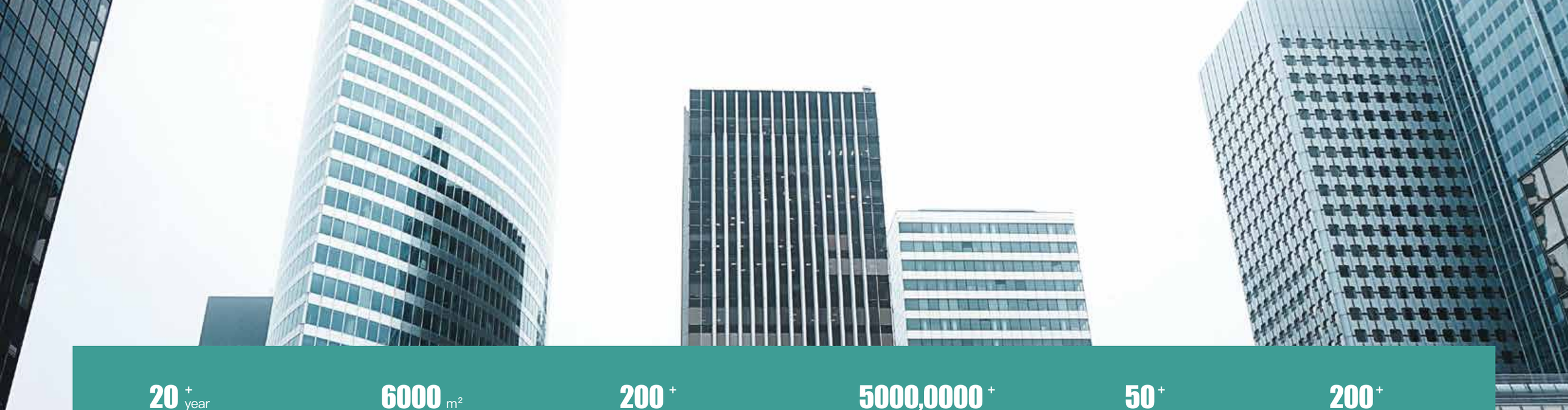
Omni Intelligent

Shenzhen Omni Intelligent Technology Co.,Ltd

The World’s Leading IOT Solution Provider

One-stop service for smart micromobility

DIRECTORY Contents



20 + year
Focus on the Internet of Things field

6000 m^2
work place

200 +
employees

5000,0000 +
Service users

50 +
R&D department

200 +
Technology Patent

COMPANY PROFILE :

Omni Intelligent Technology Co.,Ltd is a national high-tech enterprise, we are focusing on research and development as well as aIoT devices,IoT technology,IoT applications,including High-precision detection sensors and algorithms, wireless communication networking, GPS/BDS positioning, remote control,data acquisition, core components of industrial and agricultural Robots'R&D, related software,hardware, APP,cloud service system development as well as AI big data analysis application.

Omni Intelligent IoT	One-stop solution provider	One-stop customization service for Hardware+software+production

Tel:(+86)755-89208216 Fax:(+86)755-89208219

Mob:(+86)13926505109 Email:omni@omnicycling.com

Web: www.omnismartiot.com www.smartlockssupplier.com

Address: 11th. Floor Block 31, Lianchuang Technical Zone, 21th. Bulan Road, Longgang District, Shenzhen,China 518000

Core Advantages :

- Professional R&D team, from product definition, appearance, structure, electronic circuit,one-stop design of firmware program to implementation hardware.
- In terms of software, we have the whole series of development for client APP/mini program, server program and database, background operation management. Omni has sufficient intellectual property reserves, up to more than 100 patents, including patents,appearance patents,utility model patents, and more than 30 patents are added per year.
- Software and hardware products are widely used in many countries and regions around the world,the stability of communication, mainstream support the docking of payment, the docking of mainstream maps and operators, as well as own the preparation of books by world-renowned brand customers,we have powerful advantage in market competition.

Smart micro mobility website

Wechat official Account

Scan QR code to add wechat

Typical applications:

- Hardware related to sharing rental project
- Hardware related to Smart micromobility
- Vehicle asset personnel pet tracking and positioning software
- Smart city smart light pole, landscape lighting,etc.

QUALIFICATION HONOR

Omni breaks through more than 200 R&D patents and invention patents in shared micromobility and pet supplies,and has successively obtained the “SRDI”Enterprise, “China Innovation Unit”.And,Omni has the knowledge and technology for design and inventions patenting and continuous output of innovative patented technologies for the industry,and has more than 200 patents such as “Utility Model Patents”, “Appearance Design Patents”, and ”Invention Patents”.Now,Omni has become the largest core technology solution provider in shared micromobility.

EXPERIMENTAL TEST

OUR TEAM

Mechanical stamping test

Vibration test

Salt Spray Test

Wireless communication comprehensive test

Impact test

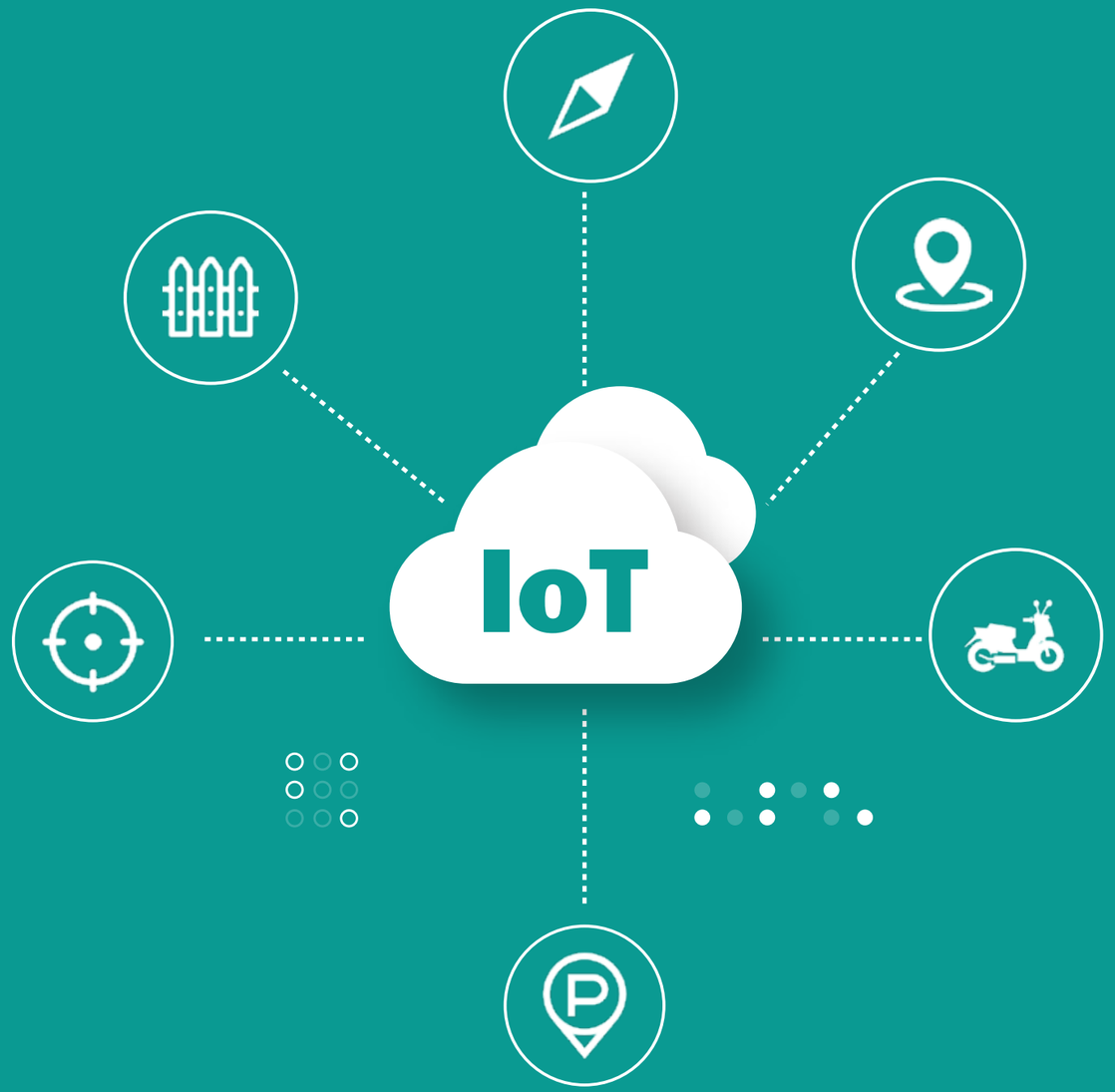
Constant temperature &humidity

Drop test

Compression test

Waterproof and dustproof performance test

Advanced IoT technology and applications



Local Geo-fence Solution

About traditional Geo-fence,it is implemented by server. The IoT uploads the real-time location information, and the server determines whether the IoT enters or exits the fence area,then sending command to IoT device to monitor the speed of vehicles and prohibits riding.There are problems such as: slow response, consumption of IoT traffic, and increase of server overhead, etc.. To solve these problems,geofencing is implemented by IoT ,IoT monitors if entering or exiting a geo-fence,and it automatically limits speed and stops riding.IoT responds quickly and does not require server command.

