



PROYECTO FINAL – SENSORES

Estudiantes: Eimy Guerra 3-745-950
Andrew González 8-954-1126
Reynalis López 3-743-1190
Ary Sánchez 8-904-1189

Grupo: 1IL143

Sensor de Detección de Pasos (Step Detector)

Código de MainActivity.java

```
package com.example.stepdetector;

import androidx.appcompat.app.AppCompatActivity;

import android.hardware.Sensor;
import android.hardware.SensorEvent;
import android.hardware.SensorEventListener;
import android.hardware.SensorManager;
import android.os.Bundle;
import android.view.WindowManager;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    private TextView textViewStepCounter,
    textViewStepDetector, tvv1, tvv2, tvv3;
    private SensorManager sensorManager;
    private Sensor mStepCounter, mStepDetector;
    private boolean isCounterSensorPresent, isDetectorSensorPresent;
    int stepCount=0, stepDetect=0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        getWindow().addFlags(WindowManager.LayoutParams.FLAG_KEEP_SCREEN_ON);
        textViewStepCounter= findViewById(R.id.tvCounter);
        textViewStepDetector= findViewById(R.id.tvDetector);
        tvv1=findViewById(R.id.tv1);
        tvv2=findViewById(R.id.tv2);
        tvv3=findViewById(R.id.textView);

        sensorManager= (SensorManager) getSystemService(SENSOR_SERVICE);

        if(sensorManager.getDefaultSensor(Sensor.TYPE_STEP_COUNTER) !=null)
        {
            mStepCounter=sensorManager.getDefaultSensor(Sensor.TYPE_STEP_COUNTER);
            isCounterSensorPresent=true;
        }else{
            textViewStepCounter.setText("Counter Sensor is not present");
            isCounterSensorPresent=false;
        }
    }
}
```

```

    }

    if(sensorManager.getDefaultSensor(Sensor.TYPE_STEP_DETECTOR) != null)
    {
        mStepDetector=
sensorManager.getDefaultSensor(Sensor.TYPE_STEP_DETECTOR);
        isDetectorSensorPresent=true;
    }
    else{
        textViewStepDetector.setText("Detector Sensor is not Present");
        isDetectorSensorPresent=false;
    }
}

//@Override
public void onSensorChanged(SensorEvent sensorEvent){
    if(sensorEvent.sensor==mStepCounter){
        stepCount=(int) sensorEvent.values[0];
        textViewStepCounter.setText(String.valueOf(stepCount));
    }
    else if(sensorEvent.sensor==mStepDetector){
        stepDetect=(int) (stepDetect+sensorEvent.values[0]);
        textViewStepDetector.setText(String.valueOf(stepDetect));
    }
}

// @Override
protected void onAccuracyChanged(Sensor sensor, int i){

}

@Override
protected void onResume() {
    super.onResume();
    if(sensorManager.getDefaultSensor(Sensor.TYPE_STEP_COUNTER) != null)
        sensorManager.registerListener((SensorEventListener) this,
mStepCounter, SensorManager.SENSOR_DELAY_NORMAL);
    //sensorManager.registerListener(this, mStepCounter,
SensorManager.SENSOR_DELAY_NORMAL);

    if(sensorManager.getDefaultSensor(Sensor.TYPE_STEP_DETECTOR) != null)
        sensorManager.registerListener((SensorEventListener) this,
mStepDetector, SensorManager.SENSOR_DELAY_NORMAL);
    //sensorManager.registerListener(this, mStepDetector,
SensorManager.SENSOR_DELAY_NORMAL);
}

@Override
protected void onPause() {
    super.onPause();
    if(sensorManager.getDefaultSensor(Sensor.TYPE_STEP_COUNTER) != null)
        sensorManager.unregisterListener((SensorEventListener) this,
mStepCounter);
    //sensorManager.unregisterListener(this, mStepCounter);
}

```

```

        if (sensorManager.getDefaultSensor (Sensor.TYPE_STEP_DETECTOR) !=null)
            sensorManager.unregisterListener ( (SensorEventListener)
this,mStepDetector);
        //sensorManager.unregisterListener (this,mStepDetector);
    }
}

```

Código de activity_main.xml

```

<?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:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="STEP DETECTOR"
    android:textSize="32dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.071" />

<TextView
    android:id="@+id/tv1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Step Counter"
    android:textSize="28dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.064"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.217" />

<TextView
    android:id="@+id/tv2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Step Detector"
    android:textSize="28dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.066"

```

```
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.513" />

<TextView
    android:id="@+id/tvCounter"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Counter"
    android:textSize="30dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.481"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.345" />

<TextView
    android:id="@+id/tvDetector"
    android:layout_width="285dp"
    android:layout_height="80dp"
    android:text="Detector"
    android:textSize="30dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.604"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.662" />

</androidx.constraintlayout.widget.ConstraintLayout>
```