ASIAN DRAGON
EVERYTHING UNDER THE SUN

2020

SHARING SCOOTER PROJECT

Contents

01 Introduction of sharing Scooter projects

1.1 Introduction of sharing Scooter projects

Complete sharing scooter project solution

Project Description >

The sharing-- electric scooter project is prevalent in North America, Europe, Southeast Asia and other countries and regions. The whole project mainly includes three parts of operation system software, IOT device and electric scooter, which will solve the last one kilometer problems indeed.

- APP（Android，IOS）
- Backend management system
- Cloud server and database

Operational software <

1.2 Introduction to the sharing scooter project

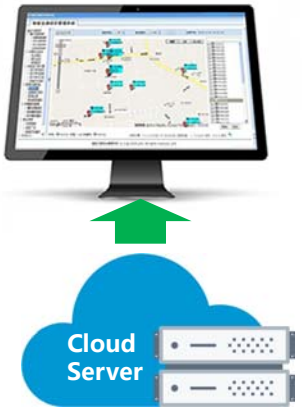
1.1 Composition of sharing scooter projects

Scooter

IOT device

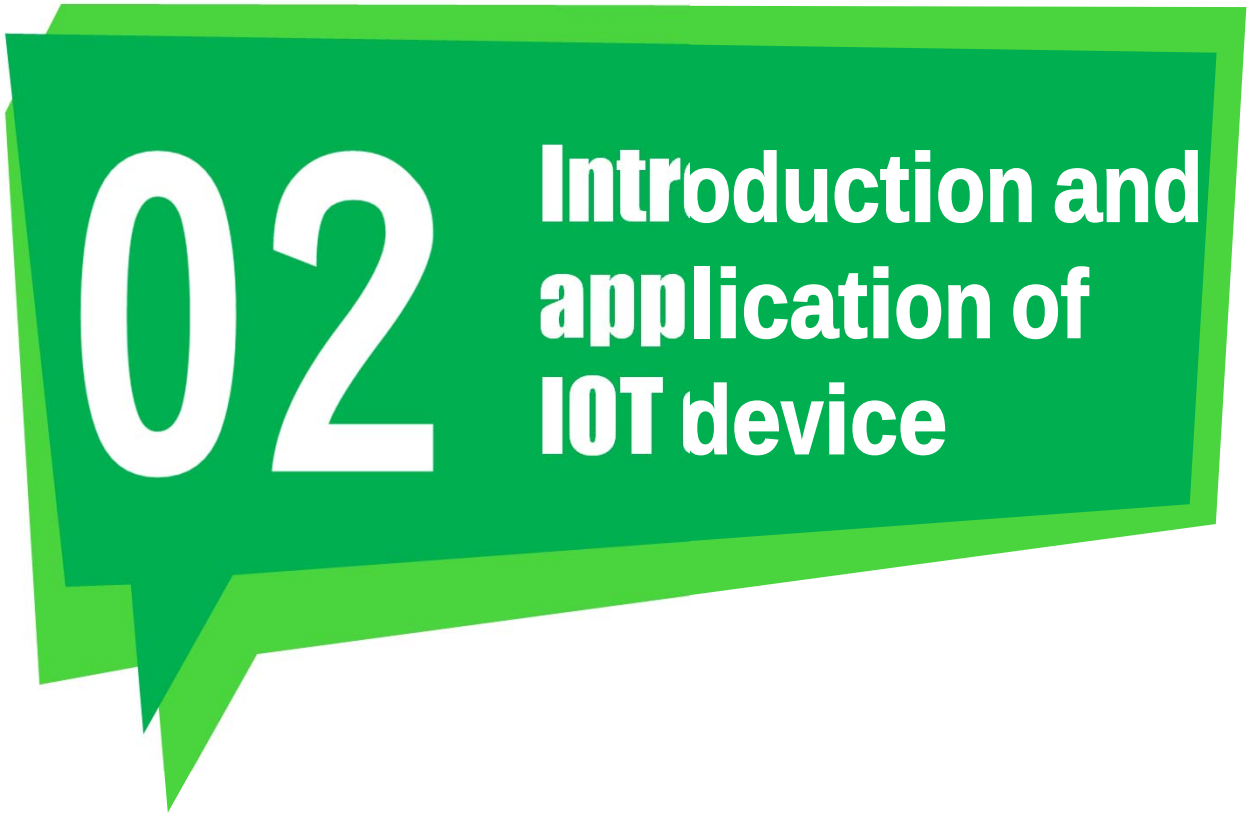
User APP

Operational system software



1.3 Selection of scooters

We can recommend the partner scooter suppliers according to the diversified needs of our customers.