Max number of coordinate points supported	390000
Max number of fences supported	1280
Each fence supports the maximum number of coordinate points	1024
Response time of entering and exiting the fence(in case of open area and good GPS signal)	1 second

Geo-fence Area

Generated a geo-fence in server.

Geo-fence services:

1, Getting reports riders entering or exiting a geo-fence

2, Locking prohibited riders entering or exiting a geo-fence

3, No riding allowed riders entering or exiting a geo-fence

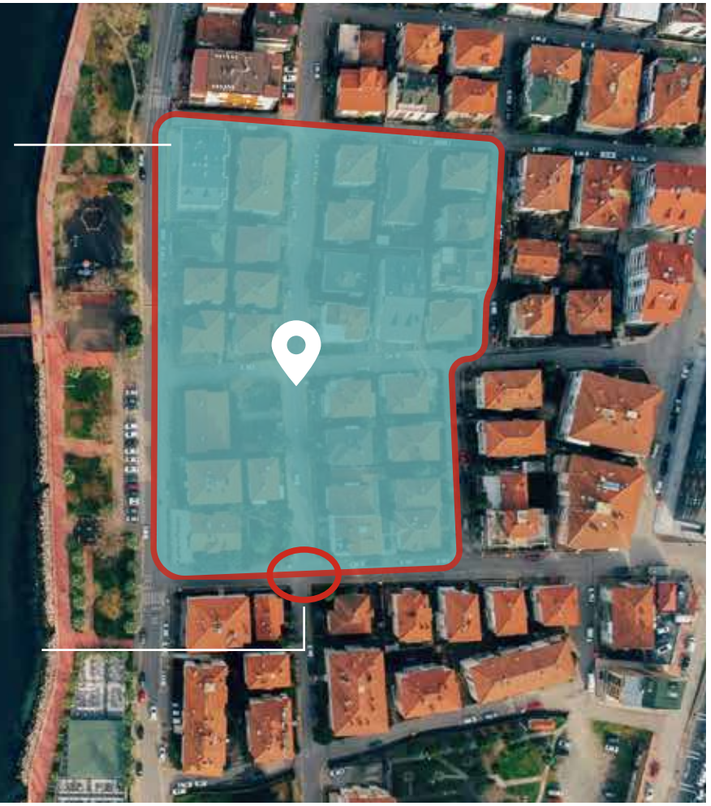
4, Speed limits riders entering or exiting a geo-fence

5, Voice alerts riders entering or exiting a geo-fence

Generate fence files

Generate fence files in the server background,send the fence file to IoT, IoT parsing file and implement, the blue circled area in right image is the entry and exit

Fence test site, enter the fence to limit the speed,and the speed restored after exiting the fence,and the voice alerts as well.



L1/L5 GNSS

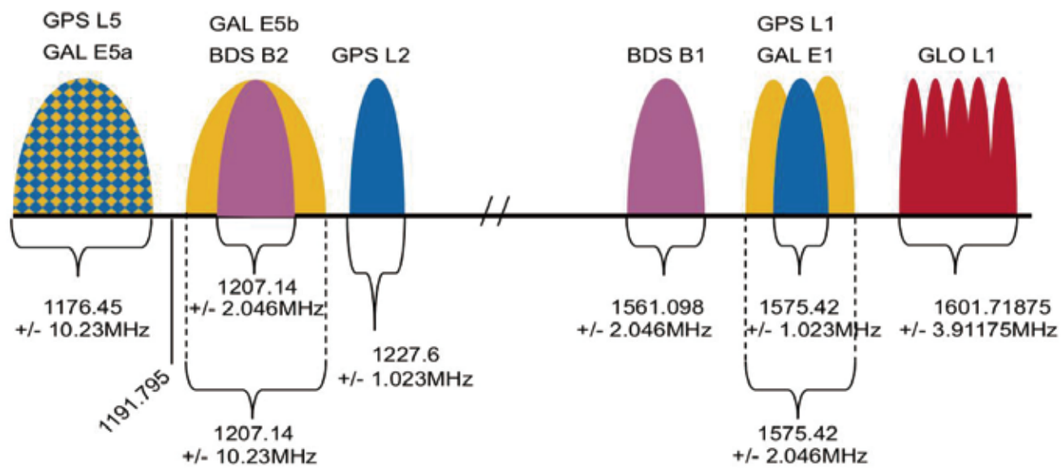
The civil use of dual frequency chips makes dual frequency (L1 + L5) positioning popular. The L5 / E5A band signal has a longer wavelength than the L1 / E1 C / A and a higher code rate. It can effectively improve the positioning accuracy of the receiver, suppress the influence of the path effect, and improve the anti-interference ability. With the help of this feature,the receiver's positioning performance of urban environment with many high-rise buildings has been significantly improved.

The following form details the differences between L5 / E5 band and L1 band. It is these differences that enable L5 / E5 signals to effectively compensate for the inherent defects in single L1 band.

Signal value	L1	L5	E5	Chip rate (more than 10 times)
Chip rate (more than 10 times)	☐	■	■	Suppress multipath effects
Received power (increase by 3dB)	☐	■	■	Enhance weak signal tracking capability
Pilot signal	☐	■	■	Enhanced weak signal tracking capability (increased by 6dB)
Estimation of ionospheric parameters (double frequency band)	☐	■	■	Improve the positioning accuracy of outdoor environment (sub meter level)
Navigation message correction	☐	■	■	More reliable automatic cold start
Multi frequency navigation	☐	☐	■	Automatic cold start is more convenient
50MHz signal bandwidth (E5B)	☐	☐	■	Enhance multipath effect suppression
Secondary coding	☐	■	■	Reduce signal crosstalk

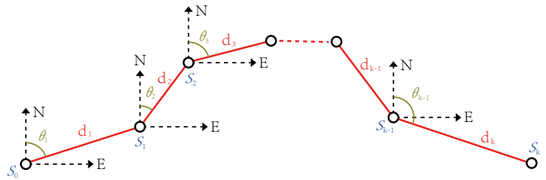
☐ Indicates that the frequency band does not support the corresponding signal attributes
■ Indicates that the frequency band supports corresponding signal attributes

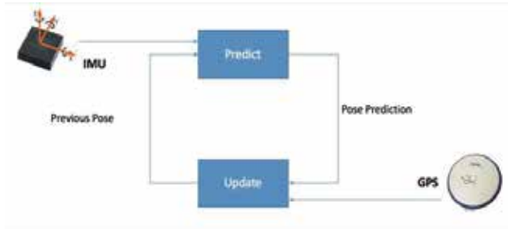
GNSS signal operating frequency



Inertial Navigation Solution

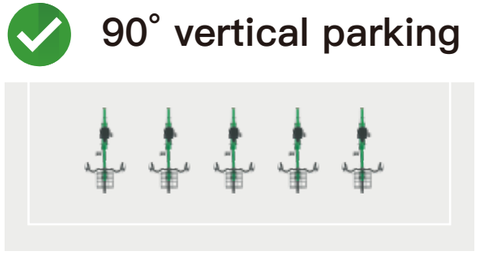
Use the inertial measurement unit (IMU) to perceive the acceleration and angular velocity data of the person during the travel process, and use these data to calculate the driving distance and direction of the traveling vehicle based on the known starting position, so as to achieve the vehicle when there is no satellite signal. The purpose of positioning. Correct the satellite positioning deviation and improve the positioning drift by calculating the current position of the device.



