

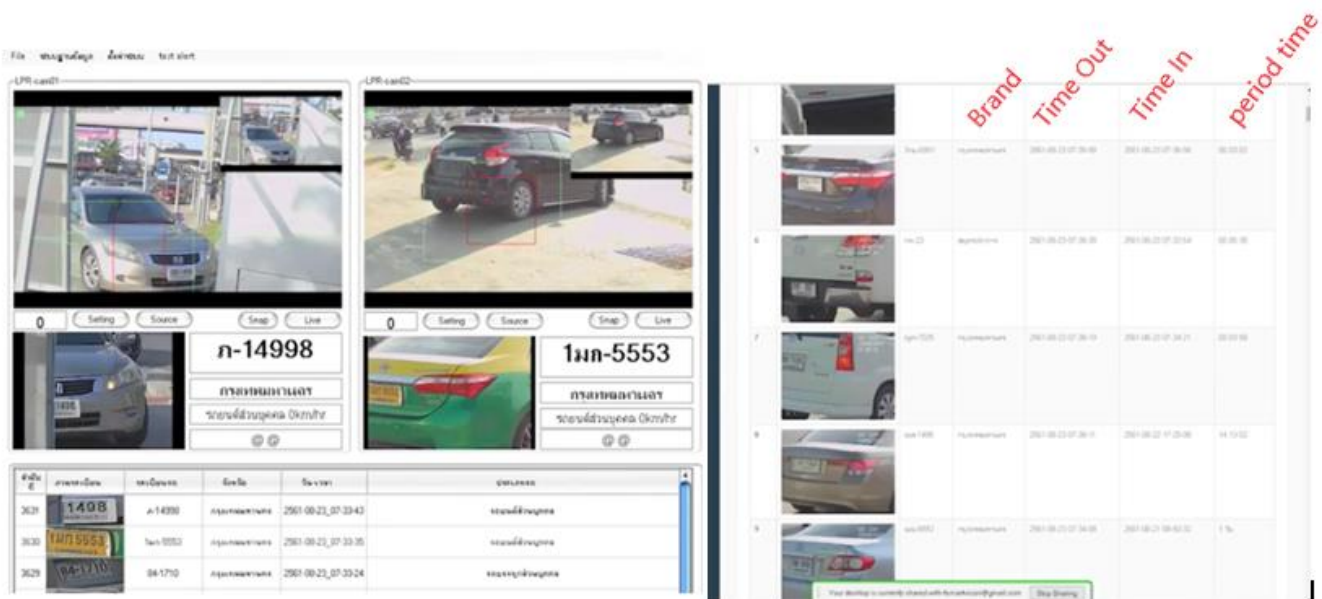
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LPR for Parking Solution



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Intelligent system for checking the entry-exit of cars Which will install the camera for detecting the license plate at the entrance and exit of the area By the operation of the system will check the information from the license plate number of the cars that enter - leave the area There will be a camera to capture the license plate of the car and can count the number of cars entering and leaving the area. The system then analyzes and calculates the time of the vehicles entering the area and summarizes them into parking fees. And can also support the discount coupon system And check the service conditions according to the seal of the agency Which can display the data in the form of graphs for more convenient use



System features (Software)

- Detecting only cars and license plates Do not catch people or animals
- Accuracy of not less than 90% for numbers and letters on the label
- Accuracy of not less than 90% for provinces depends on the size and quality of the camera.

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- Can be used as a mobile license plate reader system
- able to count the number of in-out vehicles in the area
- The system can calculate parking fees Can be obtained according to the desired schedule
- There is a system to receive a discount coupon for parking fees. And checking the stamp of each agency
- There is a wave parking system, available via admin page as needed. Which can be collected to log who approves the discount, along with the receipt details
- Able to make summary reports of in-out vehicles Compared to graph Parking history can be overdue
- There is a system to send image data via File transfer protocol
- Support for registration of Thai, Lao, English language license plates
- Supports SQL database, MySQL, Oracle
- Supports all types of license plates certified by the Department of Land Transport

** Department of Transportation requires the car license plate to be 15 cm wide, 34 cm long.



ป้ายทะเบียนจากขนส่ง

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Camera for use in license plate capture

- Network Camera is a high resolution camera Helping the license plate information to be more accurate (** Recommend the resolution of the license plate image is 150-300 pixels). The thing to consider is that the lens must use the P-iris that gives a sharp image. Clear both images And a set of infrared panel systems that help capture the sign at night with clarity The camera must support Auto Back Focus System to allow night images. Low light with the highest clarity Because the camera will adjust the new focus point Is different between day and night Even if there is a low-pass filter technology that helps filter the light The over-exposure gives a sharper image, resulting in the ability to capture the license plate more and more with the DO connector to control the external device.

