[phucnt38@fpt.com](mailto:phucnt38@fpt.com)

[tienphuckx@gmail.com](mailto:tienphuckx@gmail.com)

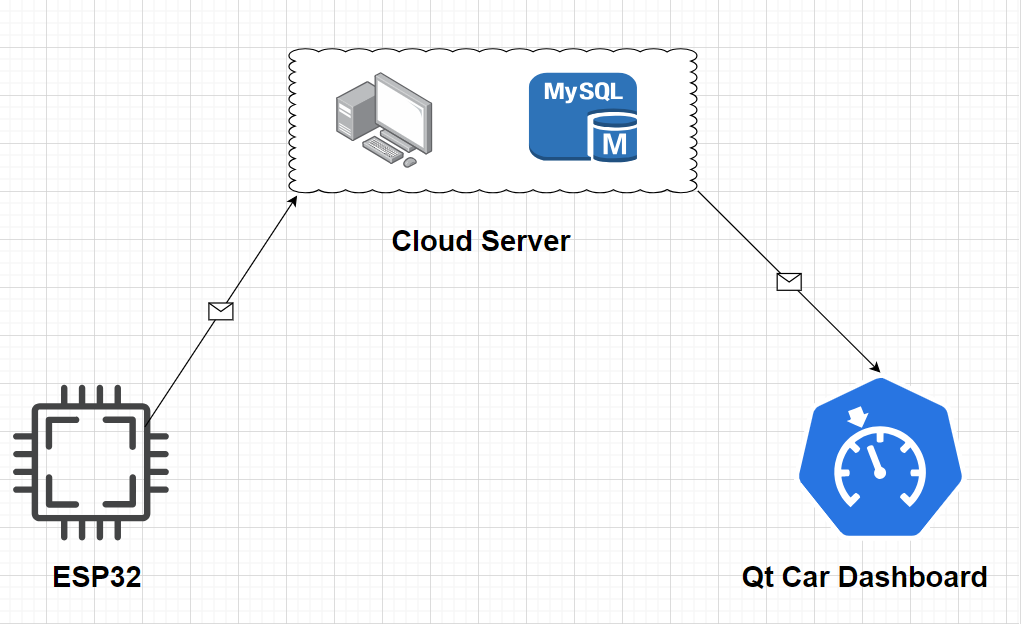
**CAR DASHBOARD SUBSCRIPTION**

Github: <https://github.com/tienphuckx/car-dashboard-subscription>

**Overview**

This project involves developing a real-time car dashboard using the **Qt Framework**. The dashboard displays key metrics such as speed, fuel level, gear position, temperature, humidity, and time. Data is collected from the car using an **ESP32** microcontroller with a **DHT11 sensor**, and other sensors, then sent to a **Linux-based server** powered by **PHP** and **MariaDB** for storage and processing. The dashboard pulls this data from the server and updates in real-time, while the ESP32 also controls a **LED display** for local feedback within the vehicle.