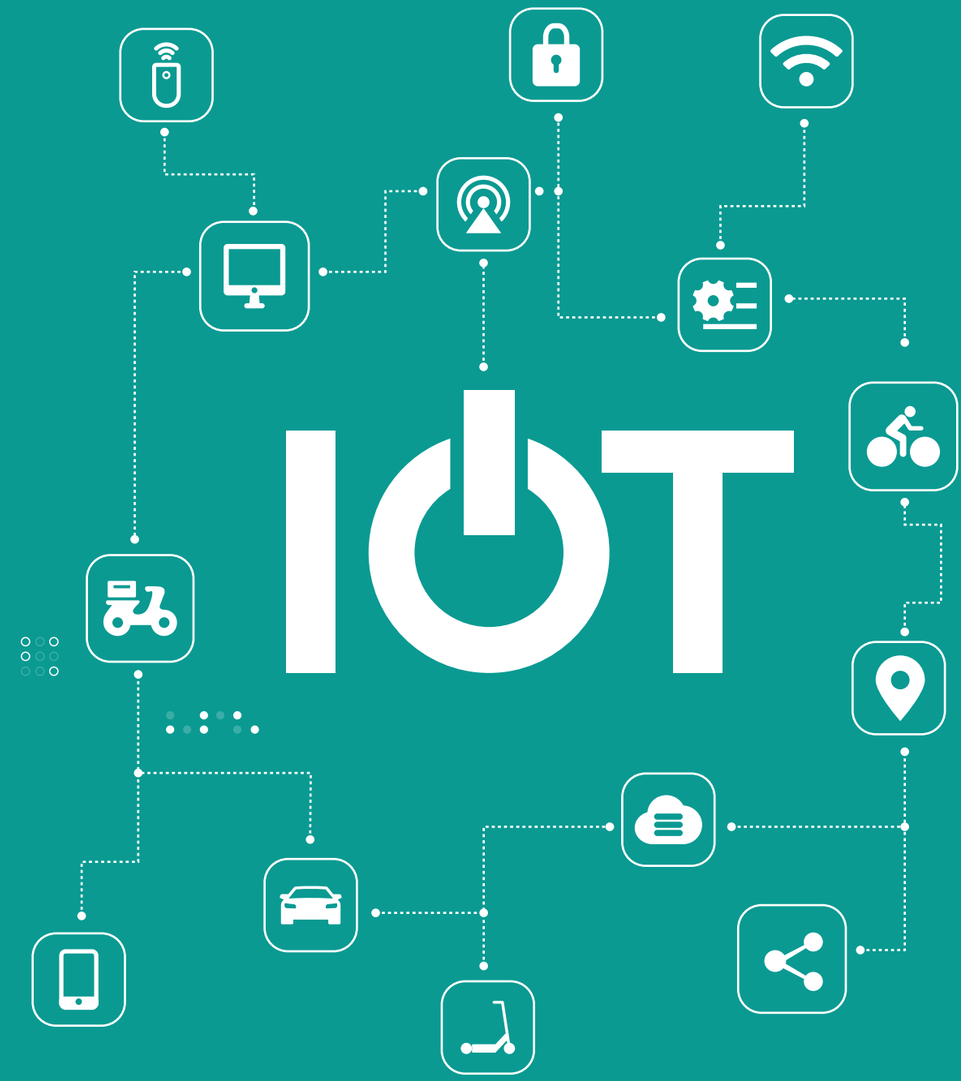


Parking Station Solution

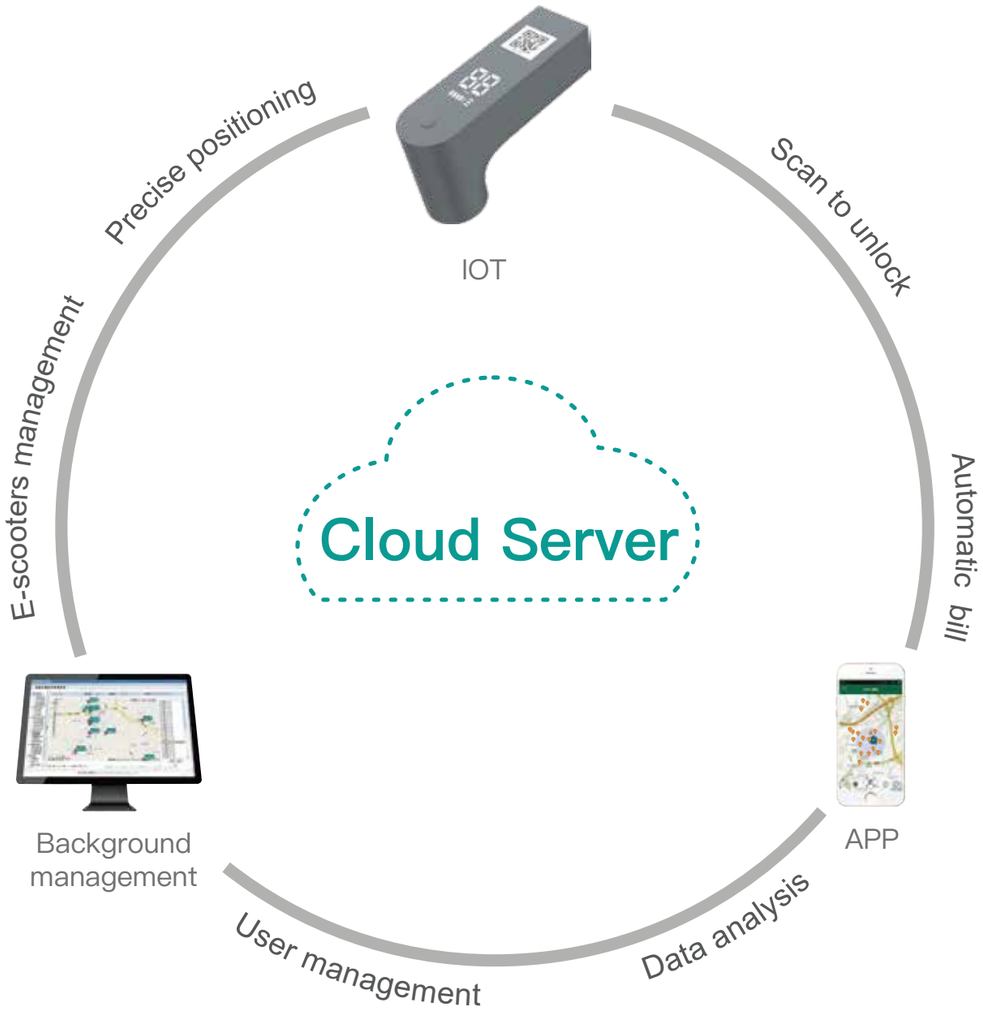
Fixed-point parking adopts NFC identification and RFID sensing technology, combined with parking beacon and AI cameras.