02
Introduction and application of IOT device

2.1 Version of the IOT device

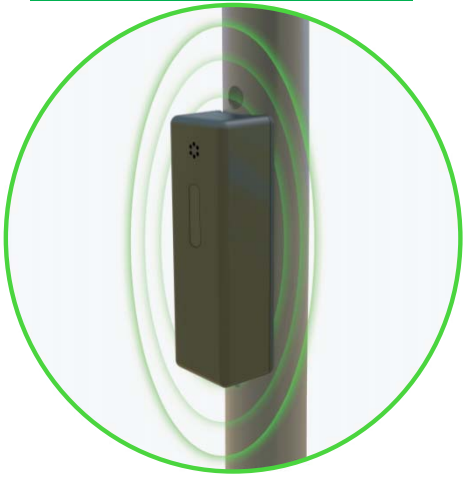
IOT devices have two main placement modes: built-in and external. The appearance, function, color, LOGO, and QR code of the IOT device can be customized to meet the diverse needs of customers.

Built-in version
(Regular)

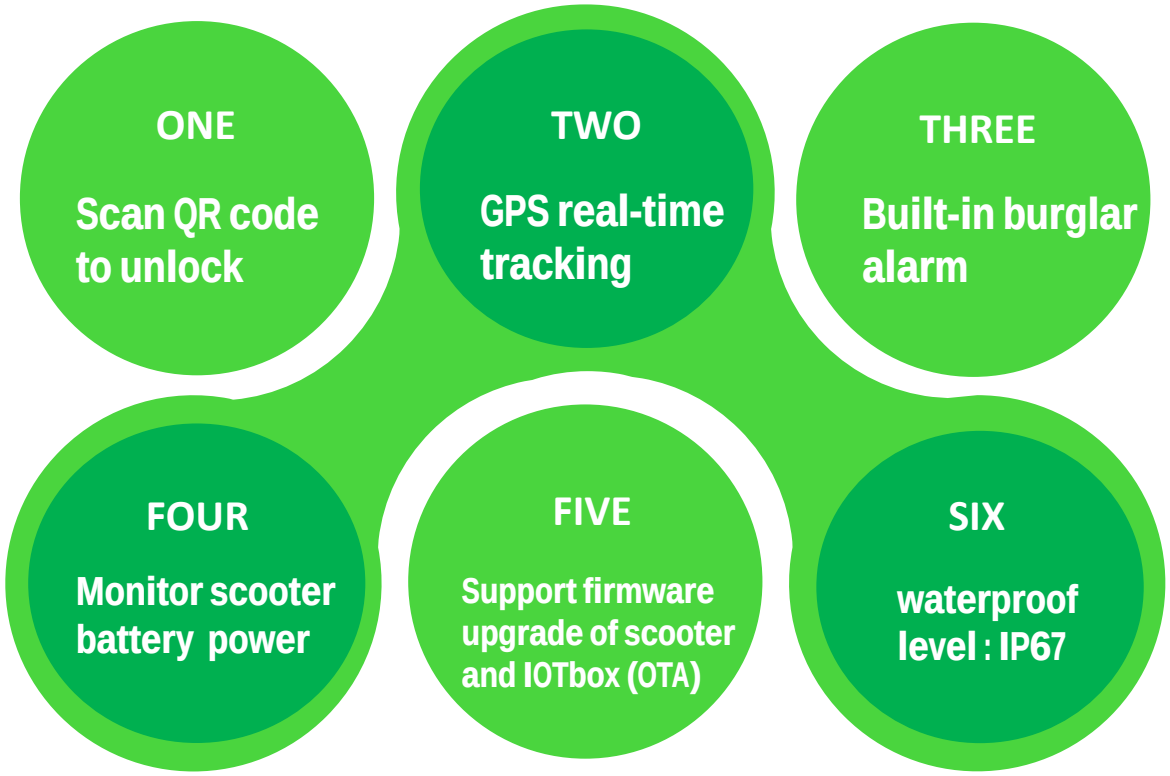
Built-in version
(can be used with cable lock)

