Lab-2

Name: Vishnu Praveen Gude

NO: 16103389

ANDROID MOBILE APP:

1.I created a image button for speech intent window.

2.when user clicks that button speech intent will popup so that user can say city name .

3.It is stored to the variable and displayed as text.

4.That city name is passed to openweathermap.org url

5.then the json output is parsed using json library and returns the string values of temp and temp\_max fields.

6.Then the values is displayed to text view.

Code:

**MainActivity.java**

package com.min.vishnu;

import java.io.ByteArrayOutputStream;

import java.io.FileNotFoundException;

import java.io.IOException;

import java.math.BigDecimal;

import java.util.ArrayList;

import java.util.Map;

import org.apache.http.HttpResponse;

import org.apache.http.HttpStatus;

import org.apache.http.StatusLine;

import org.apache.http.client.ClientProtocolException;

import org.apache.http.client.HttpClient;

import org.apache.http.client.methods.HttpGet;

import org.apache.http.client.methods.HttpPost;

import org.apache.http.impl.client.DefaultHttpClient;

import org.json.JSONArray;

import org.json.JSONException;

import org.json.JSONObject;

import android.os.Bundle;

import android.os.StrictMode;

import android.app.Activity;

import android.content.ActivityNotFoundException;

import android.content.Intent;

import android.speech.RecognizerIntent;

import android.view.Menu;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.ImageButton;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends Activity {

protected static final int RESULT\_SPEECH = 1;

private ImageButton btnSpeak;

private ImageButton submit;

private TextView txtText;

private TextView edittext;

private String res="";

StrictMode.ThreadPolicy policy = new StrictMode.ThreadPolicy.Builder().permitAll().build();

@Override

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

StrictMode.setThreadPolicy(policy);

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

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

btnSpeak = (ImageButton) findViewById(R.id.btnSpeak);

submit = (ImageButton) findViewById(R.id.submit);

btnSpeak.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Intent intent = new Intent(

RecognizerIntent.ACTION\_RECOGNIZE\_SPEECH);

intent.putExtra(RecognizerIntent.EXTRA\_LANGUAGE\_MODEL, "en-US");

try {

startActivityForResult(intent, RESULT\_SPEECH);

txtText.setText("");

} catch (ActivityNotFoundException a) {

Toast t = Toast.makeText(getApplicationContext(),

"Ops! Your device doesn't support Speech to Text",

Toast.LENGTH\_SHORT);

t.show();

}

}

});

submit.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

if(res != "")

{

HttpClient httpclient = new DefaultHttpClient();

HttpResponse response;

String responseString = null;

try {

HttpPost httpPost = new HttpPost("http://api.openweathermap.org/data/2.5/weather?q="+res);

response = httpclient.execute(httpPost);

StatusLine statusLine = response.getStatusLine();

if(statusLine.getStatusCode() == HttpStatus.SC\_OK){

ByteArrayOutputStream out = new ByteArrayOutputStream();

response.getEntity().writeTo(out);

out.close();

responseString = out.toString();

String combine = JSONAnalysis(responseString);

String temp = combine.split(";")[0];

String weather = combine.split(";")[1];

float tem=Float.parseFloat(temp)-273;

float maxt=Float.parseFloat(weather)-273;

edittext.setText("temp is: "+round(tem,2) + " C"+"\n" + "max temp: "+round(maxt,2)+" C");

} else{

//Closes the connection.

res="sorry no results found";

edittext.setText(res);

response.getEntity().getContent().close();

throw new IOException(statusLine.getReasonPhrase());

}

} catch (ClientProtocolException e) {

res="sorry something went wrong ! try again";

edittext.setText(res);

e.printStackTrace();

} catch (IOException e) {

res="sorry something went wrong ! try again";

edittext.setText(res);

e.printStackTrace();

}

}else

{

res="Please speak the city name first";

edittext.setText(res);

}

}

});