Smart Mobility Solutions



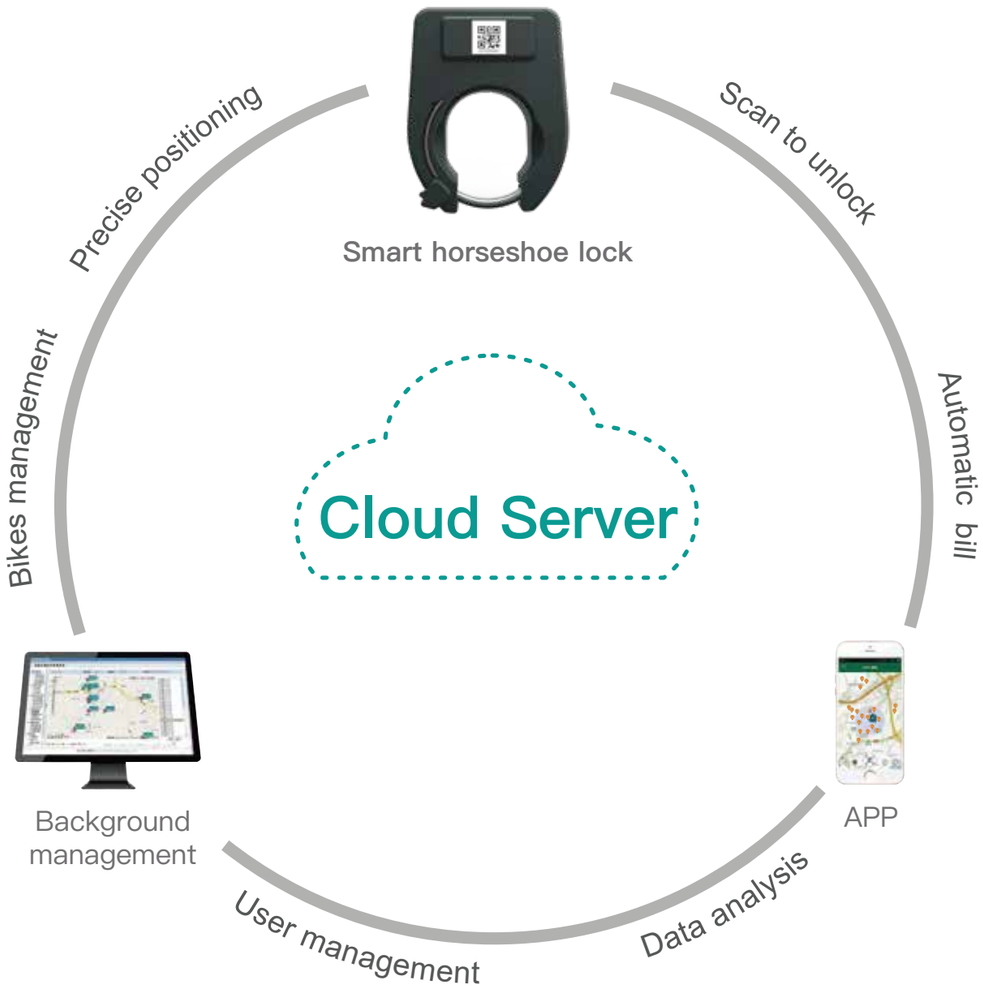
Smart Mobility System



Electric Scooter Rental Solution

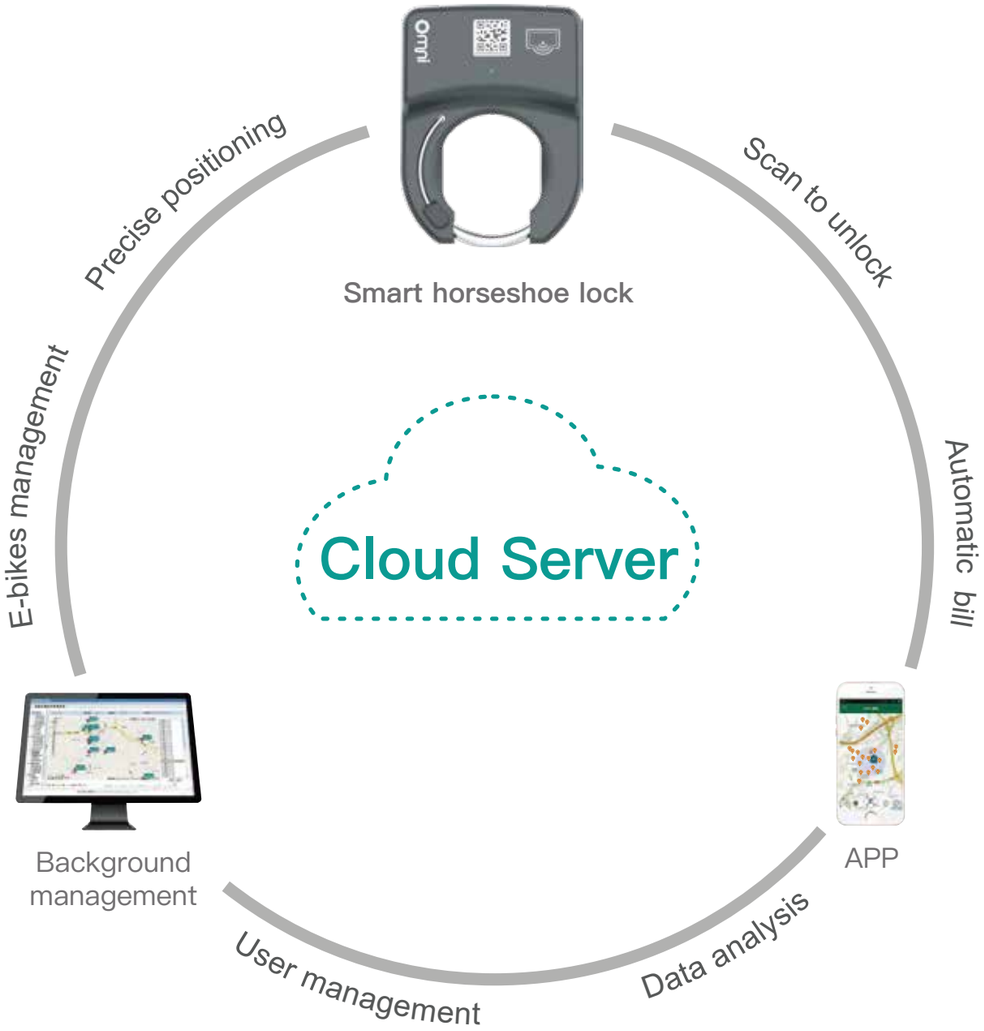
Omni electric scooter IoT solution,which includes software and hardware,enables and implements QR code scanning to ride and automatic bill and lock by APP.Applications of GPS positioning and remote control speed are applied to achieve standard parking within a generated geo-fence,IoT detection and alarm with built-in sensor,real-time monitoring of vehicle's status,battery power in backstage.Super functionality and help for fleet arrangement,security,lower maintenance cost.

Smart Mobility System



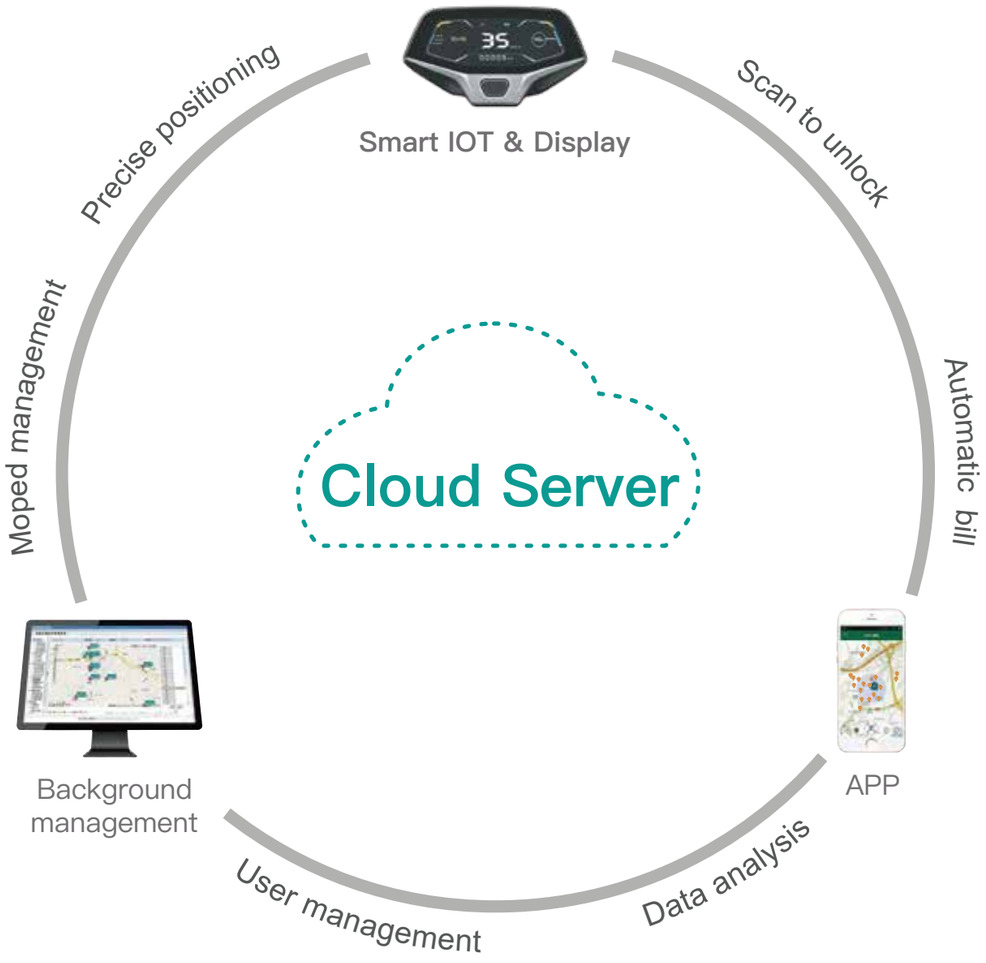
Bike Share Rental Solutions

Omni bicycle solution is supported by hardware such as smart horseshoe lock, cable lock, parking beacon,IoT device, and cooperated with intelligent software system. Whether it is driving, parking, cycling,pushing, Omni intelligent system will be here to help users make scene judgment,and make riding process easier and safer,enjoy riding pleasure.



Omni's integrated solution for electric bikes uses IoT device and smart bike locks such as horseshoe lock, cable lock, battery lock, helmet lock, M136 IoT device and intelligent instrument. Through the dual "lock" guarantee of locking the rear wheel of the ebike and the brake motor, the built-in sensor detection and alarm can monitor the position, power, speed and other information of the vehicle in a remote and real-time manner.Standard parking implementing with the process of local geo-fence and parking beacon and it truely helps better fleet management and reduces operating costs.

Smart Mobility System

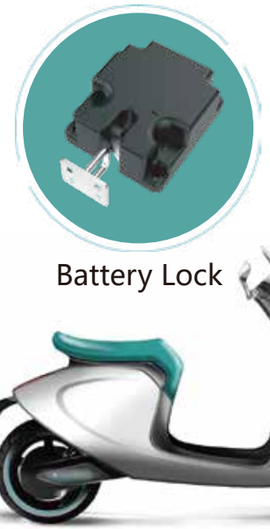


Moped Solution

Omni supports hardware such as smart display,IoT device,parking sensor and battery lock and software of mobile APP,mini program,Omni BLE tool and background.Omni intelligent system helps whether driving,parking,cycling,pushing a car.And it's great for riders to make scene judgement,improving the riding experience of mopeds and ensuring that it's safer and relaxer when cycling and riding.

