## Features

* Embedded system, low consumption : around 600 mW (first prototype, will be optimized).
* Telemeters have a range of 1.1 meters.
* If mounted on Twizy : does not influence the autonomy of the car.

## Components

* Nucleo STM32L432KC Microcontroller,
* 6 Infrared Telemeters Sharp GP2D12,
* Micro-SD Card Module DFR0229,
* Grove GPS Module 113020003,
* 3-Axis Digital Accelerometer MMA7660FC.

## Applications

Holebot is a pothole detector designed to fit Renault’s Twizy vehicle. The casing can be fixed below the car or in the interior the car, and the telemeter array is fixed below the car, near the front. Every piece of data is collected thanks to the IR telemeters (used for measuring the distances below the car) and the accelerometer (used for measuring every bump and to check if the car is moving). The pieces of data are stored in an SD card in JSON format, and the locations of the potholes are sent to a custom back-end (via the Sigfox module).

# Summary

## **Page 2 - Functional Block Diagram**

## **Page 3 - PCB Schematic**

# Functional Block Diagram

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# PCB Diagram

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