Project Form

Project Name: **Smart Parking System**

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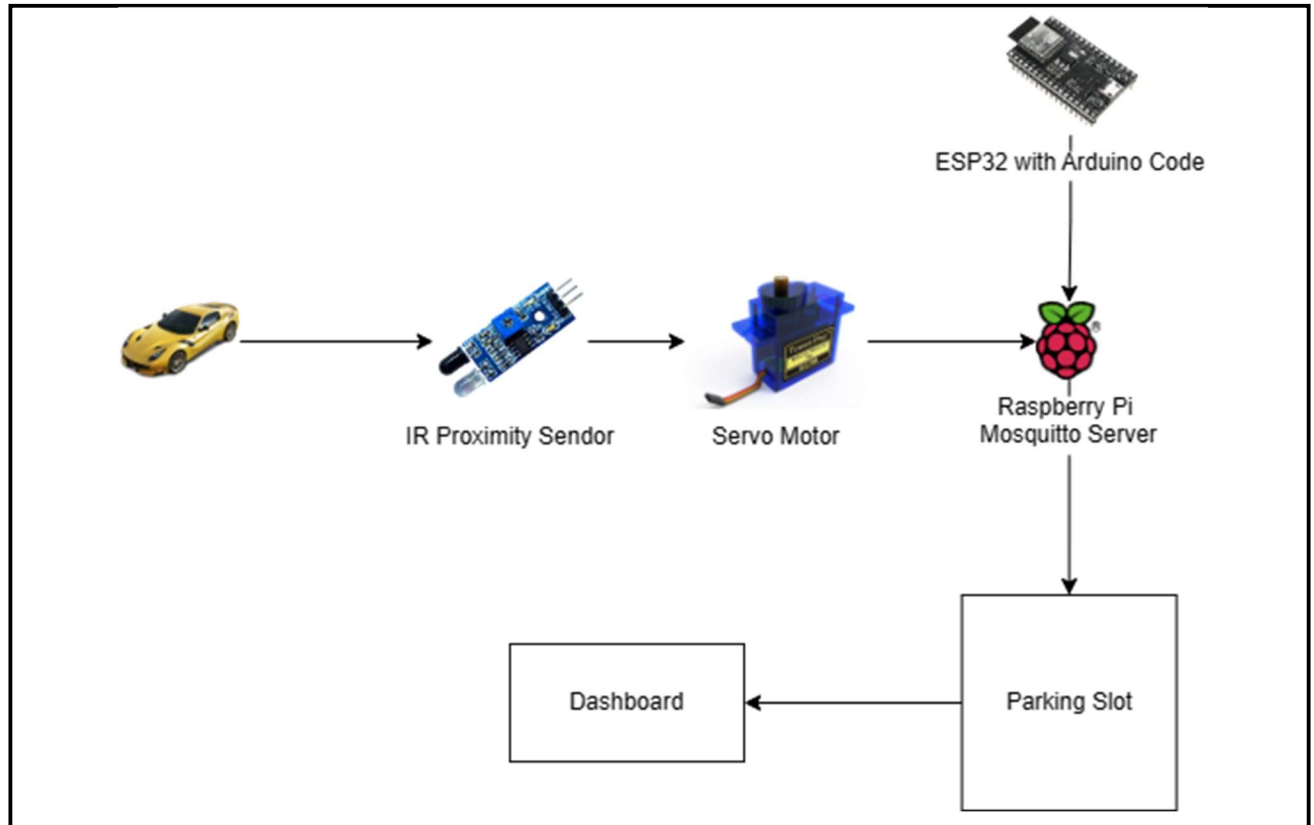
4. Name   ID Student

Project Application Group

☐ Industry   ☒ Community/Small City   ☐ Education

☐ Agriculture   ☐ Home/Lifestyle

Project Objective

1. **Automate Parking**: The system will automate the process of parking by detecting the presence of a vehicle and controlling the entry and exit gates.

2. **Optimize Space Utilization:** The system will optimize the utilization of parking spaces by keeping track of occupied and vacant spots.

3. **Real-Time Monitoring:** The system will provide real-time monitoring of the parking lot, allowing for quick responses to any issues or emergencies.

Project Structure

ESP32 with Arduino Code

IR Proximity Sendor

Servo Motor

Raspberry Pi
Mosquitto Server

Dashboard

Parking Slot

Hardware and Sensor List

Name	Price	Q'ty	Link
IR Proximity Sensor	30	2	https://s.lazada.co.th/s.nYHW2
Servo Motor	80	1	https://shopee.co.th/product/111213050/7239725201?gad_source=1&gclid=CjwKCAjwnv-vBhBdEiwABCYQA2ZeoNnMAgjXo5Eu8EVAF4eb2HzxLSGYXL286Qkr8DQmRi1qLVfsjRoCo_oQAvD_BwE

Remark: Budget for 1 person is not more than 1500 baht.

IoT Server

> **Server/Cloud:** **Mosquitto Server using Rasp Pi**
>
> **Data Collector:** **Node-Red**
>
> **IoT Protocol:** **MQTT**
>
> **IoT Database:**
>
> **IoT Application:** **Node-Red**

Application (3rd Party)

☒ Line   ☐ Gmail   ☐ Used but not yet specified

☐ Messenger   ☐ SMS   ☐ Don't use

☐ Other