**Design**



**Technologies**

**MICROCONTROLLER**

Microcontroller: ESP32 DevKit V1 - module ESP-WROOM-32 - S1H15

Sensor: DHT11

IDE: Arduino

LCD OLED

**CLOUD SERVER**

Programming language: PHP 7

Database: MariaDB

OS: Linux

**QT FRAMEWORK**

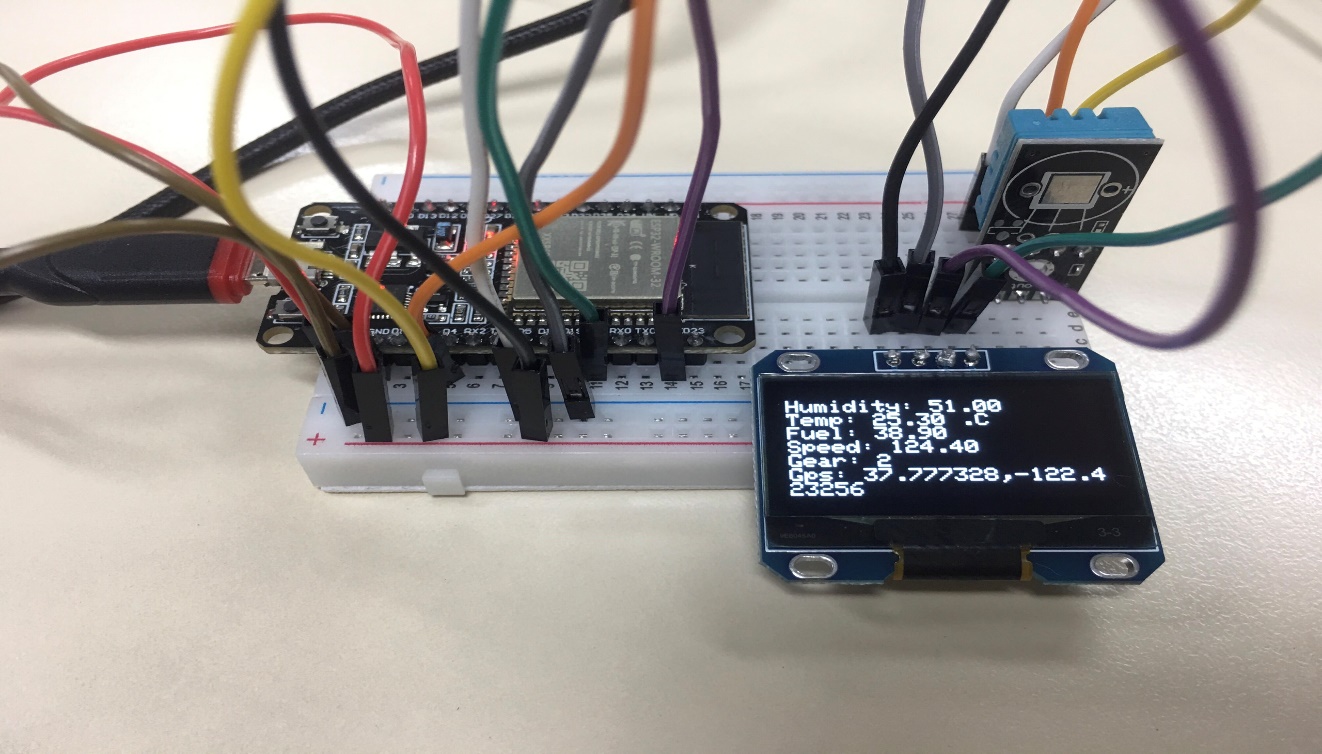
Qt 6

QML

CMake

Qt Test

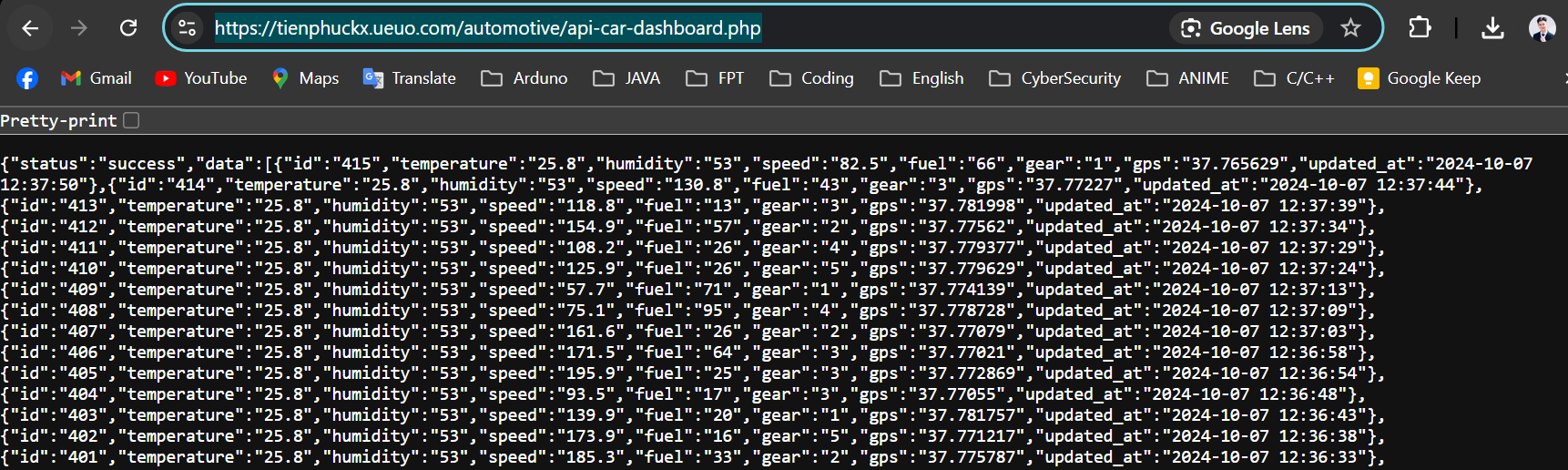
**DEMO**



ESP32 reads data from a sensor, displays it on an OLED LCD, and pushes the data to a server.

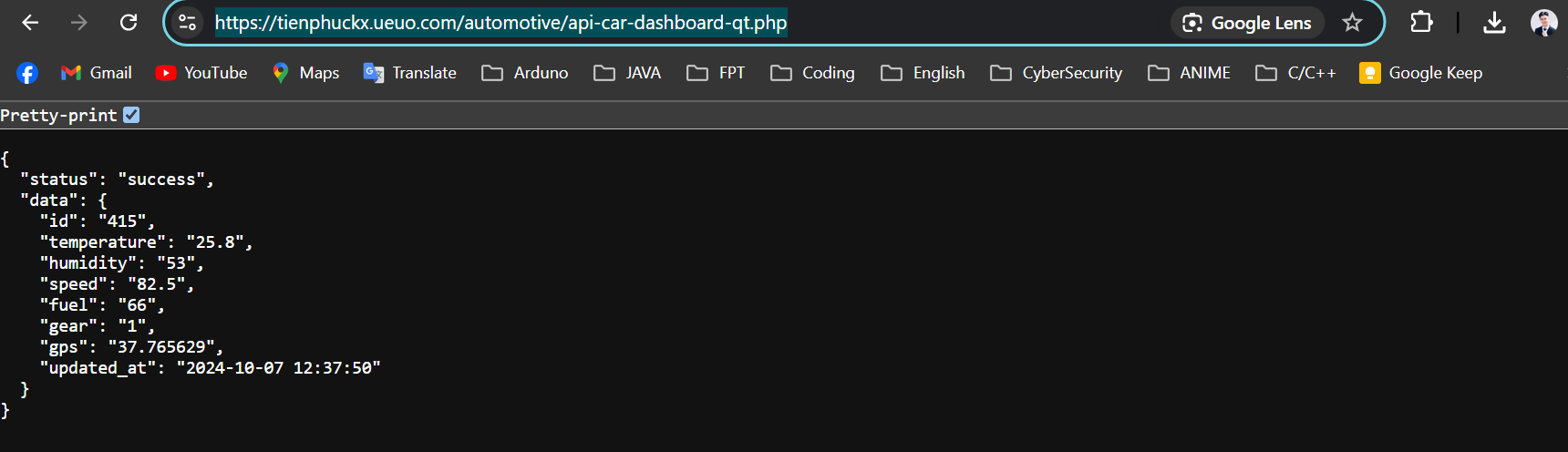
**SERVER**

POST API for ESP32: <https://tienphuckx.ueuo.com/automotive/api-car-dashboard.php>

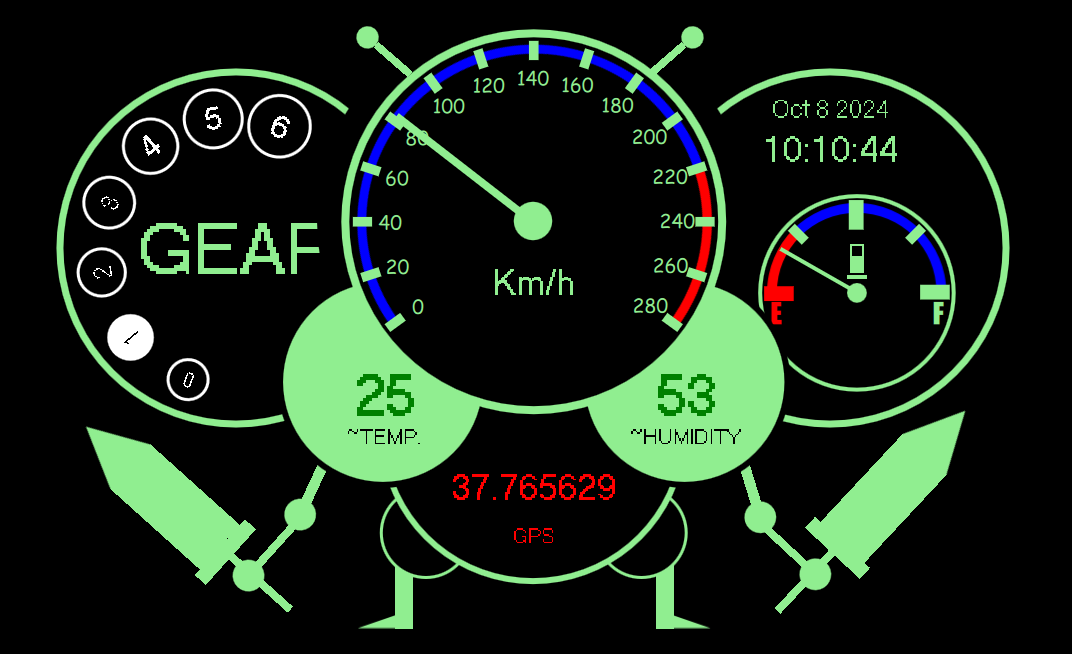


GET API for QT Dashboard App: <https://tienphuckx.ueuo.com/automotive/api-car-dashboard-qt.php>

(select the newest record)



**Qt Car Dashboard app** displays real-time data using **long polling**.



All source code and documentation are available on GitHub. Please check for more details.

<https://github.com/tienphuckx/car-dashboard-subscription>

The video intro link is available on Youtube: