



EVERYTHING
under THE SUN

Sharing Scooter Solution

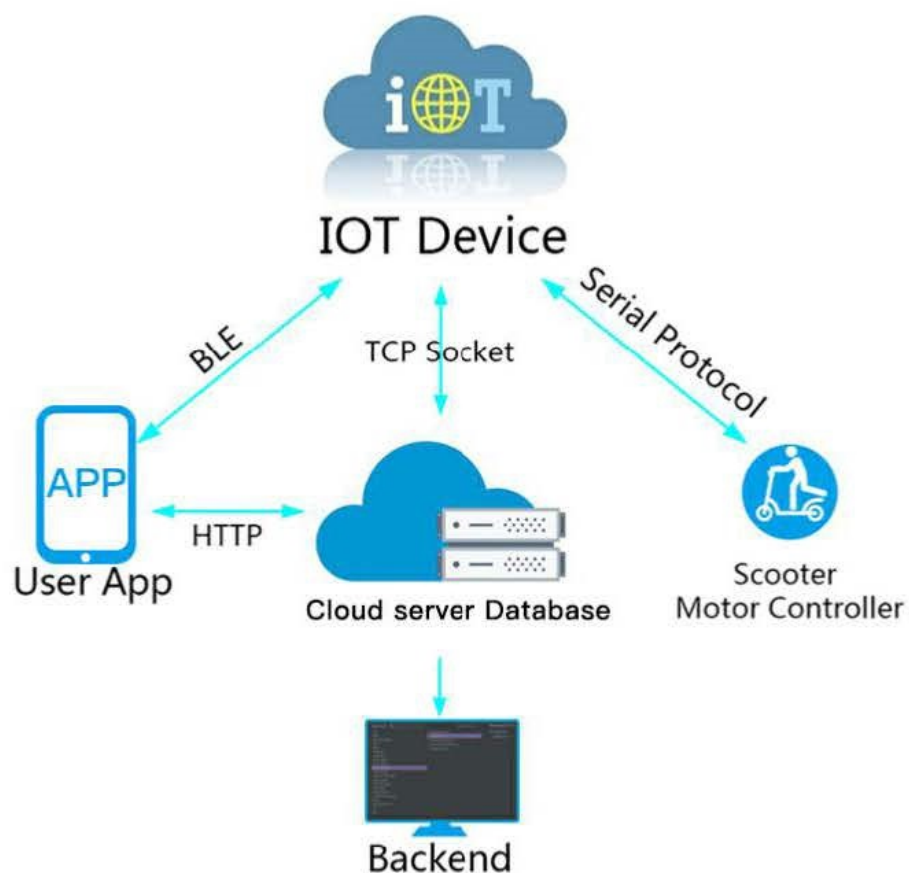
Content

APPLICATION DESCRIPTION AND MAIN PART INTRODUCTION	3
SYSTEM SOFTWARE COMPONENTS AND MAIN FUNCTIONS.....	4
IOT DEVICE INTRODUCTION AND PARAMETERS.....	6
ELECTRIC SCOOTER REFERENCE DATA.....	10
OMNI ADVANTAGE.....	11
CUSTOMIZED DESCRIPTION.....	12
TECHNICAL SUPPORT	12
COOPERATION PROCESS	13

Part I . Application 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.

Major part of the relationship diagram



Part II . Full software introduction

2.1 Operational system software

2.1.1 Operating system software mainly includes:

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

2.1.2 Relation diagram



2.1.3 The major functions for each part:

Database: MYSQL

Mobile APP for users :

- User login, registration, recharge (registration by mobile phone number, real name authentication)
- All free scooters (unused, unreserved scooters) are shown on the map.
- Click on the scooter on the map to get the path plan from the user's current location to the location of the scooter
- Make a reservation for scooter (other users cannot unlock the scooter that has been reserved). The appointment can be canceled.
- Unlock the scooter by scanning the QR code or entering the scooter number
- Automatically be billed after the end of the ride
- View previous riding records (including riding distance, time, cost, etc.)
- Users can modify their basic information (avatar, nickname, etc.)
- Information feedback (the malfunction scooter , damage, dirt, etc.)
- Users can share their cycling data to the social platform and recommend it to friends.

Cloud server :

- User authentication, login information management
- Device information storage management of vehicles and locks
- Server program controls each instruction for processing and forwarding
- Send scooter information, location request, unlock request, appointment request
- The server program decrypt the active information sent by the IOT device, and

then encrypts the processed result and sends the information to the mobile client.

