



2020

# SHARING SCOOTER PROJECT





## Contents

1

**Introduction of sharing scooter projects**

2

**Introduction and application of IOT device**

3

**APP and Back-end management system**

4

**Technical docking of sharing scooter project**

A green speech bubble graphic with a white border and a white shadow, pointing downwards. It contains the text '01 Introduction of sharing Scooter projects' in white.

# **01 Introduction of sharing Scooter projects**

## 1.1 Introduction of sharing Scooter projects

Complete sharing scooter project solution



### Project Description



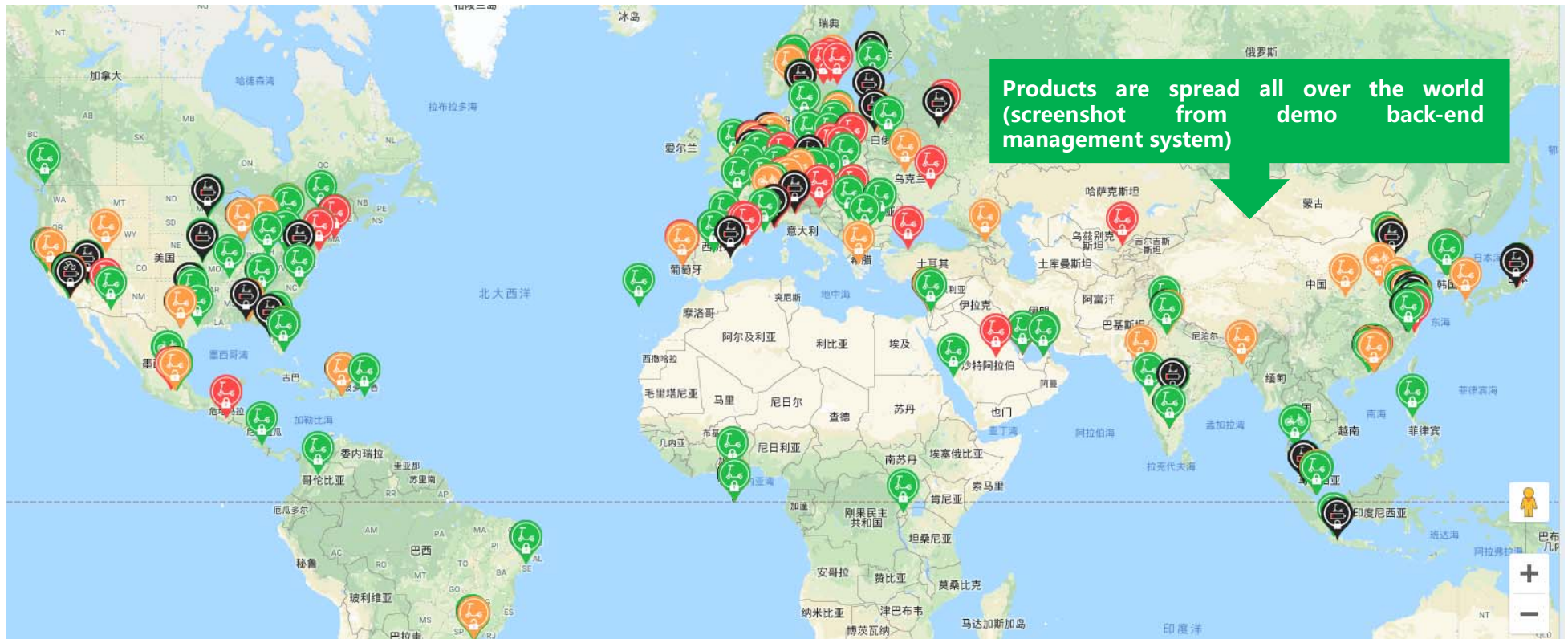
The sharing-- electric scooter project is prevalent in North America, Europe, Southeast Asia and other countries and regions. The whole project mainly includes three parts of operation system software, IOT device and electric scooter, which will solve the last one kilometer problems indeed.

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

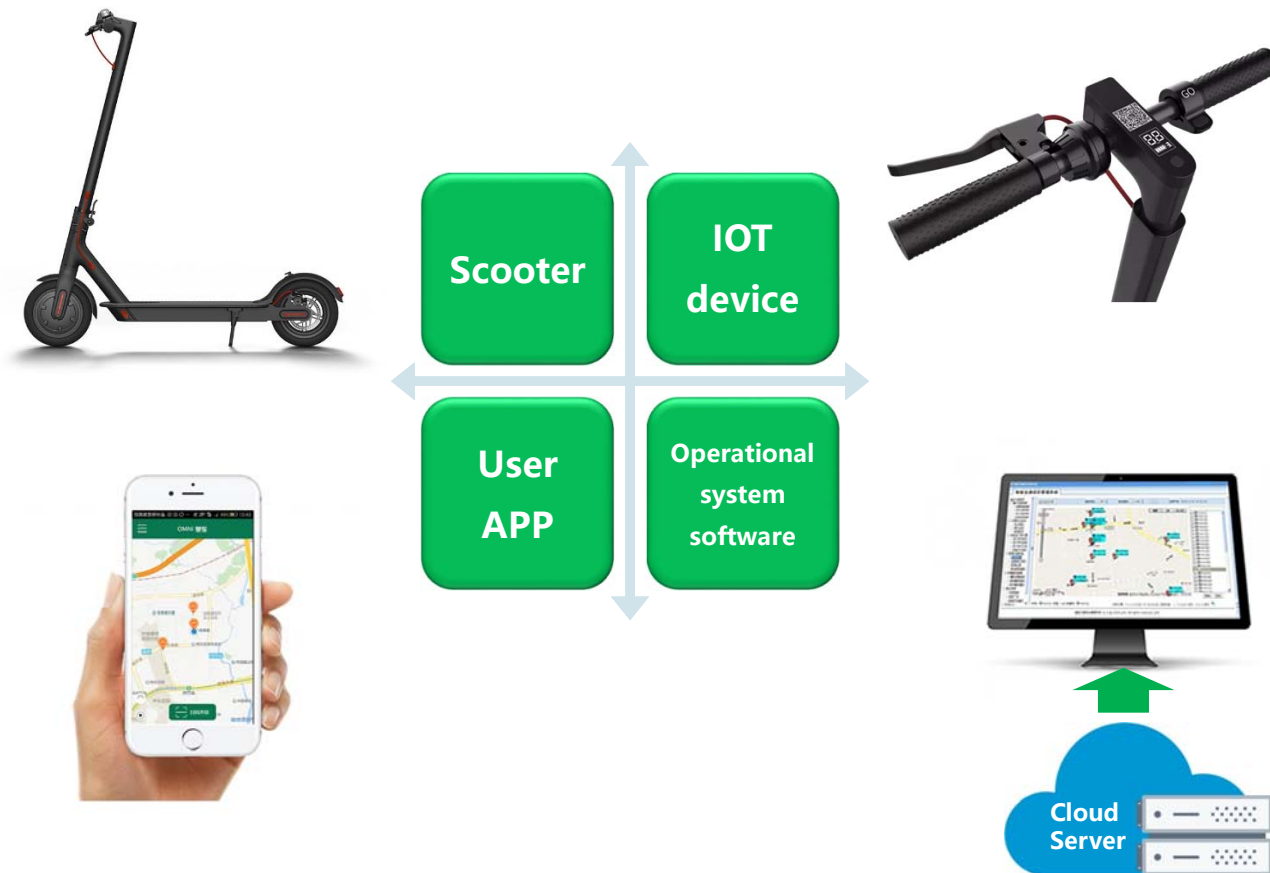
### Operational software



## 1.2 Introduction to the sharing scooter project



## 1.1 Composition of sharing scooter projects



## 1.3 Selection of scooters

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



A green speech bubble graphic with a white border and a white tail pointing downwards and to the left. The bubble contains the text '02 Introduction and application of IOT device' in white.

**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)



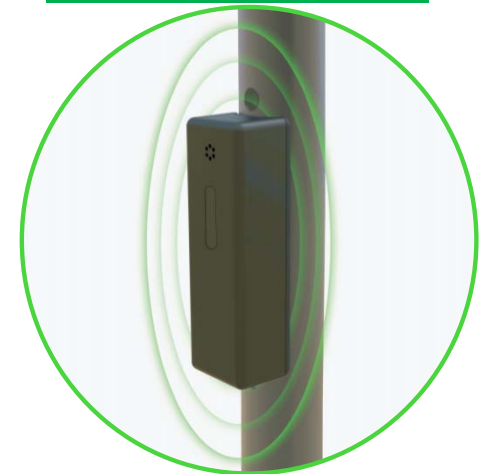
**Built-in version**  
(can be used with cable lock)



**Built-in version**  
(Scroller for removable batteries)

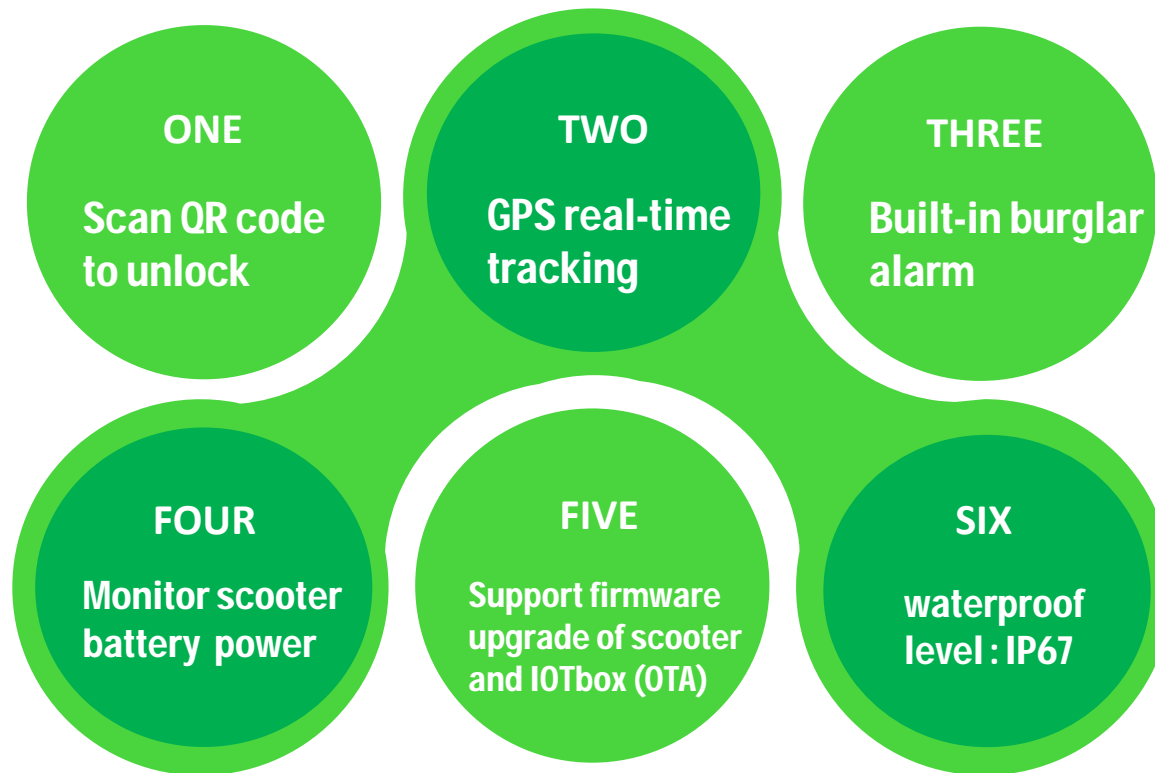


**External version**  
(Regular)



## 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)

A green speech bubble graphic with a white border and a white shadow, pointing downwards. It contains the text '03 APP and Back-end management system' in white.

**03**

**APP and Back-end  
management  
system**

### 3.1.2 Use of APP



Sweeping code



Rating mileage



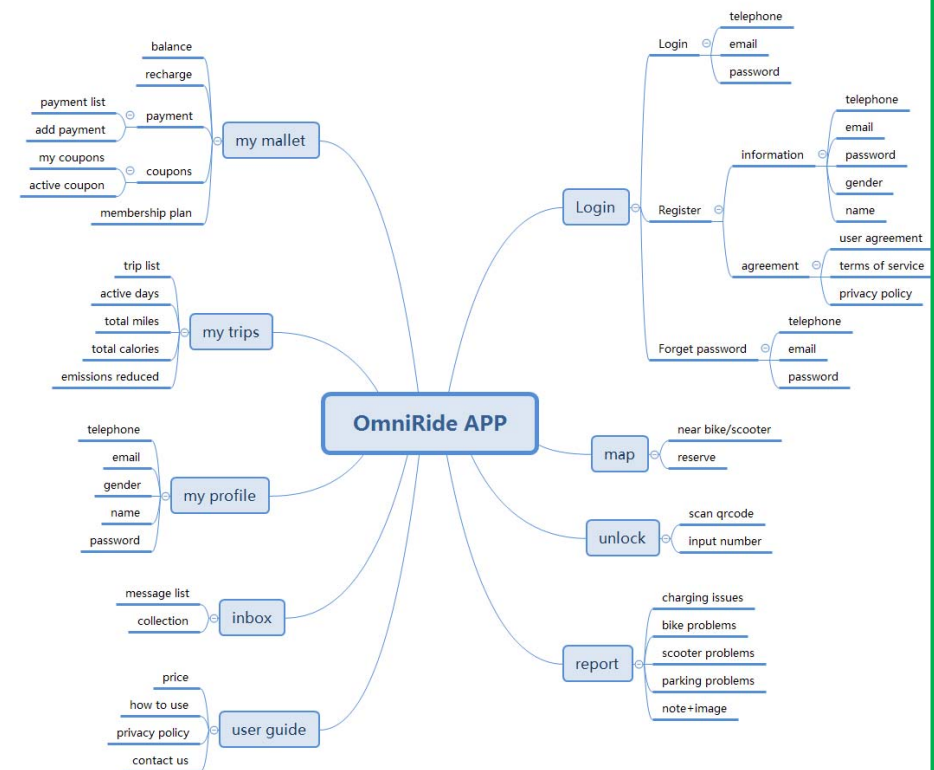
Return the scooter,  
settlement fee

Scan QR code to unlock



### 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

Omni Share Management system[Demo] 2019-08-27 16:56:21 | Language: English | Area: All | Log out

Menu << My Home Map Show(All) Bike List

Bike management

Keywords: number or imei Status: All Lock type: All Error: All online: All Search

Add Delete UnLock Location Info Version Find ShutDown Show in map Edit Statistics Upgrade Mac Detail Lock ReStart