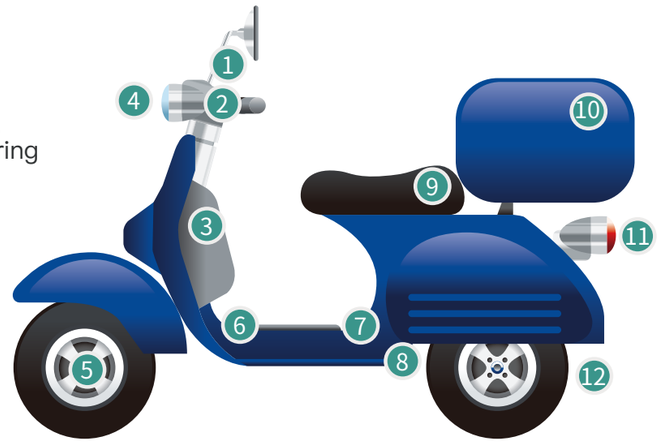
Smart dashboard **Induction unlock** **Automatically locking** **Open in a second**
Anti-lost/multiple alarms **anti-speed** **One-click change the battery** **Wireless charging**

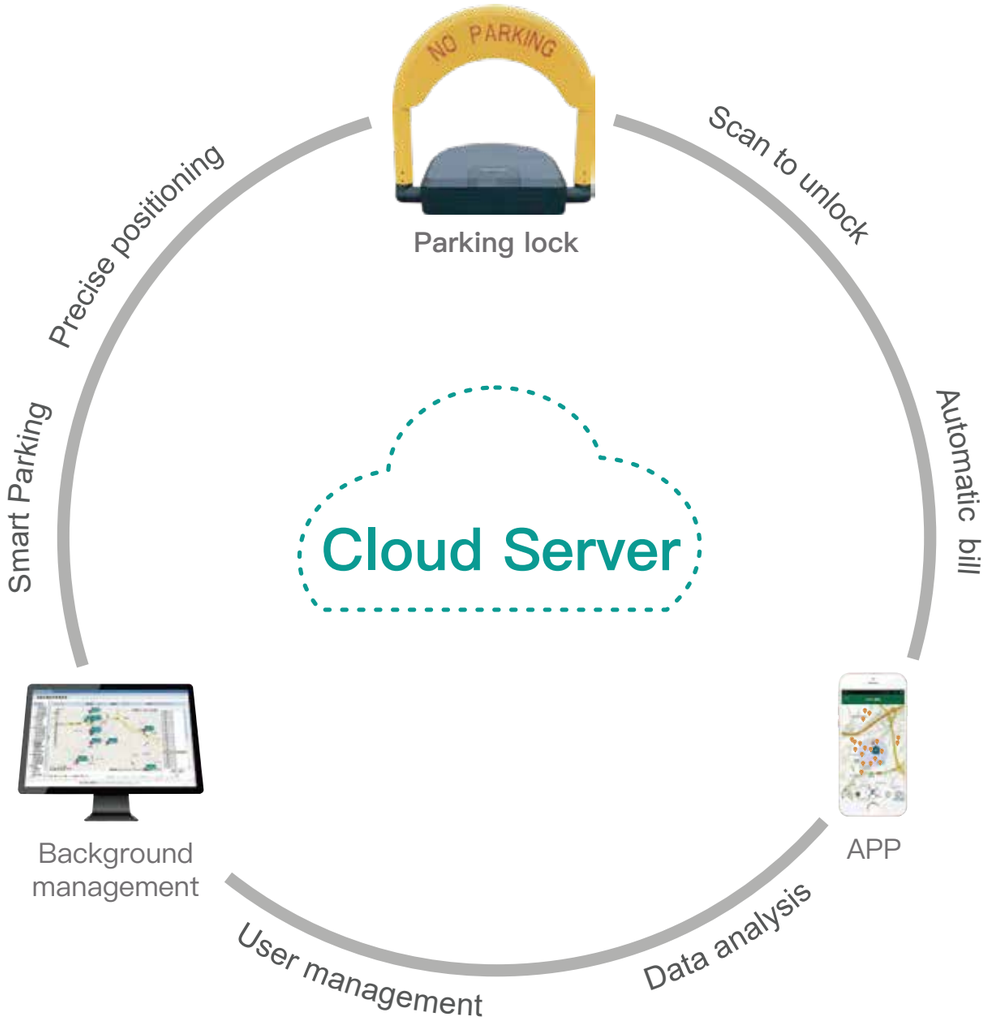

Parking Sensor


Battery Lock


IOT&Display

1. One key start button
2. Smart Display/NFC/Wireless Charging
3. IOT/4G/BLE/GPS
4. Headlight Front
5. Wheel brake control, tire pressure monitoring
6. Battery Lock
7. Motor Controller
8. Parking Sensors
9. Ride Sensors
10. Tail Lock
11. Tail light
12. Cable lock

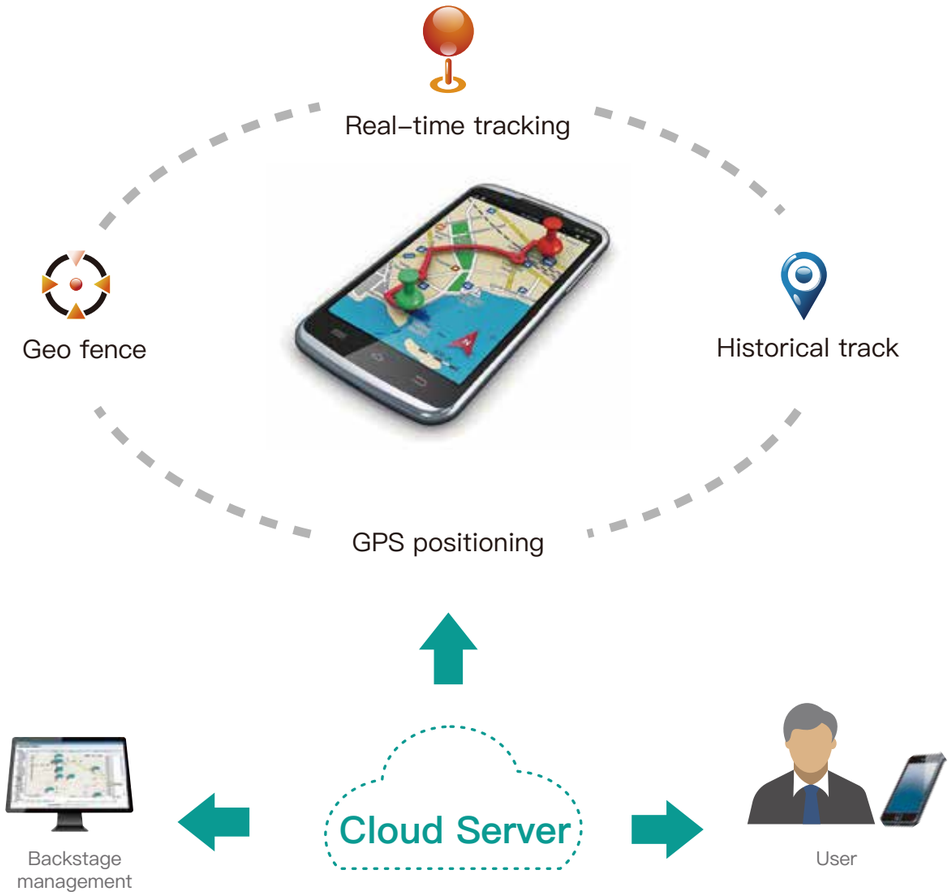




Smart Parking System

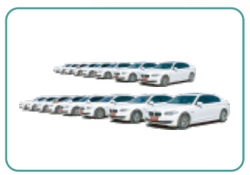
Applications	Personal park:remote control unlocking,APP scan to unlock Sharing park: APP scan to unlock,automatic lock,auto bill
Communication	BLE、 2G/3G/4G、 NB-LOB、 LORA 485
Customization	Appearance,function,software(APP,server program,backstage) can be customized.

Intelligent Positioning System



Tracking and Positioning Management

Omni uses GPS positioning and speed remote control to achieve standard parking on geo-fence,pets monitoring,the elderly and the kids monitoring and historical tracking.Mostly used in car rental, flfleet management, logistics management, private car management, pet anti-lost, personnel tracking, etc..