Features of the camera (LPR Camera)

- High resolution (Network Camera)
- It is a camera that can change the distance of the lens. To get the desired image distance The size of the lens is about 12-40mm or 8-50mm.
- Low pass filter technology for cutting bright light for clear images
- There is an infrared set For shining images at night
- DI, DO connectors to control external devices
- The camera supports the IP66 base level in case of external installation.

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There are 2 types of license plate handling systems

- License plate capture system, parking lot Entrance - out of the building The characteristics of the vehicle that is detected will run at a relatively low speed. The camera used should be a camera that can change the lens size about 4-18mm.
- License plate capture system on the High Way road. The characteristics of the vehicle that is detected will run at a relatively high speed. The camera used should be a camera designed specifically for the license plate. And can change the lens to approximately 12-40mm or 8-50mm

Installation equipment

- High Definition CCTV (IP Network Camera) and Housing
- Infrared set (in the case of low light and want to see the night image)
- Comprehensive computer set introducing Corei7 Gen6 Speed 2.6GHz, 8GB RAM, 1 TB HDD Windows 7 professional or better or Windows 10 professional or better
- Uninterruptible power supplies for system equipment
- Network Switch device
- Webserver device set (in case of need to manage the central system)
- ADSL Router device (in case of need to link and view data from the center)

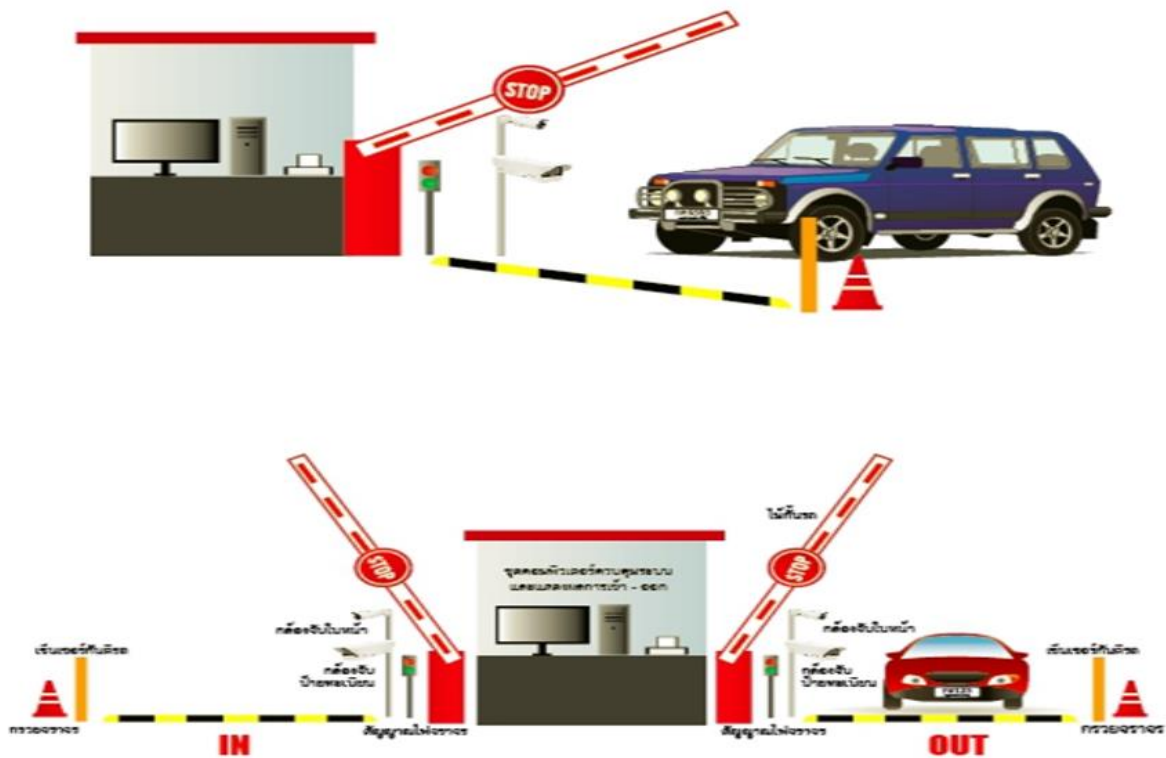
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System structure



System installation restrictions

- Should choose a Network Camera type designed for use with a specific LPR. It will help make the system work more accurate and accurate.