Export

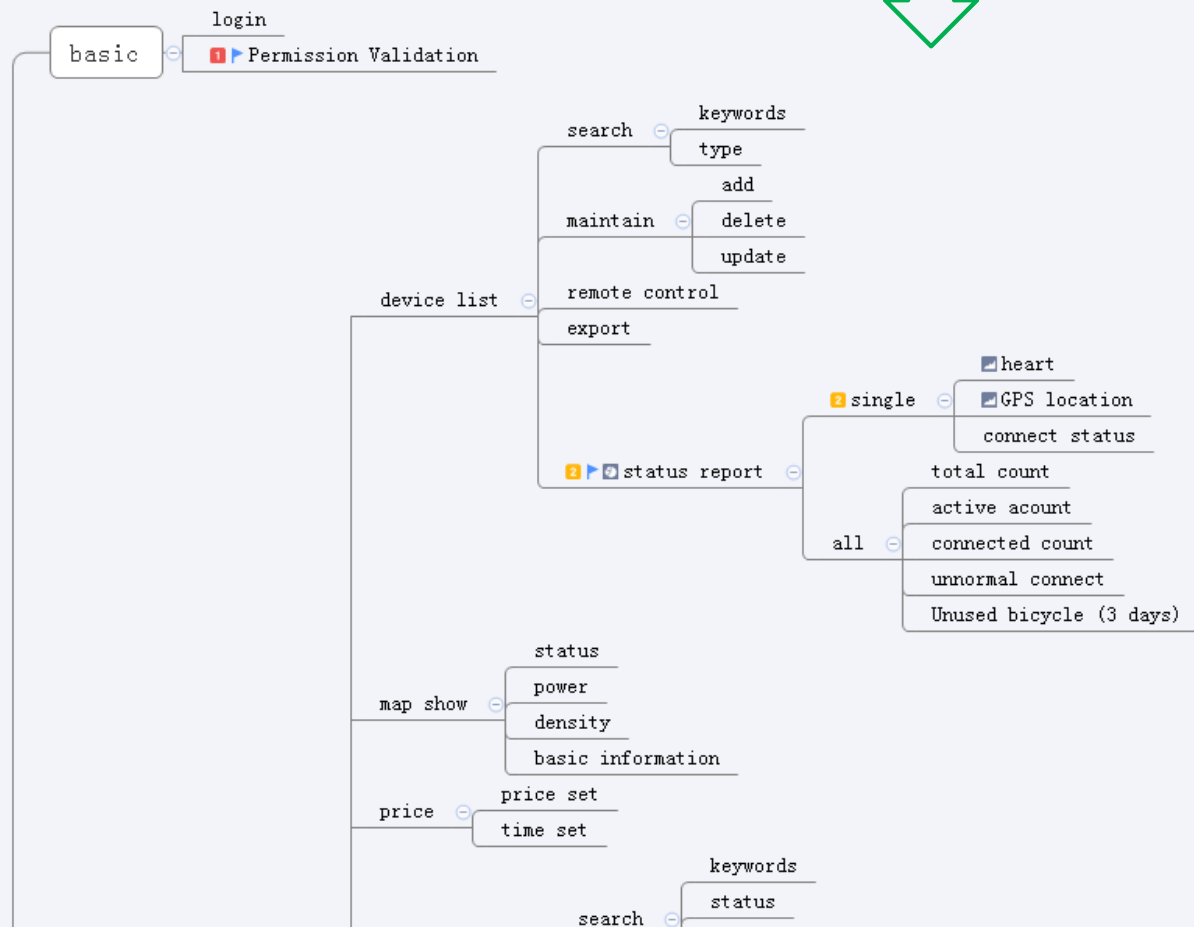
ID	ID	IMEI	MAC	Operating	Power	Heart Time	Status	Ride count	Last Ride Time	GPS Time	GPS Longitude,GPS Latitude	Lock type
1709	66755007022	867584032013216	DB:58:21:07:77:73	Show in map	61%	2019-08-26 09:05	Locked[offline]	0		2019-08-26 09:04	114.12586883333333,22.63404916666666	Scooter
1708	66755007021	867584031903623	C2:6F:30:26:14:A3	Show in map	60%	2019-08-26 08:58	Locked[Fall][offline]	0		2019-08-26 09:00	114.12589083333333,22.6341635	Scooter
1707	66755007020	867584032029071	C5:E8:01:8D:FB:08	Show in map	60%	2019-08-26 08:54	Locked[offline]	0		2019-08-26 08:57	114.12599766666666,22.63428333333333	Scooter
1706	66755007019	867584032023504	F9:AC:73:4D:C7:BE	Show in map	61%	2019-08-26 03:13	Locked[offline]	0		2019-08-26 03:08	114.125999,22.634103	Scooter
1705	66755007018	867584031902922	C9:4D:B0:35:90:10	Show in map	61%	2019-08-26 03:22	Locked[Fall][offline]	0		2019-08-26 03:23	114.12604916666666,22.6342055	Scooter
1704	66755007017	867584032039310	F3:3F:28:34:F6:DB	Show in map	61%	2019-08-26 03:33	Locked[offline]	0		2019-08-26 03:31	114.12599016666667,22.6345895	Scooter
1703	66755007016	867584031907707	D3:F4:48:B9:0F:99	Show in map	61%	2019-08-26 05:30	Locked[offline]	0		2019-08-26 05:25	114.1263585,22.63425733333333	Scooter
1702	66755007015	867584032023447	CB:FB:2D:42:EA:31	Show in map	60%	2019-08-26 05:38	Locked[offline]	0		2019-08-26 05:38	114.12583433333333,22.63400916666666	Scooter
1701	66755007014	867584031913036	D3:5F:56:2F:F3:93	Show in map	61%	2019-08-26 06:06	Locked[offline]	0		2019-08-26 06:07	114.12599033333333,22.63406416666666	Scooter
1700	66755007013	867584032035664	E7:7B:B8:05:92:C0	Show in map	60%	2019-08-26 06:12	Locked[offline]	0		2019-08-26 06:12	114.12579433333333,22.63399483333333	Scooter
1699	66755007012	867584031907046	D5:7B:96:A0:C1:89	Show in map	62%	2019-08-26 06:28	Locked[offline]	0		2019-08-26 06:26	114.12611833333334,22.63465266666666	Scooter
1698	66755007011	867584032036803	C0:C7:B6:BB:AE:7D	Show in map	60%	2019-08-26 06:42	Locked[offline]	0		2019-08-26 06:43	114.125897,22.63424416666666	Scooter
1697	66755007010	867584032023421	F2:2F:4A:CE:D4:15	Show in map	62%	2019-08-26 06:57	Locked[offline]	0		2019-08-26 06:57	114.12584716666667,22.634172	Scooter
1696	84031435097	867584031435097		Show in map	0%		Locked[offline]	0		0,0,0		Scooter
1695	66755007008	15136000855515	F6:EE:AC:28:79:A8	Show in map	0%		Locked[offline]	0		0,0,0		Scooter
1694	66755007007	860298045196515	10:30:00:06:04:C8	Show in map	85%	2019-08-27 08:54	Locked[online]	0		2019-08-27 08:02	114.125987,22.63413116666666	Bike
1693	66755007006	860298045262309	10:30:00:06:04:7D	Show in map	90%	2019-08-23 02:17	Locked[offline]	0		2019-08-23 02:19	114.12583933333333,22.63412183333333	Bike
1692	66755007003	867584031408276	C3:1C:E2:2B:D4:8B	Show in map	53%	2019-08-22 03:12	Locked[offline]	0		2019-08-22 03:10	114.12619033333333,22.6340975	Scooter
1691	66755007002	66755007002	D8:49:9C:E0:A8:BE	Show in map	0%		Locked[offline]	0		2019-08-22 02:48	114.126047,22.634255	Bike
1690	66755007001	863921030920832	10:30:00:06:04:B6	Show in map	90%	2019-08-22 01:25	Locked[offline]	0		2019-08-22 01:40	114.13197292751737,22.6315285915798	Bike
1689	66755006235	867584031909638	E6:A1:B6:F3:90:10	Show in map	73%	2019-08-27 08:03	Locked[Fall][offline]	0		2019-08-27 07:33	114.12579583333333,22.63441783333333	Scooter
1688	66755006234	867584032030046	EE:46:93:B1:3D:33	Show in map	86%	2019-08-22 04:19	Locked[offline]	0		2019-08-22 06:30	114.1254725587686,22.63428927866987	Scooter
1687	29046371873	865429046371873	10:30:00:07:00:4A	Show in map	70%	2019-08-21 06:27	Locked[offline]	0		0,0,0		Bike
1686	66755006233	863921030920766	10:30:00:06:04:80	Show in map	92%	2019-08-21 06:04	Locked[offline]	0		2019-08-21 05:54	114.12582233333333,22.63439066666666	Bike
1685	66755006232	863921030921236	10:30:00:06:04:B7	Show in map	91%	2019-08-21 06:04	Locked[offline]	0		2019-08-21 05:54	114.1259575,22.63429483333333	Bike
1684	66755006231	863921030920519	10:30:00:06:04:78	Show in map	98%	2019-08-21 06:04	Locked[offline]	0		2019-08-21 05:55	114.12581666666667,22.63426716666666	Bike