Built-in version
(Scroller for removable batteries)

External version
(Regular)



2.2 Main features of IOT device



2.3 IOT device application scenario

2.4 IOT

Cloud communication	Connect to a cloud server through a TCP socket
4G communication	LTE CAT1
North American band	FDD-LTE B2/B4/B12
	UMTS/HSPA+ B2/B5
Europe, Middle East frequency band	FDD-LTE B1/B3/B5/B7/B8/B20、TDD-LTE B38/B40/B41
	UMTS/HSPA+ B1/B5/B8、GSM/GPRS/EDGE B3/B8
Australian band	FDD-LTE B1/B2/B3/B4/B5/B7/B8/B28
	TDD-LTE B40、UMTS/HSPA+ B1/B2/B5/B8
	GSM/GPRS/EDGE B2/B3/B5/B8
Other communication methods	2G/3G
Connection / Bluetooth	BLE4.0 (2402-2480MHz) (auxiliary unlock)
GNSS	GPS+GLONASS/GPS+BDS
Antenna efficiency	Celluar>40%; GPS>70%
Unlocking time	1-3s
positioning accuracy	2.5m-15m (empty place)
Positioning time	Hard/Cold Boot <35s; Soft/Warm Boot<1s (open field)
Voice prompts	Electronic Horn Factory default sound: 70-90dB (optional)
Motion detection	Three-axis accelerometer
Operating temperature	-20°C -- 70°C
Storage temperature	-45°C—80°C
Working humidity	93%RH`
waterproof level	IPX7
stand-by current	5-10mA (5VDC)
Battery & Communication Interface	5pin: 36V, GND, TX (TTL), RX (TTL), Power_control_wire
Battery supply voltage	36VDC
Built-in lithium battery	3.7V/900mAH (optional)
Backup battery standby time	>2h (optional)
size	170 X 80 X 56mm
Box material	PC+10%GF
certificate	FCC/CE or other additional custom certificate)
	*SIM card provided by customer

NO.	Function list
1	Dual mode unlock: 4G and Bluetooth 4.0
2	Multi-mode positioning: GPS, GLONASS and BDS
3	User-defined maximum speed
4	Automatically and manually turn on the headlights
5	Switch cycling mode manually or remotely
6	Once you leave the electronic fence, it automatically starts in manual scooter mode (no power)
7	Remotely read scooter data (speed, battery life, travel distance etc.)
8	Monitor charge status
9	Play a voice prompt and sound an alarm
10	Electronic horn
11	IoT device removal alarm
12	Low battery alarm
13	Illegal move or shake scooter alarm
14	Drop alarm
15	Support for scooter and IOT device firmware remote upgrade (OTA)