Car rental

Logistics management

Standardized parking

Campus Management

Old and young guard

Anti-lost pets

Smart Horseshoe Lock

Model: OC32

Controller Communication：UART & CANBUS

Server Communication ： TCP/MQTT

Features: built-in sensor, buzzer alarm, anti-theft lock body

Charging: solar panel/motorcycle battery/DC head charging

Real-time monitoring: battery/switch lock status/connection information/alarm/fault information

Advantages: RFID unlocking, multi-mode high-precision positioning, ultra-low power consumption, global deployment

Communication method	2G/4G/RFID/BLE
Multiple position	GPS/Glonass/BDS/WiFi
Upgrade method	OTA&BLE
Built-in battery	8000/6400mAh
Steel ring diameter	10mm
Waterproof level	IPX7
Case material	Aluminum alloy back cover + plastic shell

Smart Horseshoe Lock

Model: OC30

Controller Communication：UART & CANBUS

Server Communication ： TCP/MQTT

Features: built-in sensor, buzzer alarm, anti-theft lock body

Charging: solar panel/motorcycle battery/DC head charging

Real-time monitoring: battery/switch lock status/connection information/alarm/fault information

Advantages: metal casing, multi-mode high-precision positioning, ultra-low power consumption, global deployment

Communication method	2G/4G/BLE
Multiple position	GPS/Glonass/BDS
Upgrade method	OTA&BLE
Built-in battery	8000mAh
Steel ring diameter	8mm
Waterproof level	IPX6
Case material	Aluminum alloy shell

Individual Bike Lock

Model: OL305B

1. Bluetooth unlock
2. RFID Card Unlock
3. APP Unlock
4. Solar charging
5. Ultra low power consumption
6. Super waterproof
7. Built-in Battery
8. Vibration alarm
9. Share with friends

Communication method	BLE4.0/RFID
Mechanical life	Unlock/lock >10000 times
Built-in battery	700mAh/3.7V
Standby time	>90 days (Does not include solar charging)
Application field	Personal/lease
Waterproof level	IPX7
Case material	Aluminum alloy case

Bluetooth Cable Lock

Model: OZ-35

Communication method	BLE
Charging method	USB & Solar Panel
Built-in battery	700mAh/3.7V
Lock size	99x85x25mm
Cable length	1m(customizable)
Waterproof level	IPX6
Case material	Plastic upper cover + aluminum alloy base

419 Cable Lock

Model: OL419

Communication method	UART/CAN
Mechanical life	Unlock/lock >10000 times
Cable dia	8mm(customizable)
Cable length	1.2m(customizable)
Cable rotation	360°/90°free spins
Waterproof level	IPX7
Case material	Aluminum alloy

Model : D128IOT

- On board Geo-fence
- Dual-frequency INS
- 4G&BLE
- OTA Upgrade
- Semi-embedded Installation
- Real-time Positioning
- Clear Voice Notification
- Vehicle Attitude Detection

Server communication	4G/BLE
Controller communication	UART/CAN
GNSS	Dual/Single-frequency GPS+Inertial navigation(optional)
Built-in battery	1000mAh/3.7V
Built-in speaker	28mm 4Ω 2W
Connectable device	Cable /Helmet lock
Waterproof level	IPX7
Housing material	Plastic

IoT Device

Model: OT303BL

Device Dimension：134.6 X 37.7 X 64.5mm
Built-in Battery： 850mAh/3.7V
Communication Method：4G/BLE
GNSS：GPS/GLONASS/BDS
Connectable Device：Battery/Cable/Helmet Lock
Ingress Grade：IPX6
Housing Material：Special Plastic
Device Features： LED Display, Geo-fence, OTA Upgrade

Model: O102WQ

Device Dimension：155.6 X 51.8 X 42.7mm
Built-in Battery：1000mAh
Communication Method：4G/BLE
GNSS：GPS/GLONASS/BDS
Connectable Device：Dashboard & Controller
Ingress Grade：IPX7
Housing Material：Special Plastic
Device Features：Geo-fence,OTA upgrade, Fault Report,Movement Detection,Easy Installation

IoT Device

Model: M136IOT **E-bike Version**

1. 4G/BLE Unlock
2. RFID Unlock
3. Geo-fence
4. GPS Tracking
5. Vehicle-attitude Detection
6. Vehicle Control
7. OTA Upgrade
8. Over-speed Warning
9. Voice Notification

Communication method	4G/BLE/RFID
Controller communication	UART/CAN
GNSS	GPS/BDS/GLONASS/GALILEO/QZSS
Built-in battery	6000/8000mAh
Working voltage	36/48V
Speaker parameter	4Ω 2W
Waterproof level	IPX7
Housing material	Special plastic

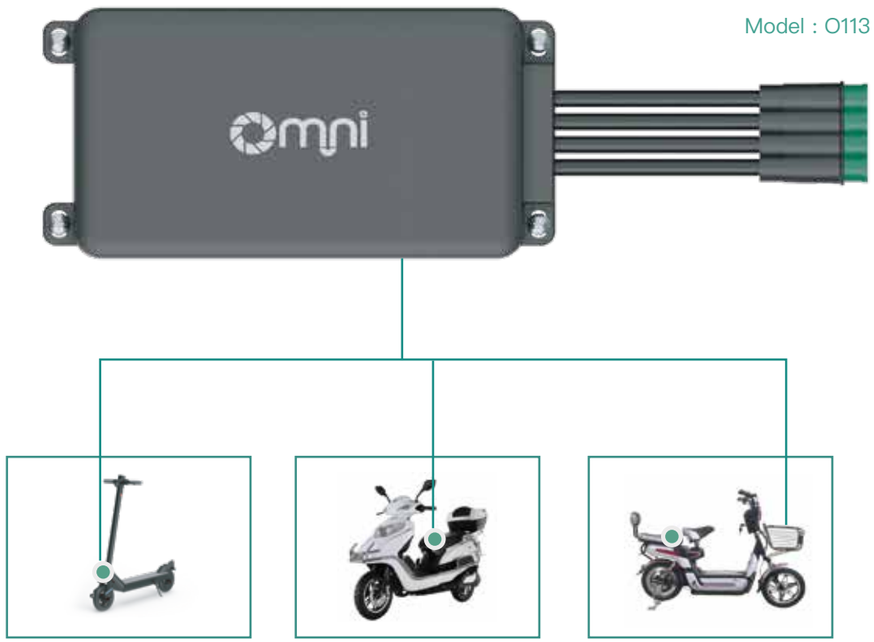
IoT Device

Model: M136IOT **Bike Version**

1. 4G/BLE Unlock
2. Solar Charging
3. Geo-fence
4. GPS Tracking
5. Vehicle-attitude Detection
6. RFID Unlock
7. OTA Upgrade
8. Over-speed Warning
9. Voice Notification

Communication method	4G/BLE/RFID
GNSS	GPS/BDS/GLONASS/GALILEO/QZSS
Built-in battery	6000/8000mAh
Adapter	DC 6V/2A
Power supply	DC/Solar charging
Speaker parameter	4Ω 2W
Waterproof level	IPX7
Housing material	Special plastic

IoT Device



1. Voice Notification
2. Geo-fence
3. Low Power Consumption
4. Vibration Warning
5. Over-speed Warning
6. Vehicle Control
7. OTA Upgrade
8. Power Monitoring
9. GPS Tracking

Server communication	4G/BLE
Controller communication	UART/CAN
Built-in battery	1000mAh/3.7V
Working current	≦500mA(36VDC)
Connectable device	Speaker, Hub/Cable/Battery cover plate lock
Waterproof level	IPX7
Housing material	Special plastic

Smart Display

Model : O112YB

LCD Screen： 3.5 inches LCD
GNSS：GPS/GLONASS/BDS
Server Communication ： BLE/4G
Charging Port：USB-Type C
Controller Communication：UART/CAN
Working Voltage: 36V/48V/60V
Ingress Grade：IPX6

Function Show

- Turn left 2.1km ahead
- Turn left 3.1km ahead
- Turn around 5.1km ahead
- Arrive in 8.2km

Smart Helmet Lock

Model: M208TKS **IoT Version**

Installed on the tube of scooter and locked/unlocked by the IoT device.

Helmet Anti-counterfeiting Recognition

UART/Can

APP Operation

Docked on IoT/Controller

Aluminum Alloy Frame

IPX7 Waterproof

Application	Personal use/Rental
Communication method	UART/CAN
Input voltage	5V/36V
Working current	≦10mA@36V
Standby current	≦100μA
Waterproof level	IPX7
Housing material	Aluminum Alloy+Plastic

Smart Helmet Lock

Model: M209TKS **BLE Version**

Installed on the tube of scooter and locked/unlocked on APP via bluetooth.

