

IoT Technical details– Team MaPaY

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Technical description of our solution:

After multiple reflexions on which solution could we use to answer every issue we had for our project, we finally decided that we will use the ESP32 and pressure plates instead of the transmitter/receiver components.

The ESP32 component will be placed inside the car and alimented by an external power bank.

There will be 2 pressure plates (for right and left wheel) in front of the garage door and 2 inside of the garage.

To make them, we will use aluminum foil and paper.

Once the car arrives, the ESP32 will connect automatically to the wifi. The car will drive on top of the pressure plates.

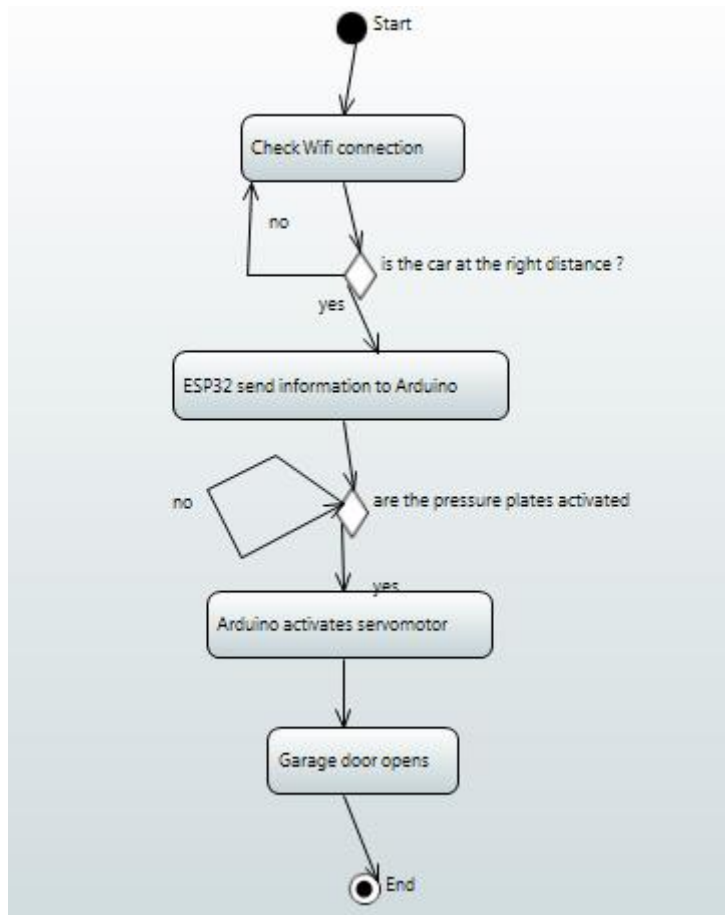
Only if the ESP32 is detected, the arduino board will open the garage door through the servo motor.

List of the components:

- Car
- Garage door
- Deformation sensor (modelized by sheet of paper and aluminum)
- Servomoteur
- ESP32 module
- Battery (1-year battery) modelized by little battery, portable battery
- Arduino
- Wires
- Resistances

Software design:

Here is a UML activity diagram of our solution.



Hardware design:

