



# GPS SUPPORTED SOUND SENSOR

PUBLIC TRANSPORT

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# EXPLANATION

- BUTTON INSIDE BUS / TRAIN / METRO, ETC.
- BUTTON AT THE STATION
- PRESS TO GET SOUND AND / OR INFO ABOUT DISTANCE TO STATION
- GPS INSIDE TRANSPORT CONNECTED TO BUTTON TO ASSES DISTANCE TO STATION AND DISTANCE TO BUS
- NOTIFICATION ABOUT „10 MIN FROM STATION“, „5 MIN FROM STATION“, ETC.

# TARGET GROUP

- ANY USER OF PUBLIC TRANSPORT
- ESPECIALLY DISABLED USERS
- VISUAL IMPAIRMENT
- DISLEXYA, ETC.

# MATERIALS FOR PROTOTYPE

- ARDUINO (GPS , BUTTON SPEAKER)
- BATTERIES
- WIRING, BREADBOARD, ETC.
- BUTTON
- SPEAKER
- GPS SENSOR
- MOCK UP OF BUS / PUBLIC TRANSPORT
- MOCK UP OF STATION, ETC.
- SOUND RECORDING FOR SPEAKER (AT LEAST 3 DIFFERENT SOUNDS)

# SWOT ANALYSIS

## **Strength**

**Provide more convenient services for the vulnerable**

## **Weakness**

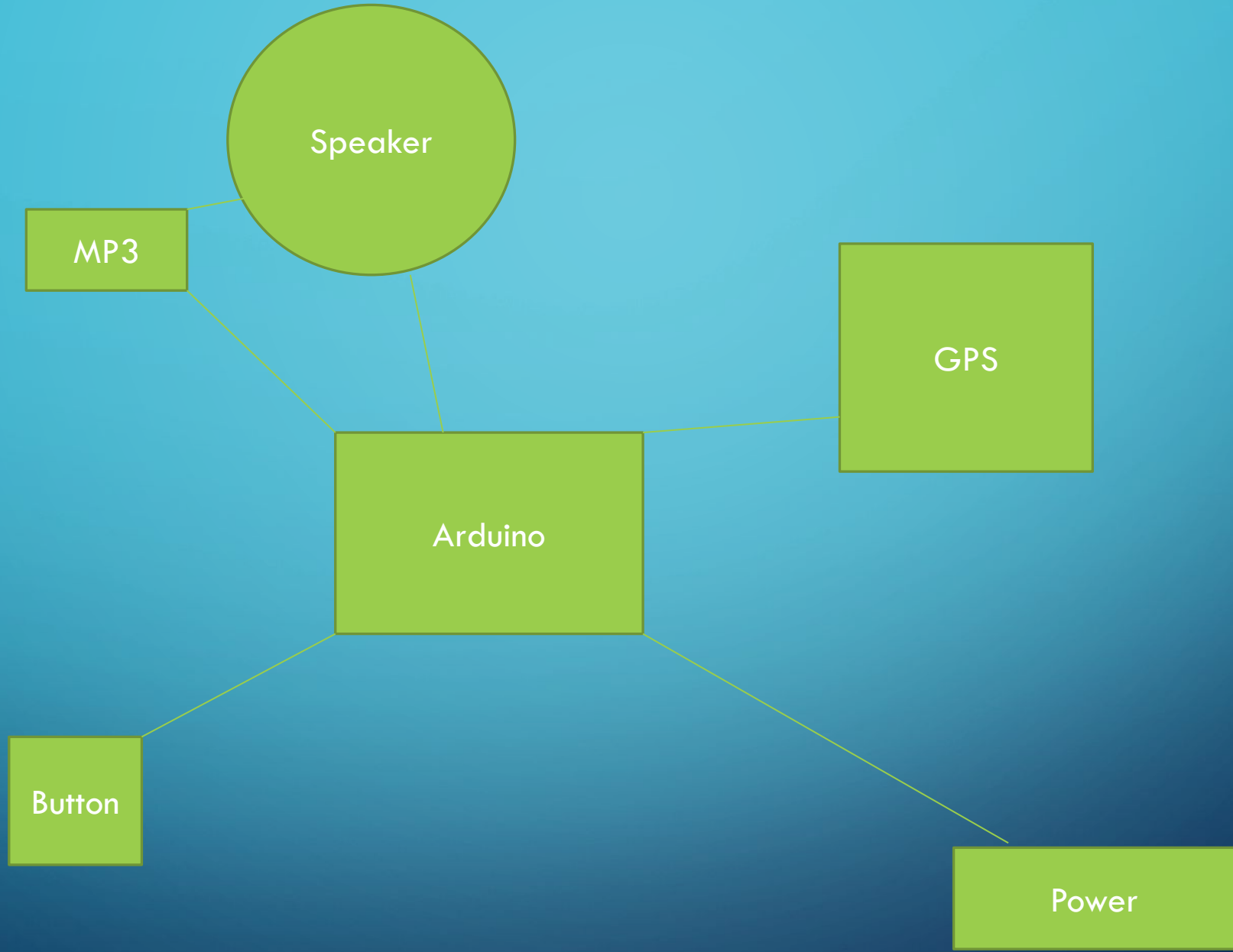
**The bus notification may malfunction due to GPS error**

## **Opportunity**

**More convenient services are available because services for the vulnerable are scarce**

## **Threats**

**It can confuse existing users**



# Progressing

```
#include<SoftwareSerial.h>

SoftwareSerial gps(11, 12);

void setup() {
  Serial.begin(9600);
  gps.begin(9600);
}

void loop() {
  if(gps.available()){
    Serial.write(gps.read());
  }
}
```

```
$GPGGA,091132.306,,,,,0,0,,M,M,,*45
$GPRMC,091132.306,V,,,,,0.00,0.00,210422,,N*47
$PGTOP,11,2*6E
$GPGGA,091134.306,,,,,0,0,,M,M,,*43
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$GPRMC,091138.306,V,,,,,0.00,0.00,210422,,N*4D
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$GPRMC,091142.092,V,,,,,0.00,0.00,210422,,N*4E
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$GPRMC,091144.092,V,,,,,0.00,0.00,210422,,N*48
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$GPGGA,091146.092,,,,,0,0,,M,M,,*48
$GPRMC,091146.092,V,,,,,0.00,0.00,210422,,N*4A
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$GPGGA,091148.092,,,,,0,0,,M,M,,*46
$GPRMC,091148.092,V,,,,,0.00,0.00,210422,,N*44
```

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- [SatNav POIs](#)
- [GigPics](#)
- [GPS NMEA to GMap - Create maps from your GPS data](#)
- [My Current CV](#)

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- [Cumbrian Dictionary](#)
- [Babel Sheep](#)
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### Software / Downloads

- [MJD Calculator](#)
- [MultiClock](#)
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### GPS NMEA data to Google Map converter (v4.0)

This page allows you to paste captured raw NMEA data from your GPS device, and generates a Google Map with track markers from that data. The conversion is all performed by JavaScript and is therefore all client side. That means that your GPS data is NOT sent to our server for processing. The fact that all processing is performed client-side means that clicking the 'Filter' button below is pretty processor intensive, and during the filtering your CPU use may hit 100% for a while. This is normal. Once your raw data is filtered, pressing the 'Generate Map' button will generate the map and track. (This may also take a while depending on how many track points need to be plotted)

#### GPS NMEA Data to Google Maps Display

##### NMEA Data Capture:

Paste your raw NMEA data here...

Minimum satellites required for good fix:

Minimum time between fixes:

##### Filter information:

Essential fix data found: 0

##### Essential Fix data (filtered from above):

Paste your GPGGA sentences here (filtered data)...

##### Calculating:

Latitude =  
Longitude =

GMap will appear here...

Track points:

Show marker for selected track point? (Click marker for full info)

Hide selected track point marker while animating?