03 APP and Back-end management system

3.1.2 Use of APP

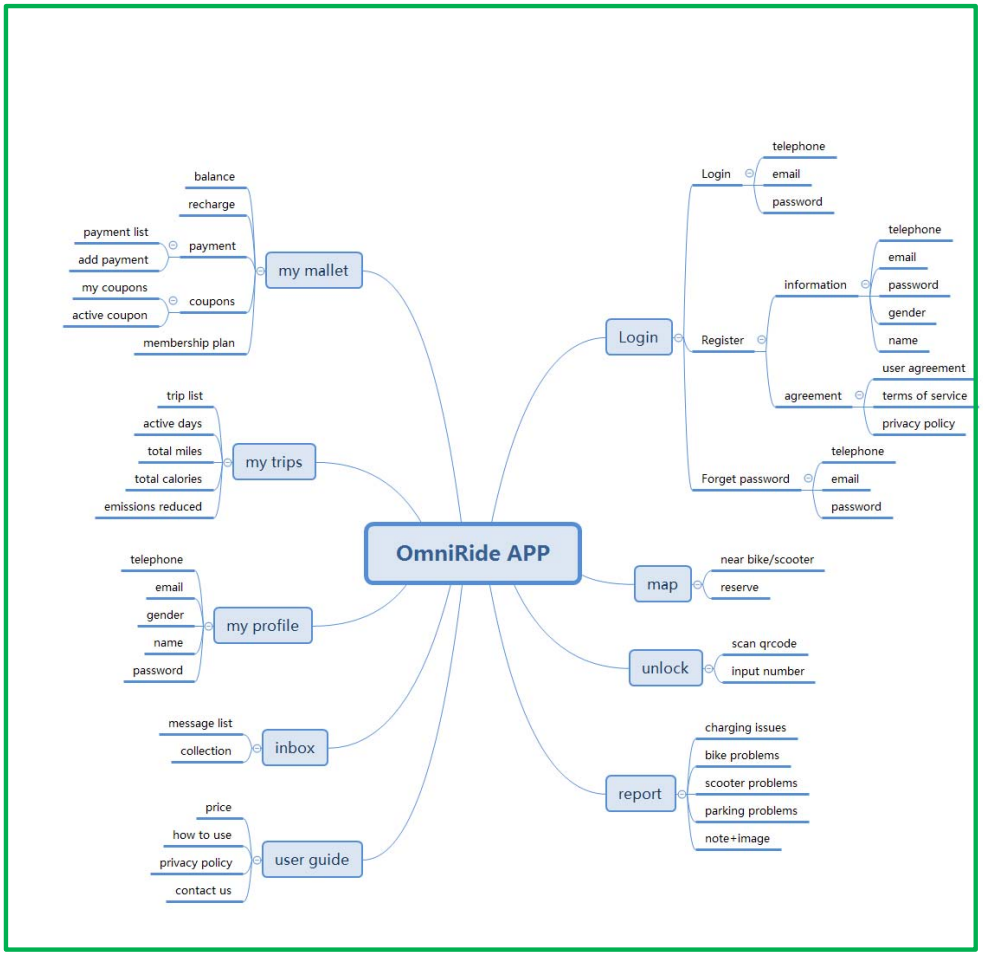
Sweeping code

Rading mileage

Return the scooter, settlement fee

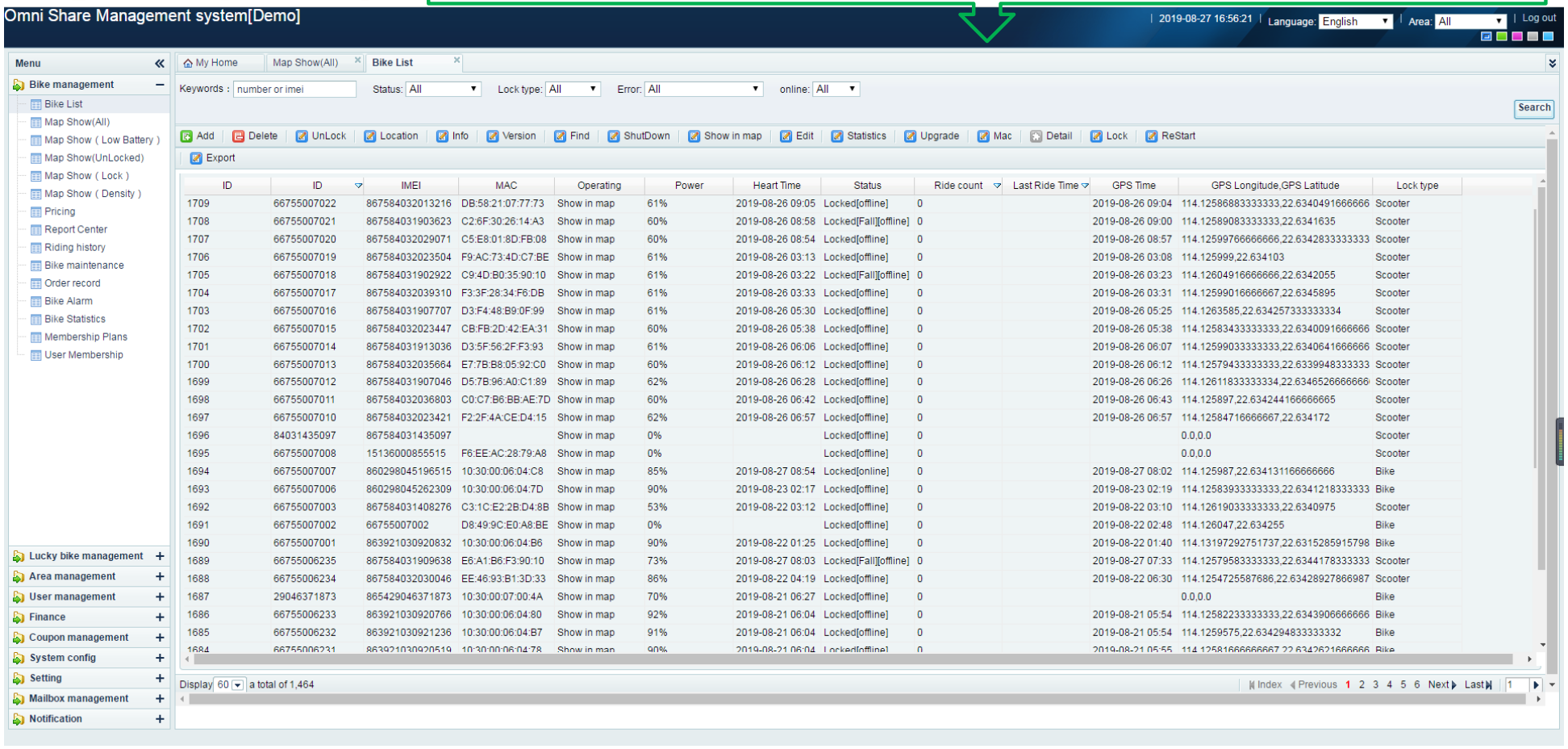
3.1.3 APP

Function list	
1	User login, registration, recharge (registered by mobile phone number, real name authentication required)
