Codename “Raspitin” - Smart traffic light PoC with

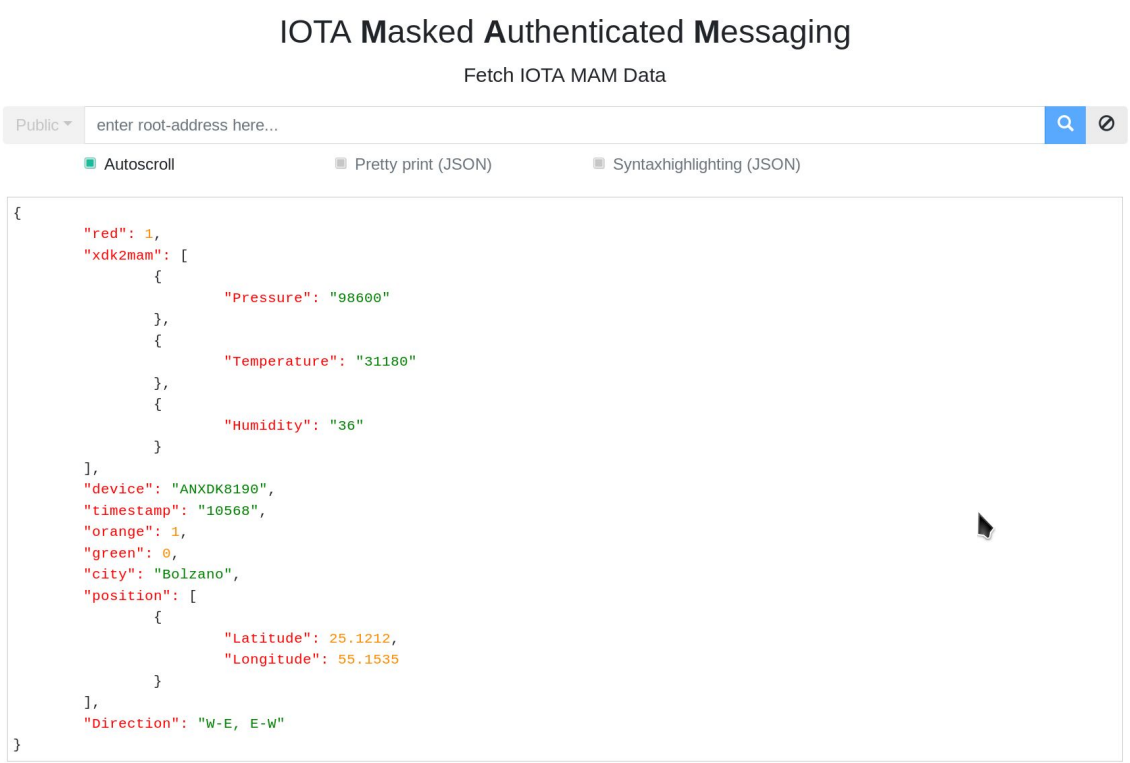
What is codename “Raspitin”?

- **Smart Intersection**
- **Weather Station**
- **Traffic Light Manager**
- **IOTA Node**

Codename “Raspitin” and the Tangle

Data as JSON over MAM

https://mam.tangle.army/fetch?address=RFVOGAVLYJMXNDQWPZBJSQCFMPTJSVDIBUUQF9C9UMSSXODULFLMDDRTNSAJAWNDUNMDYYKASXSWYUVQS



Smart Road Crossing

Transfer Location

Smart Road Crossing

Transfer Traffic light state (UK standard)


```
{
        "red": 1,
        "xdk2mam": [
                {
                        "Pressure": "98600"
                },
                {
                        "Temperature": "31180"
                },
                {
                        "Humidity": "36"
                }
        ],
        "device": "ANXDK8190",
        "timestamp": "10568",
        "orange": 1,
        "green": 0,
```