Helmet Anti-counterfeiting Recognition

BLE5.0

APP Operation

Docked on IoT/Controller

Aluminum Alloy Frame

IPX7 Waterproof

Application	Personal use/Rental
Communication method	BLE
Built-in battery	3.6V/3600mAh li-battery
Standby current	≦100μA
Standby time	>1 year(25°C, unlock twice a day
Waterproof level	IPX7
Housing material	Aluminum Alloy+Plastic

Smart Battery Lock

One key to Rapidly swapping the battery via the app, help operators efficiently manage the vehicles and reduce the operation cost. There is different control way: GPIO, UART, and Canbus, to adapt to the type of vehicles and application

Model: O2BK

Housing material：Aluminum Alloy+Plastic
Tensile Force：⩾350kg
Mechanical Life：unlock/locked >10000 times
Supply voltage: 5V
Ingress Grade：IPX7
Dimension：76x66x33mm

Model: O206D

Housing material：Aluminum Alloy
Mechanical Life：unlock/locked >10000 times
Supply voltage 5V
Ingress Grade：IPX6
Product Dimension：74.7x54.8x29mm

Bluetooth Beacon

Model: M524DD

Product Dimension：102 X 98 X 20mm
Built-in Li-battery： 5400mAh/3.6V
Communication Method：BLE
Working Current：<60uA
（@500ms Advertising interval）
Ingress Grade：IPX7
Housing material：Plastic

Model: O106QD

Product Dimension：102 X 98 X 20mm
Power supply：Solar Charging
Built-in Li-battery：4000mAh/3.7V
Communication Method：BLE
Working Current：<60uA
(@500ms Advertising interval)
Ingress Grade：IPX7
Housing material：Plastic

Smart Tail Light

Model: C1

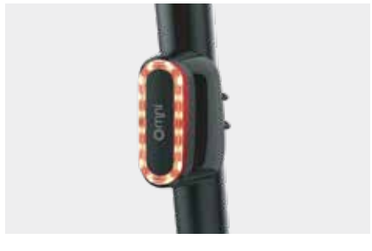
Dimension : 110 x 45 x 30mm
Waterproof Level：IPX4
Battery Capacity：2200mAh
Function and Feature：Turning Light/Battery Detection/Brake Highlight/Laser Safe Road/ Flashing Warning
Six Working Modes：Turn Left, Turn Right, Continuously Lighting, Flashing, Highlight, Laser Lighting

Model: OC103

Dimension:87 x 73 x 50mm
Waterproof Level：IPX6
Function and Feature：Brake Highlight/Environment Brightness Detection
Four Working Modes：Continuously Lighting, Flashing, Auto Brightness Adjustment, Breathing Light

Model: OC102

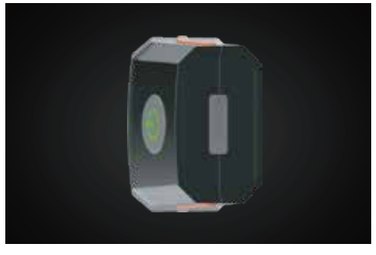
Dimension:72 x 44 x 50mm
Waterproof Level：IPX6
Function and Feature：Brake Highlight/Environment Brightness Detection
Four Working Modes：Continuously Lighting, Flashing, Auto Brightness Adjustment, Breathing Light



Smart Headlight

Model: O107QD

Product Dimension：106 X 56 X 88mm
Built-in Li-battery：3.7V/5000mAh
Brightness：600/900/1200 lumen
Lighting Mode：Highlight/Middle Light/Low Light/ Fast Flashing/SOS
Waterproof Level：IPX5
Material of Shell：Aluminum Alloy



Model: O106QD

Product Dimension：83 X 44 X 54mm
Brightness ： 300lumen
Built-in Li-battery：3.7V/1200mAh
Lighting Mode：Highlight/Middle Light/ Low Light/Fast Flashing/SOS
Waterproof Level：IPX5
Material of Shell：Aluminum Alloy

Smart Mobility Solution

Omni provides clients with a location service platform for the Internet of Vehicles that integrates map services and business analysis and mature industry solutions.In the aspects of real-time vehicle monitoring, real trajectory restoration, trajectory BI analysis, big data visualization, etc., to provide client with stable and accurate products and excellent services.

GPS Tracker

The GPS locator specially formulated for vehicles, the latest upgrade, accurate positioning, vibration detection, small and exquisite, concealed installation, anti-forcible dismantling, has been widely used in currently major vehicle industries.

◀ Model: O504DWQ

Size: 90x41x15.8mm
Work Volt：DC9-90V
Work current：≦5mA
Telecom network：4G/NB
Built-in battery：1000mAh

Personal tracking locator

- 4G/BLE communication
- GPS position
- Geo e-fence
- Track playback
- Remote operation
- APP view
- Vibration alarm
- Lightweight and compact

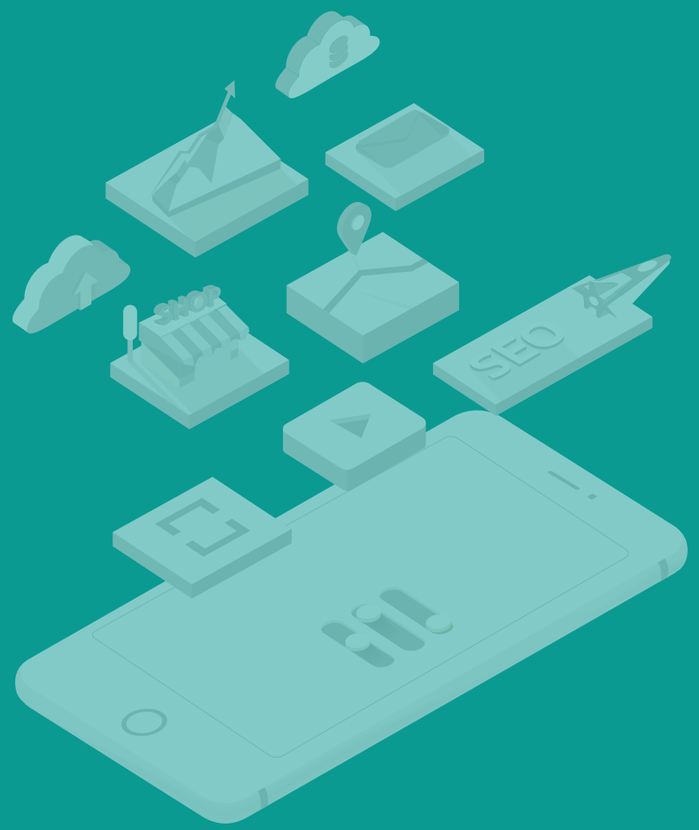
Model	0505DWQ
Communication method	4G/BLE
Positioning accuracy	⩽10m
Battery capacity	800mA 3.7V
Housing material	Special plastic
Waterproof level	IPX6
Physical size	68x40x18mm

Pet Tracker

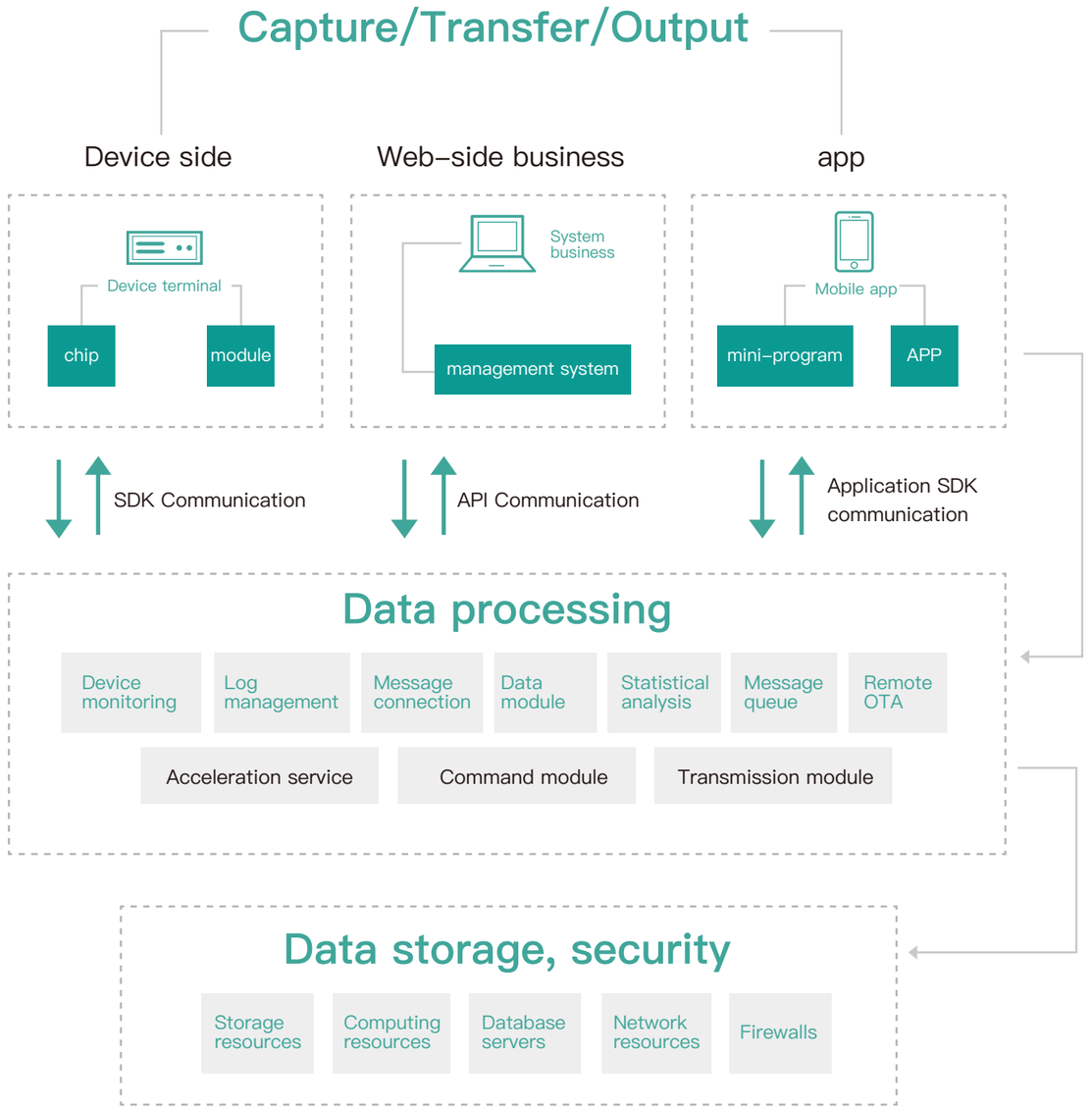
- Precise positioning
- WiFi assisted positioning
- GPS positioning
- 4G communication
- Magnetic charging
- IPX7 waterproof