- Decrypt the information of the mobile client and communicate with the IOT device.
- Vehicle information management, which supports managing information data in the background.
- Request the location of the scooter in an abnormal state according to the management program (such as low battery, alarm, etc.)

Backend Management:

- View the location of all scooters on the map (can be filtered by conditions, such as low battery, unlocked, etc.)
- Control the state of the skateboard, such as remote opening, closing, speed, and the scooter can be positioned immediately.
- Obtain scooter information, such as GSM value, battery power, unlock/lock status, position coordinates, etc.
- Count the using frequency of each scooter (such as the number of daily unlocks, monthly unlocks, etc.)
- Statistics on using frequency for each user
- User register management
- User order management
- Vehicle sub-regional management

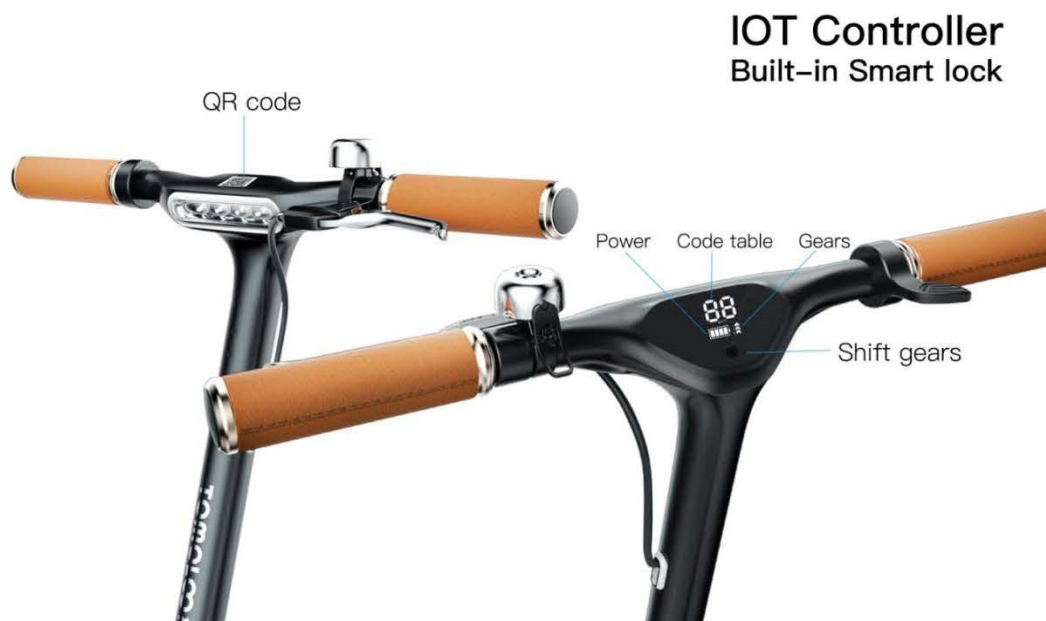
- Maintenance personnel authority management
- Advertising, promotion management
-

Part III. IOT device

3. 1 IOT devices mainly have two placement modes:

- Built-in scooter





External reference :

Sharing electric scooter



Hardware solution



3. 2 Specifications for IOT device

SPEC of IOT Device	
VER1.0	
Item Model	OT303BL/OT304BL
Cloud Communications	TCP socket
Communication network	2G/4G LTE (Optional)
Connectivity/BLE	BLE4.0 (2402-2480MHz) (Auxiliary unlocking)
4G Bands of Northern America Version	FDD-LTE B2/B4/B12
	UMTS/HSPA+ B2/B5
	FDD-LTE B1/B3/B5/B7/B8/B20
4G Bands of EMEA Version	TDD-LTE B38/B40/B41
	UMTS/HSPA+ B1/B5/B8
	GSM/GPRS/EDGE B3/B8
4G Bands of Australia Version	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
GNSS	GPS+GLONASS/GPS+BDS
Antenna Efficiency	Celluar>40%; GPS>70%
Unlocking Time	1-3s
Geo location Precision	2.5m-15m (open field)
Geo location Time	Hard/Cold Boot <35s; Soft/Warm Boot<1s (open
Voice Prompts	Electronic Horn;
Motion Detection	Triaxial Accelerometer
Operating Temperature	-20°C -- 70°C
Storage Temperature	-45°C—80°C
Operating Humidity	93%RH
IP Rating	IPX7
Standby Current	5-10mA (5VDC)
Battery&Communication	5pin: 36V GND TX (TTL) RX (TTL)
Built-in Lithium Battery	3.7V/900mAH
Backup Battery Life	>2h
Battery Supply Voltage	36VDC
Certifications	FCC/CE/*other customized certifications for different