2	All free scooters (unused, unscheduled scooters) are shown on the map.
3	Click on the scooter on the map to get the path plan from the user's location to the scooter location.
4	Schedule a scooter (other users cannot unlock after the appointment), you can cancel
5	Unlock the scooter by scanning the QR code or entering the scooter number
6	End of the ride, lock the billing
7	View historical cycling records (including information on each ride, time, cost, etc.)
8	User modify basic information (avatar, nickname, etc.)
9	Information feedback (the problem of scooter unlocking, damage, dirt, etc.)
10	Share cycling data to social platforms and recommend them to friends.



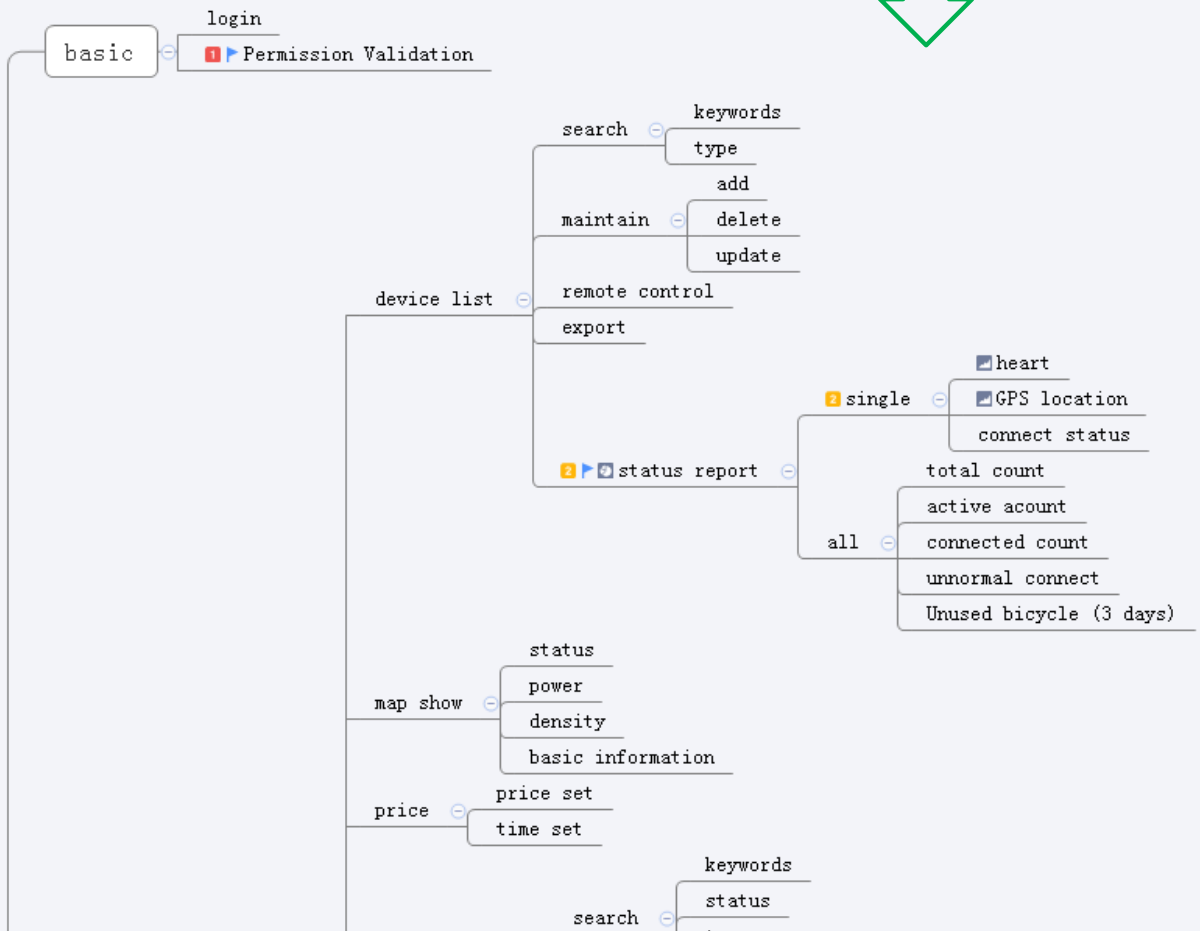
3.2.1 Demonstration of the backend management system