Display 60 a total of 1,464

Index Previous 1 2 3 4 5 6 Next Last 1

## 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

Omni Share Management system[Demo] | 2019-08-28 10:19:31 | Language: English | Area: All | Log out

Menu

- Bike management
  - Bike List
  - Map Show(All)
  - Map Show ( Low Battery )
  - Map Show(UnLocked)
  - Map Show ( Lock )
  - Map Show ( Density )
  - Pricing
  - Report Center
  - Riding history
  - Bike maintenance
  - Order record
  - Bike Alarm
  - Bike Statistics
  - Membership Plans
  - User Membership
- Lucky bike management +
- Area management +
- User management +
- Finance +
- Coupon management +
- System config +
- Setting +
- Mailbox management +
- Notification +

地图 卫星图像

Precise positioning

- ID:66755004080
- IMEI:861477038761605
- GPS Time:2019-06-22 22:39
- GPS Latitude:40.75341265623182
- GPS Longitude:-73.98075692351382
- Power:85
- Heart Time:2019-06-06 10:26
- Status:Locked
- Error:Normal
- Lock type:Scooter
- [Update](#)
- [Add Lucky bike](#)

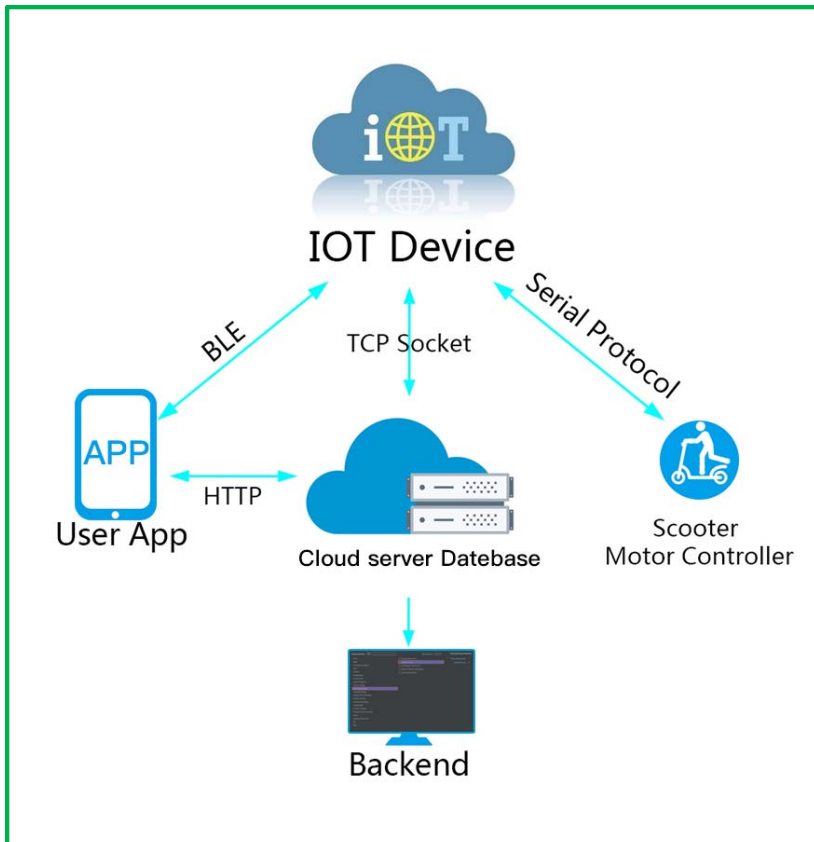
Geofence

A green speech bubble graphic with a white border and a white shadow, pointing downwards. It contains the text '04 Technical docking of sharing scooter project' in white.

**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

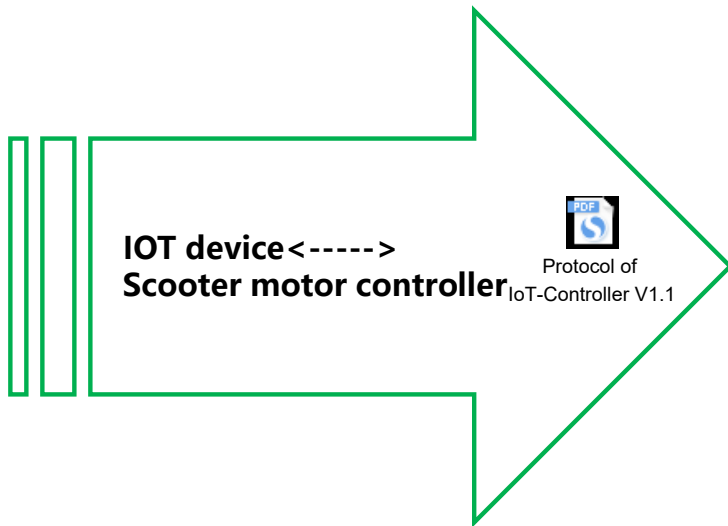
IOT device <-----> Server



### BLE PROTOCOL

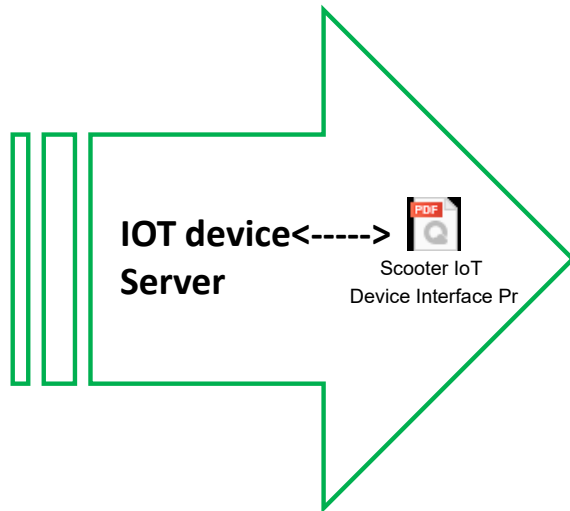
IOT device <-----> APP

## 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

2020

Thanks for watching