	*SIM cards shall be provided by buyers
Main Features	
Lock&Unlock through both 4G and BLE4.0	
Multi-mode geo location through GPS, GLONASS and BDS	
User-defined Max. Speed	
Automatically or manually turn on headlight	
Manually or remotely switch Riding Modes	
Automatically start manually scooting (without power) mode once out of Geo-fence	
Read scooter information remotely (speed, estimated battery life, distance travelled and	
Monitor charging state	
Play voice prompts and send out alarm sounds	
Electronic horn	
IoT device dismantled alarm	
Low battery alarm	
Illegal scooter movements or shaking alarm	
Fallen down alarm	
Remote firmware upgrade of scooters and IoT device(OTA)	

3. 3 Hardware interface protocol

IOT device <-----> Scooter controller (serial protocol)

IOT device <-----> App (Bluetooth communication protocol)

IOT device <-----> Server (TCP SOCKET)

3. 4 Integration among scooters ,IoT device, and operating systems

IOT device <-----> Scooter controller : by scooter controller manufacturers

IOT device <-----> App: completed by the software developer

Omni provides the corresponding communication protocol and technical support.

Part V. advantages

- Ultra-low power consumption and ultra-high sensitivity design to ensure reliable connection.
- Innovate system working mode, improve product operation stability.
- Low operating and maintenance costs .
- Reduce the rate of lost scooters, without losing contact!
- Millions of devices are operating stably.
- Over 100,000 fatigue tests and environmental reliability tests
- The R&D core team has more than 10 years of experience in software and hardware deep R&D testing and accumulation of underlying algorithms for a large number of related products such as GPS, GPRS asset tracking products, electronic locks, and Bluetooth intelligent hardware.
- Support for bulk order production, an average of 10,000 units / day.
- Waterproof and dust-proof: The waterproof level is above IPX7, so the rainstorm does not damage the device.It is still available even soaking in water for a short time.

Part VI. customized instructions


- The shape structure of the IOT device can be customized:
- The function of IOT device can be customized:
- The color, LOGO, QR code of IOT equipment can be customized: MOQ2000.
- Other customization: negotiation between the two parties

PartVII. technical support

- System software, hardware, firmware, shape, structure integration solution output
- After the project is launched, the specially-assigned person will follow up the project and provide comprehensive support
- Discussion groups can be established to ensure real-time communication and timely feedback.
- Provide training based on docking needs.

PartVIII. Cooperation process

Defining guest functional requirements -> initial docking between IOT equipment and motor controller, initial docking between IOT equipment and system software -> sending sample to test -> function confirmation -> signing

Model	Picture	Specification	
OS-303	<p>Sales point : 8.5 inch</p> 	Brand Name:	Sharing scooter
		Model Number:	OS-303
		Foldable:	YES/NO
		Tire Size:	8.5inch
		Controller:	Brushless controller
		Motor power:	350w
		Brake form	electronic brake,disc brake
		Minimum load :	25KG
		Max load:	100KG
		Max speed :	25KM/H
		Max. Climbing Angle:	14°
		Terrain clearance :	9cm
		Range of tires:	Honeycomb tyres(no air)
		Headlamp:	YES
		led tail lamp:	YES
		Horse race lamp:	NO
		support mobile phone app :	YES
		Bluetooth/Speaker:	NO
		Battery type:	36v, 10.5Ah
		Range Per Charge:	30-35KM
		Charger Voltage :	110V~240V 50-60Hz
		Charging Time:	3-4h
		Voltage:	36v
		Working Temperature:	.-10℃-40℃
		N.W.:	12KG
		G.W.:	15KG
		Product size folding before	105*44*115cm
		After the product dimensions are folded	105*44*48cm
		Package Size:	112*16*52cm
		Material :	ABS+PC+Al alloy
		Accessories :	Standard Charger, User Manual
		Color & Logo	Custmizaion MOQ250pcs
		Certification:	CE/ROHS/FCC/MSDS/UN38.3