THINGSSPOT AS AUTOMATED PARKING SYSTEM

As cities become more crowded and space is limited there is a need to reduce the space that the parking places occupy. That is why many automated parking systems are made to solve such kind of problems. ThingsSpot software with a combination of National Instruments hardware is a system which is used to solve the problems and tasks regarding automated parking systems. For example, the NI IP camera captures the car number plate and dimensions, sends the data to NI Industrial Controller, where the ThingsSpot server is running. The controller detects the number, calculates if there is a volume for that car and performs the gate control allowing the car to enter the elevator. After the driver and passengers left the car, the driver sends command to park the car with the help of elevators under the control of NI CompactRIO.

The system provides:

- Car license plate and dimensions detection through NI and other vendors' IP cameras
- Car elevator or carousel system control
- Security control
- Facility conditions monitoring
- Ability to connect and get the car via phone

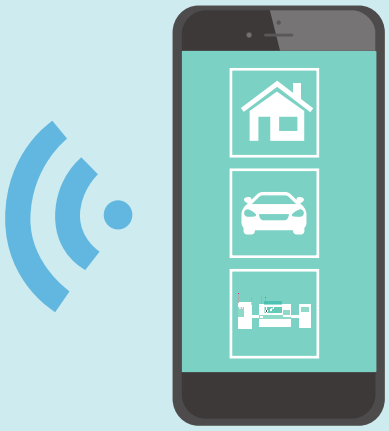
Benefits:

- Inherent safety and security
- Easy operation with several control options
- Real-time data processing
- HTTP REST API provides information about available space in parking to third party traffic management systems
- Connects with LabVIEW ThingsSpot API to access server from National Instruments' controllers and automatically provides controller's tags information to server

ThingsSpot Server

ThingsSpot

NI INDUSTRIAL CONTROLLER IC-3173



Modbus

Elevator_Platform (CompactRIO)

MQTT

TCP

Gate (any motor controller)

NI Smart Camera