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- Select the software system that has been tested, installed and used And have clear reference information
- Should check the equipment that is used to support the software system used or not. Prevent problems with compatibility of devices.
- View and position in the camera installation Must be tested before actual installation. For the most accurate and accurate results
- The license plate that the camera can capture should be sharp from 150-300 pixel. It will help make the information more accurate and accurate.
- In case of needing to capture a red license plate And license plates that are graphical signs Set the camera to capture the image in Night Mode so that the image can be captured.

Example of system operation

The screenshot displays the 'Smart-License Plate Recognition' software interface. It features two camera feeds, LPR-can01 and LPR-can02, each showing a white car with a license plate. The software has successfully recognized the license plates and provided the following information:

- LPR-can01:** License plate number ๖น-5572, vehicle type กทมพพมหานคร, speed limit รถยนต์ส่วนบุคคล 0กม/ชม.
- LPR-can02:** License plate number 1ฒข-2993, vehicle type กทมพพมหานคร, speed limit รถยนต์ส่วนบุคคล 0กม/ชม.

Below the camera feeds is a table of captured license plates:

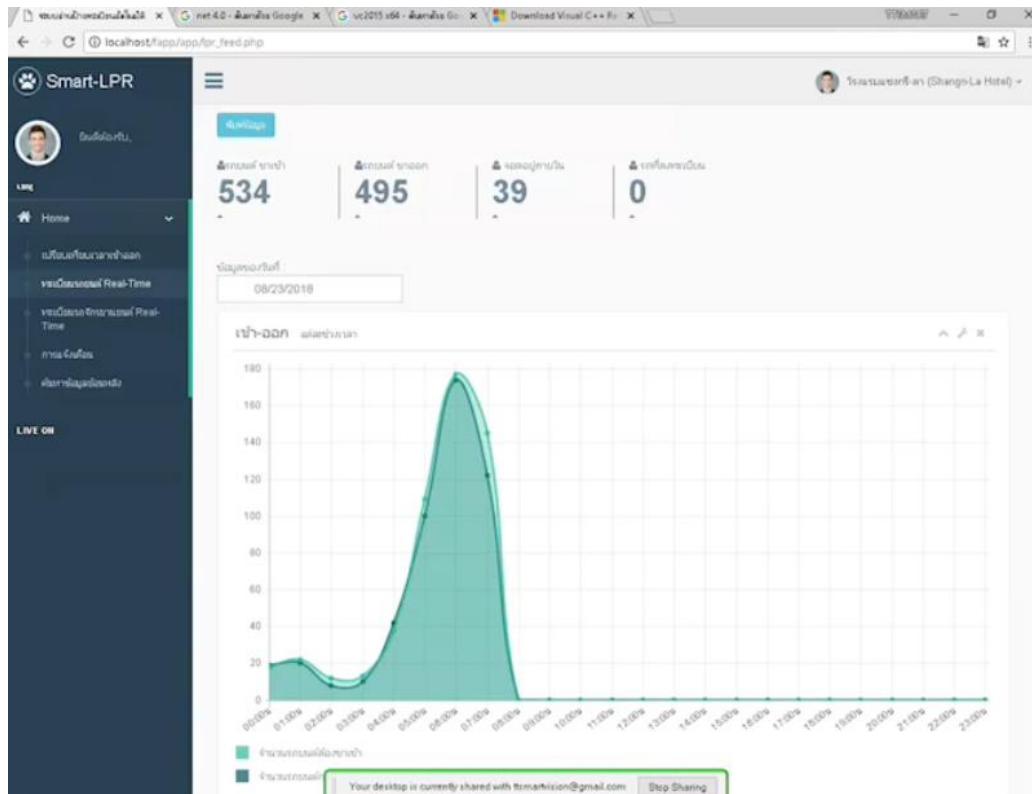
จำนวน	ภาพที่จับ	ทะเบียนรถ	จังหวัด	วันที่จับ	ประเภทรถ
365		๖น-5572	กรุงเทพมหานคร	2561-08-22_14-41-33	รถยนต์ส่วนบุคคล
364		๖ท-8843	กรุงเทพมหานคร	2561-08-22_14-41-20	รถยนต์ส่วนบุคคล
363		2กบ-9465	กรุงเทพมหานคร	2561-08-22_14-41-04	รถยนต์ส่วนบุคคล

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Highlights of the LPR system for Parking Solution

- The program is developed with a team of Thai people so can customize the program to suit the needs of customers.
- Compatible with all brands of CCTV cameras via ONVIF or RTSP standards

ติดต่อเรา : โทร. 062-365-6463

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