backend server address

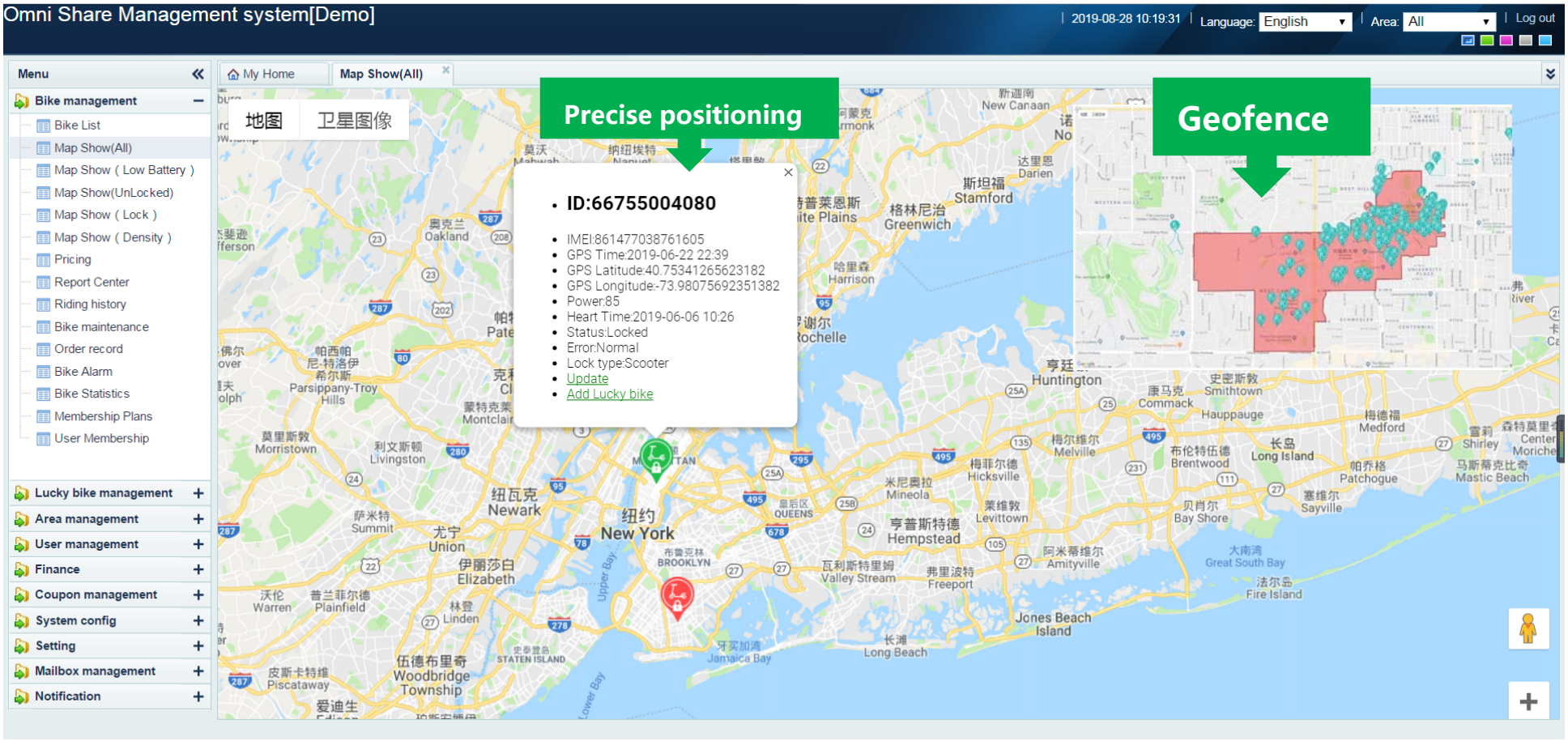


3.2.2 Backend management system function list

The back-end management system has a long mind map. Please exit the PPT full screen and pull down the entire content.

