**SOS (security project for car) - 2018**

**Automatic vehicle accident detection and messaging using GSM and GPS modem using ARM7**

The prototype model of an automatic vehicle accident detection and messaging using GSM and GPS modem using ARM7 working will be made in the following steps:

1. Complete layout of the whole set up will be drawn in form of a block diagram
2. A piezoelectric sensor will first sense the occurrence of an accident and give its output to the microcontroller.
3. The GPS detects the latitude and longitudinal position of a vehicle.
4. The latitudes and longitude position of the vehicle is sent as message through the GSM.
5. The phone number is pre-saved in the EEPROM.
6. Whenever an accident has occurred the position is detected and a message has been sent to the pre-saved number.

CODE:-

app/src/main/java/com/example/anask/myapplication/MainActivity.java

package com.example.anask.myapplication;

import android.app.Activity;

import android.app.ActivityManager;

import android.content.ComponentName;

import android.content.Context;

import android.content.Intent;

import android.database.Cursor;

import android.hardware.Sensor;

import android.hardware.SensorManager;

import android.net.Uri;

import android.os.Bundle;

import android.os.Vibrator;

import android.provider.Contacts;

import android.provider.ContactsContract;

import android.support.design.widget.FloatingActionButton;

import android.support.v7.app.AlertDialog;

import android.util.Log;

import android.widget.Button;

import android.widget.CheckBox;

import android.widget.EditText;

import android.support.design.widget.Snackbar;

import android.support.v7.app.AppCompatActivity;

import android.support.v7.widget.Toolbar;

import android.view.View;

import android.view.Menu;

import android.view.MenuItem;

import android.widget.RadioButton;

import android.widget.Toast;

import java.io.File;

import java.io.FileOutputStream;

import java.io.OutputStreamWriter;

public class MainActivity extends AppCompatActivity {

    public static String firstN,secondN;

    public int flag;

    public EditText edT1;

    public EditText edT2;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity\_main);

        Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);

        setSupportActionBar(toolbar);

        FloatingActionButton fab = (FloatingActionButton) findViewById(R.id.fab);

        fab.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                //hjh

                Intent i = new Intent();

                i.setComponent(new ComponentName("com.android.contacts", "com.android.contacts.DialtactsContactsEntryActivity"));

                i.setAction("android.intent.action.MAIN");

                i.addCategory("android.intent.category.LAUNCHER");

                i.addCategory("android.intent.category.DEFAULT");

                Toast.makeText(getApplicationContext(),"Copy the particular contact's number",Toast.LENGTH\_LONG).show();

                startActivity(i);

            }

        });

        final Button serviceB=(Button)findViewById(R.id.serviceB);

        flag=1;

        serviceB.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                if (flag == 1) {

                    Toast.makeText(MainActivity.this, "ACTIVATED!", Toast.LENGTH\_LONG).show();

                    startService(new Intent(getApplicationContext(), ShakeService.class));

                    flag = 0;

                } else {

                    Toast.makeText(MainActivity.this, "DEACTIVATED!", Toast.LENGTH\_LONG).show();

                    stopService(new Intent(getApplicationContext(), ShakeService.class));

                    flag = 1;

                }

            }

        });

        Button doneB=(Button)findViewById(R.id.doneButton);

        if (doneB != null) {

            doneB.setOnClickListener(new View.OnClickListener() {

                @Override

                public void onClick(View v) {

                    edT1 = (EditText) findViewById(R.id.firstNumber);

                    edT2 = (EditText) findViewById(R.id.secondNumber);

                    if(edT1.getText()!=null)

                        firstN=edT1.getText().toString();

                    if(edT2.getText()!=null)

                        secondN=edT2.getText().toString();

                    try {

                        File myFile = new File("/sdcard/.emergencyNumbers.txt");

                        myFile.createNewFile();

                        FileOutputStream fOut = new FileOutputStream(myFile);

                        OutputStreamWriter myOutWriter =

                                new OutputStreamWriter(fOut);

                        myOutWriter.append(firstN);

                        myOutWriter.append("\n");

                        myOutWriter.append(secondN);

                        myOutWriter.close();

                        fOut.close();

                        Toast.makeText(getApplicationContext(),

                                "The emergency contact numbers have been saved.",

                                Toast.LENGTH\_SHORT).show();

                    } catch (Exception e) {

                        Toast.makeText(getApplicationContext(), e.getMessage(),

                                Toast.LENGTH\_SHORT).show();

                    }

                    Log.d(getPackageName(), "Done! button pressed.");

                }

            });

        }

    }

    @Override

    public boolean onCreateOptionsMenu(Menu menu) {

        // Inflate the menu; this adds items to the action bar if it is present.

        getMenuInflater().inflate(R.menu.menu\_main, menu);

        return true;

    }

    @Override

    public boolean onOptionsItemSelected(MenuItem item) {

        // Handle action bar item clicks here. The action bar will

        // automatically handle clicks on the Home/Up button, so long

        // as you specify a parent activity in AndroidManifest.xml.

        int id = item.getItemId();

        //noinspection SimplifiableIfStatement

        if (id == R.id.aboutM) {

            startActivity(new Intent(MainActivity.this,About.class));

        }

        else if(id == R.id.close){

            System.exit(1);

        }

        return super.onOptionsItemSelected(item);

    }

}