}

@Override

public boolean onCreateOptionsMenu(Menu menu) {

getMenuInflater().inflate(R.menu.main, menu);

return true;

}

@Override

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

super.onActivityResult(requestCode, resultCode, data);

switch (requestCode) {

case RESULT\_SPEECH: {

if (resultCode == RESULT\_OK && null != data) {

ArrayList<String> text = data

.getStringArrayListExtra(RecognizerIntent.EXTRA\_RESULTS);

res= text.get(0);

txtText.setText(text.get(0));

}

break;

}

}

}

public String JSONAnalysis(String jsonString)

{

String combine="1";

String temperature="";

String weather="";

JSONObject jsonObj;

try {

jsonObj = new JSONObject(jsonString);

JSONObject obser=jsonObj.getJSONObject("main");

temperature=obser.getString("temp");

weather = obser.getString("temp\_max");

combine = temperature+";"+weather;

} catch (JSONException e) {

// TODO Auto-generated catch block

res="Sorry No city Found";

edittext.setText(res);

e.printStackTrace();

}

return combine;

}

public static float round(float d, int decimalPlace) {

BigDecimal bd = new BigDecimal(Float.toString(d));

bd = bd.setScale(decimalPlace, BigDecimal.ROUND\_HALF\_UP);

return bd.floatValue();

}

}

AndroidManifest.xml

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

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

package=*"com.min.vishnu"*

android:versionCode=*"1"*

android:versionName=*"1.0"* >

<uses-sdk

android:minSdkVersion=*"9"*

android:targetSdkVersion=*"18"* />

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

<application

android:allowBackup=*"true"*

android:icon=*"@drawable/ic\_launcher"*

android:label=*"@string/app\_name"*

android:theme=*"@style/AppTheme"* >

<activity

android:name=*"com.min.vishnu.MainActivity"*

android:label=*"@string/app\_name"* >

<intent-filter>

<action android:name=*"android.intent.action.MAIN"* />

<category android:name=*"android.intent.category.LAUNCHER"* />

</intent-filter>

</activity>

</application>

</manifest>

**Activity\_main.xml**

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

xmlns:tools=*"http://schemas.android.com/tools"*

android:layout\_width=*"fill\_parent"*

android:layout\_height=*"wrap\_content"*

android:paddingBottom=*"@dimen/activity\_vertical\_margin"*

android:paddingLeft=*"@dimen/activity\_horizontal\_margin"*

android:paddingRight=*"@dimen/activity\_horizontal\_margin"*

android:paddingTop=*"@dimen/activity\_vertical\_margin"*

android:orientation=*"vertical"*

android:gravity=*"center"*

tools:context=*".MainActivity"* >

<ImageButton

android:id=*"@+id/btnSpeak"*

android:layout\_width=*"fill\_parent"*

android:layout\_height=*"wrap\_content"*

android:layout\_margin=*"10dp"*

android:layout\_marginRight=*"10dp"*

android:layout\_marginTop=*"10dp"*

android:contentDescription=*"@string/speak"*

android:src=*"@android:drawable/ic\_btn\_speak\_now"* />

<TextView

android:id=*"@+id/txtText"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_marginLeft=*"10dp"*

android:layout\_marginRight=*"10dp"*

android:layout\_marginTop=*"10dp"*

android:textAppearance=*"?android:attr/textAppearanceLarge"* />

<TextView

android:id=*"@+id/edittext"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_marginLeft=*"10dp"*

android:layout\_marginRight=*"10dp"*

android:layout\_marginTop=*"10dp"*

android:textAppearance=*"?android:attr/textAppearanceLarge"* />

<ImageButton

android:id=*"@+id/submit"*

android:layout\_width=*"fill\_parent"*

android:layout\_height=*"wrap\_content"*

android:layout\_margin=*"10dp"*

android:layout\_marginRight=*"10dp"*

android:layout\_marginTop=*"10dp"*

android:contentDescription=*"@string/speak"*

android:src=*"@drawable/ic\_launcher"* />

</LinearLayout>