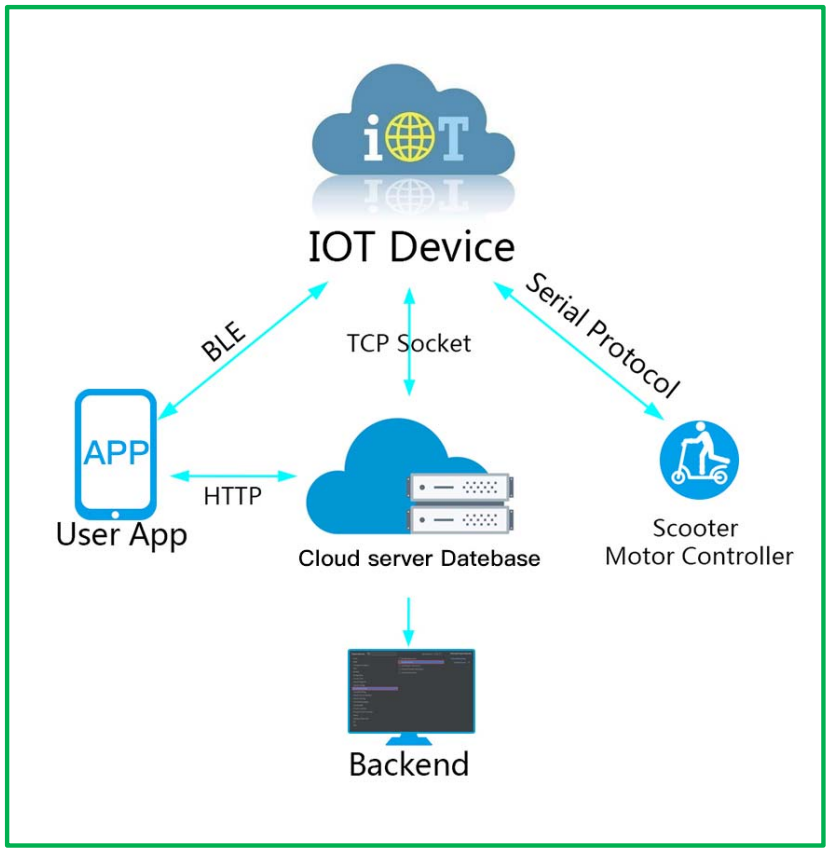


3.2.3 Map display of backend management system



04 Technical docking of sharing scooter project

4.1 Technical docking of sharing scooter project



SERIAL PROTOCOL

IOT device<----->Scooter motor controller

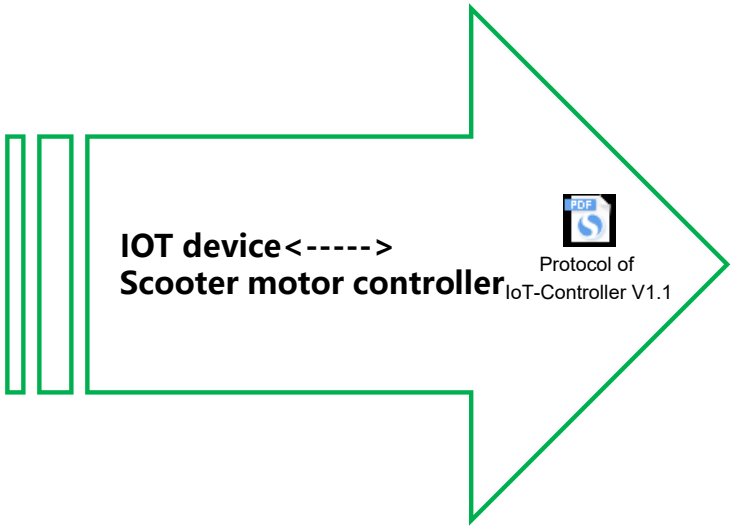
TCP SOCKET PROTOCOL

IOT device<----->Server

BLE PROTOCOL

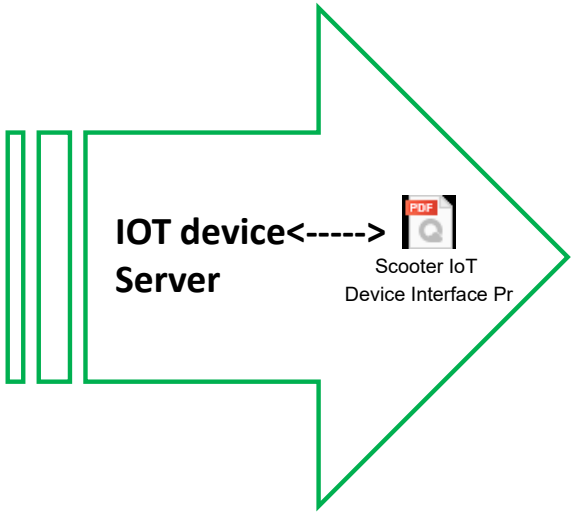
IOT device<----->APP

4.2 Serial Protocol Instruction List



NO.	Instruction	Instruction description
1	0x10	Controller heartbeat upload
2	0x11	Speed mode setting
3	0x12	Fixed speed cruise switch settings
4	0x13	Startup mode setting
5	0x15	Low speed limit value
6	0x16	Medium speed limit value
7	0x17	High speed limit value
8	0x18	Taillight flashing control
9	0x20	Fault upload
10	0x21	Get controller software version
11	0x25	Lock/unlock status setting
12	0x26	Lock/unlock battery
13	0x30	IoT meter heartbeat upload
14	0x70	Throttle response
15	0xA0	Query upgrade status
16	0xA1	Send upgrade data
17	0xA2	Check if the upgrade is successful
18	0x50	Get custom data

4.3 TCP protocol instruction list



NO.	Instruction	Instruction description
1	Q0	Check-in command, the lock will be sent first after each connection to the server (including reconnection after disconnection)
2	H0	Heartbeat command, the default lock is sent every 4 minutes, to maintain the connection
3	R0	Unlock/lock operation request command
4	L0	Unlock the command, send the R0 command before sending this command
5	L1	Lock the car command, send the R0 command before sending this command
6	S5	IOT device setup instructions
7	S6	Get scooter information
8	S7	Scooter setting instruction 1
9	S4	Scooter setup instruction 2
10	W0	Alarm command
11	V0	Beep playback command
12	D0	Get positioning instructions, single time
13	D1	Positioning tracking instruction
14	G0	Get the firmware version
15	E0	Upload controller fault code
16	U0	Detect upgrade/boot upgrade
17	U1	Get upgrade data
18	U2	Upgrade success notification
19	K0	Set / Get BLE 8-byte Communication KEY
20	I0	Get the SIM card ICCID number
21	M0	Get IOT Bluetooth MAC Address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Thanks for watching