Smart Road Crossing

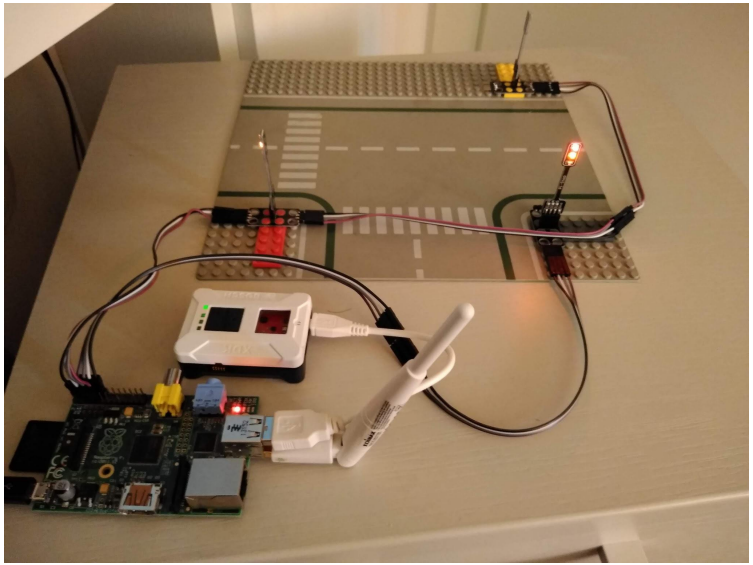
Transfer Environmental data


```
{
        "red": 1,
        "xdk2mam": [
                {
                        "Pressure": "98600"
                },
                {
                        "Temperature": "31180"
                },
                {
                        "Humidity": "36"
                }
        ],
        "device": "ANXDK8190",
        "timestamp": "10568",
        "orange": 1,
```

Technical

PoC Hardware

Raspberry PI
Bosch XDK
PiStop Traffic Lights
Lego

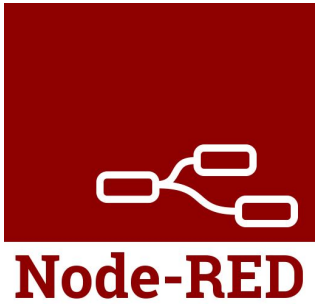


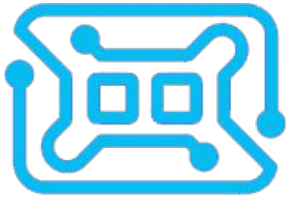
BOSCH
Invented for life

POWERED BY
Raspberry Pi

Software

Node RED
IOTA Tangle
XKD2MAM.io





Possibilities

Smart Road Crossing

Green Wave -
or brake earlier CO_2 reduction

*Priority for Emergency Vehicles -
and emergency lane

The vehicle knows the status and the time to status change of the traffic lights and can adapt the speed to take advantage of the green wave or begin breaking

Set the traffic lights on road crossing to red and give priority to emergency vehicles in the needed direction. Inform the vehicles on the route to create an emergency lane

*2018/09 TBD

Smart Road Crossing

Weather data -

street condition

The vehicle knows the condition of the street (wet/ice/snow) and can adapt the speed to optimize the braking distance

*IOTA Node -

a local node reduces the latency with a local Tangle shard

Reduce latency and communicate directly with the cross road shard.

*2018/09 TBD

Advantages

Data Immutability

Feeding data into a distributed ledgers makes it immutable and tamper-proof. Thanks to this data integrity, it is easy to share data with external parties in a verifiable manner.

