filename5 = "/home/akshay/AndroidStudioProjects/TakePhoto/app/src/main/res/drawable/e.jpg";

String filename6 = "/home/akshay/AndroidStudioProjects/TakePhoto/app/src/main/res/drawable/f.jpg";

int count=0,count1=0;

int ret[]=new int[6];

ret[5] = compareFeature(filename, filename1);

ret[0] = compareFeature(filename, filename1);

ret[1] = compareFeature(filename, filename2);

ret[2] = compareFeature(filename, filename3);

ret[3] = compareFeature(filename, filename4);

ret[4] = compareFeature(filename, filename5);

ret[5] = compareFeature(filename, filename6);

for(int i=0;i<=5;i++)

{

if(i<=2)

{

if(ret[i]>0)

count++;

}

if(i>2)

{

if(ret[i]>0)

count1++;

}

}

if(count+count1>0)

{

//TextView textView1=(TextView ) findViewById(R.id.textView1) ;

textView1.setText("it's going to rain");

// System.out.println();

}

else

{

//TextView textView1=(TextView ) findViewById(R.id.textView1) ;

textView1.setText("it's not going to rain");

// System.out.println();

}

if(count>count1)

{

// TextView textView2=(TextView ) findViewById(R.id.textView2) ;

textView2.setText("it's cumulonimbus");

//System.out.println("it's cumulonimbus");

}

else if(count<count1)

{ // TextView textView2=(TextView ) findViewById(R.id.textView2) ;

textView2.setText("it's nimbostratus");

// System.out.println("it's nimbostartus");

}

else

{

//TextView textView2=(TextView ) findViewById(R.id.textView2) ;

textView2.setText("its either one of them");

// System.out.println("as if understood you what nimbostratus is R??");

}

// if (ret > 0) {

// System.out.println("Two images are same.");

// } else {

// System.out.println("Two images are different.");

// }

}

/\*\*

\* Compare that two images is similar using feature mapping

\* @author minikim

\* @param filename1 - the first image

\* @param filename2 - the second image

\* @return integer - count that has the similarity within images

\*/

public static int compareFeature(String filename1, String filename2) {

int retVal = 0;

long startTime = System.currentTimeMillis();

System.loadLibrary(Core.NATIVE\_LIBRARY\_NAME);

// Load images to compare

Mat img1 = Imgcodecs.imread(filename1, Imgcodecs.CV\_LOAD\_IMAGE\_COLOR);

Mat img2 = Imgcodecs.imread(filename2, Imgcodecs.CV\_LOAD\_IMAGE\_COLOR);

// Declare key point of images

MatOfKeyPoint keypoints1 = new MatOfKeyPoint();

MatOfKeyPoint keypoints2 = new MatOfKeyPoint();

Mat descriptors1 = new Mat();

Mat descriptors2 = new Mat();

// Definition of ORB key point detector and descriptor extractors

FeatureDetector detector = FeatureDetector.create(FeatureDetector.ORB);

DescriptorExtractor extractor = DescriptorExtractor.create(DescriptorExtractor.ORB);

// Detect key points

detector.detect(img1, keypoints1);

detector.detect(img2, keypoints2);

// Extract descriptors

extractor.compute(img1, keypoints1, descriptors1);

extractor.compute(img2, keypoints2, descriptors2);

// Definition of descriptor matcher

DescriptorMatcher matcher = DescriptorMatcher.create(DescriptorMatcher.BRUTEFORCE\_HAMMING);

// Match points of two images

MatOfDMatch matches = new MatOfDMatch();

// System.out.println("Type of Image1= " + descriptors1.type() + ", Type of Image2= " + descriptors2.type());

// System.out.println("Cols of Image1= " + descriptors1.cols() + ", Cols of Image2= " + descriptors2.cols());

// Avoid to assertion failed

// Assertion failed (type == src2.type() && src1.cols == src2.cols && (type == CV\_32F || type == CV\_8U)

if (descriptors2.cols() == descriptors1.cols()) {

matcher.match(descriptors1, descriptors2, matches);

// Check matches of key points

DMatch[] match = matches.toArray();

double max\_dist = 0;

double min\_dist = 100;

for (int i = 0; i < descriptors1.rows(); i++) {

double dist = match[i].distance;

if (dist < min\_dist) min\_dist = dist;

if (dist > max\_dist) max\_dist = dist;

}

//System.out.println("max\_dist=" + max\_dist + ", min\_dist=" + min\_dist);

// Extract good images (distances are under 10)

for (int i = 0; i < descriptors1.rows(); i++) {

if (match[i].distance <= 37) {

retVal++;

}

}

// System.out.println("matching count=" + retVal);

}

long estimatedTime = System.currentTimeMillis() - startTime;

//System.out.println("estimatedTime=" + estimatedTime + "ms");

return retVal;

}

}