Combine data of “Raspitin” and CarIOTA

CAN Bus on the Tangle

Get your car data on the Tangle

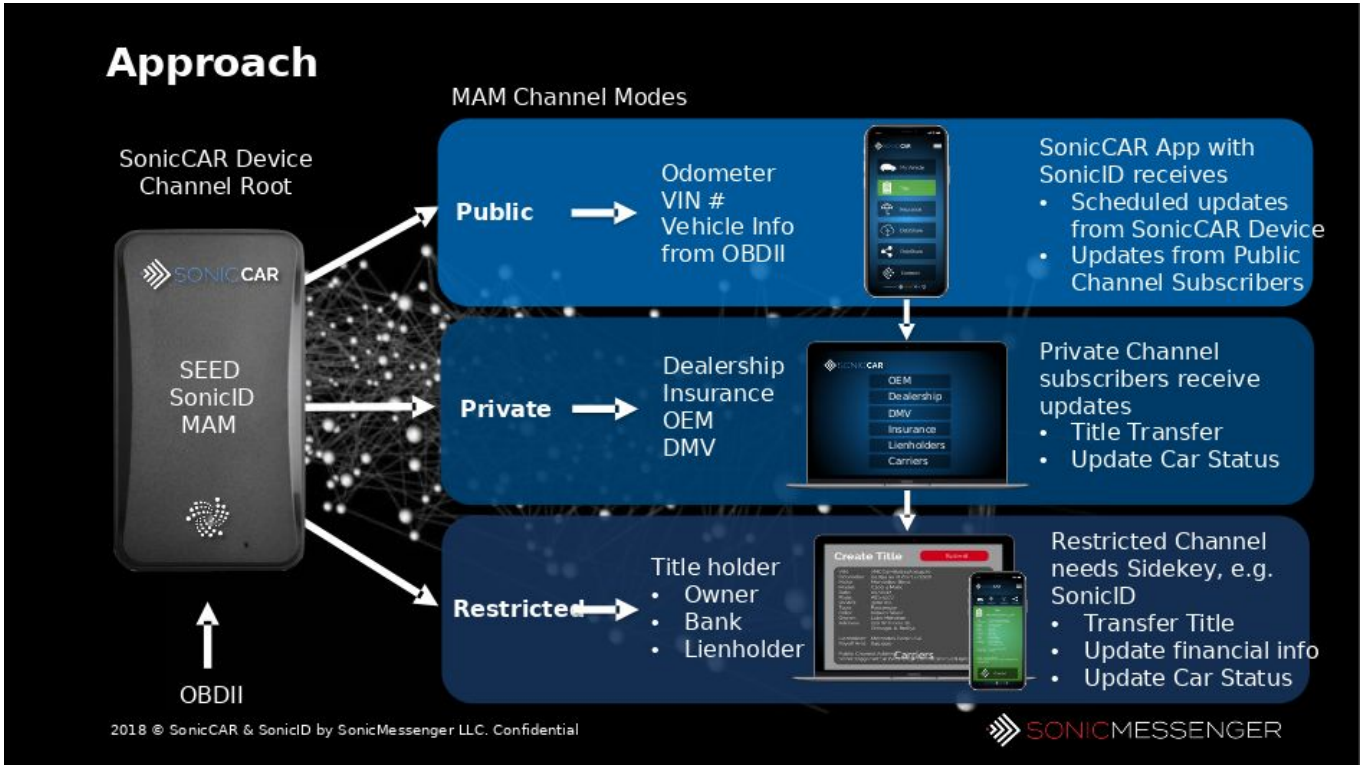
Get OBD CAN data:

Arduino Yun is used to fetch a car sensor data from OBD-II port via OBD PIDs (On-Board Diagnostics Parameter IDs).

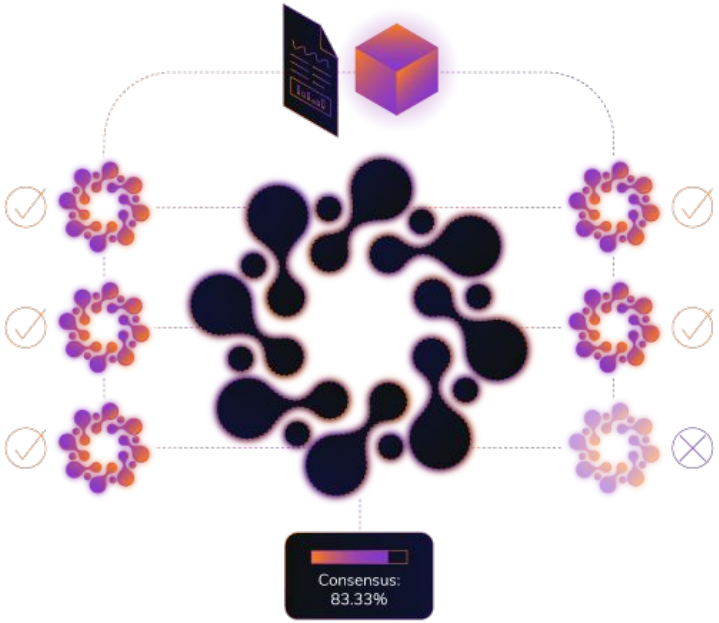
Same code can be used in different vehicles to get Engine/Vehicle speeds and Air/Coolant temperatures.

OBD-II port can be accessed easily almost on each car.

Combine data of “Raspitin” and SonicCAR



Qubic



Quorum Based Computing

Oracles for Qubic on every road crossing

Connect other sensor to road crossing (cars counter, people counter, etc...)

Let’s innovate with

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