Model	O301DWQ
Communication method	4G/BLE
Position method	GPS+GLONASS
Positioning accuracy	⩽10m
Built-in battery	3.7V/1200mAh lithium battery
Housing material	Plastic+Nylon
Waterproof level	IPX7
Physical size	34.5x22x70.5mm

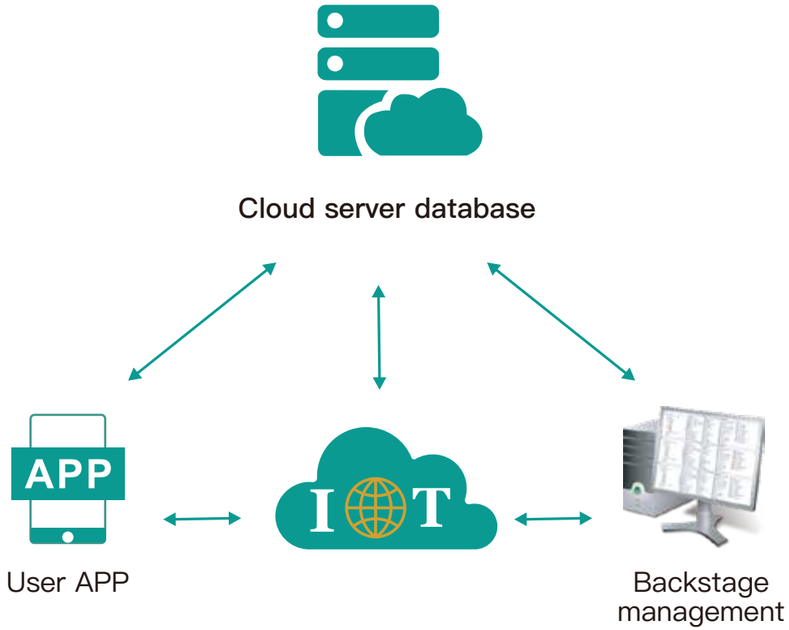
Software system solution



Software System Solution



Software System Solution



Realize high load, high concurrency through Nginx, Alibaba Cloud, AWS and other cloud servers Developed business, mastered rich processing concurrency and load capacity of big data business.

Through the combination and optimization of relational database RDS, NoSql Redis and other databases, he has mastered rich big data optimization capabilities.

Rich experience in sharing IOT devices, IoT device connection and business processing, and mastering high-concurrency IOT device connection and processing capabilities.

IOT APP Solution

Android APP development

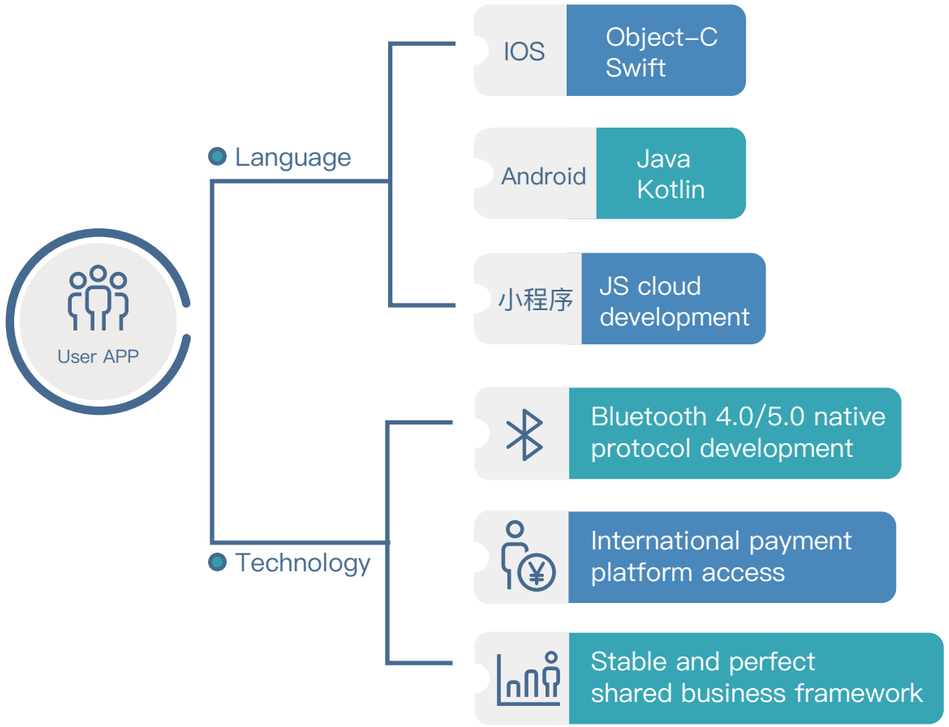
development adopts Android native development, custom-developed Android version of the APP application, suitable for various models of the Android system.

Apple (IOS) APP development

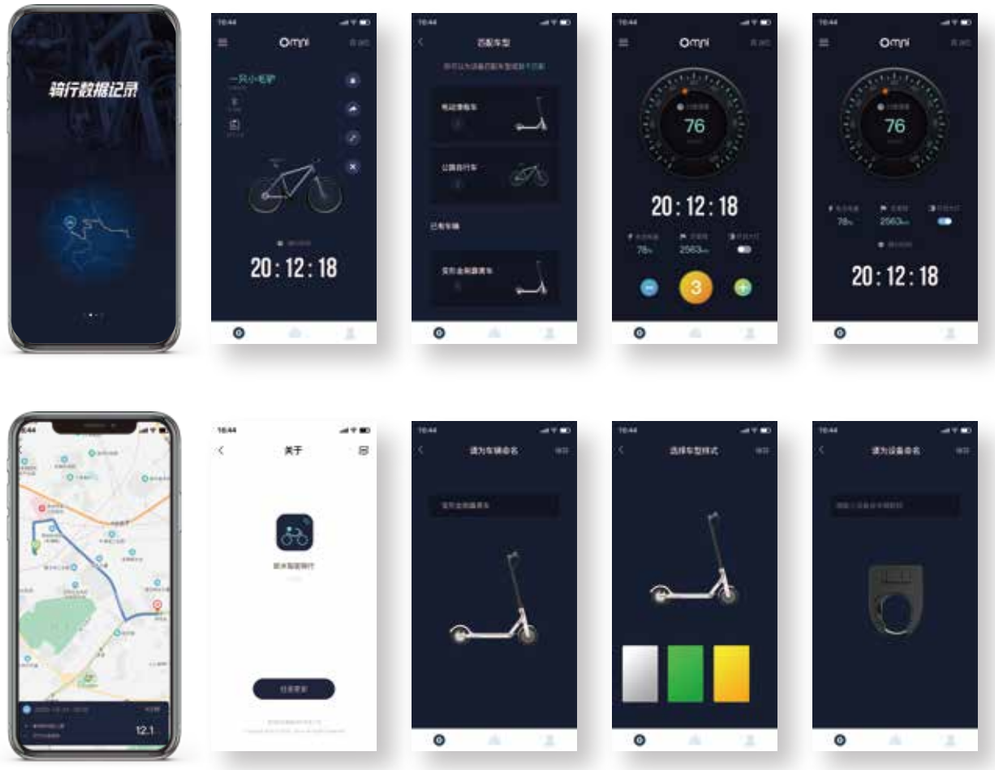
Adopt IOS native development, customize the development of IOS version APP applications, and adapt to various models of IOS system.

Small program custom development

Provide WeChat/Alipay and other platform small programs customized development, can be used without downloading, users can open the application by scanning or searching.



Omni Cycling Development Case

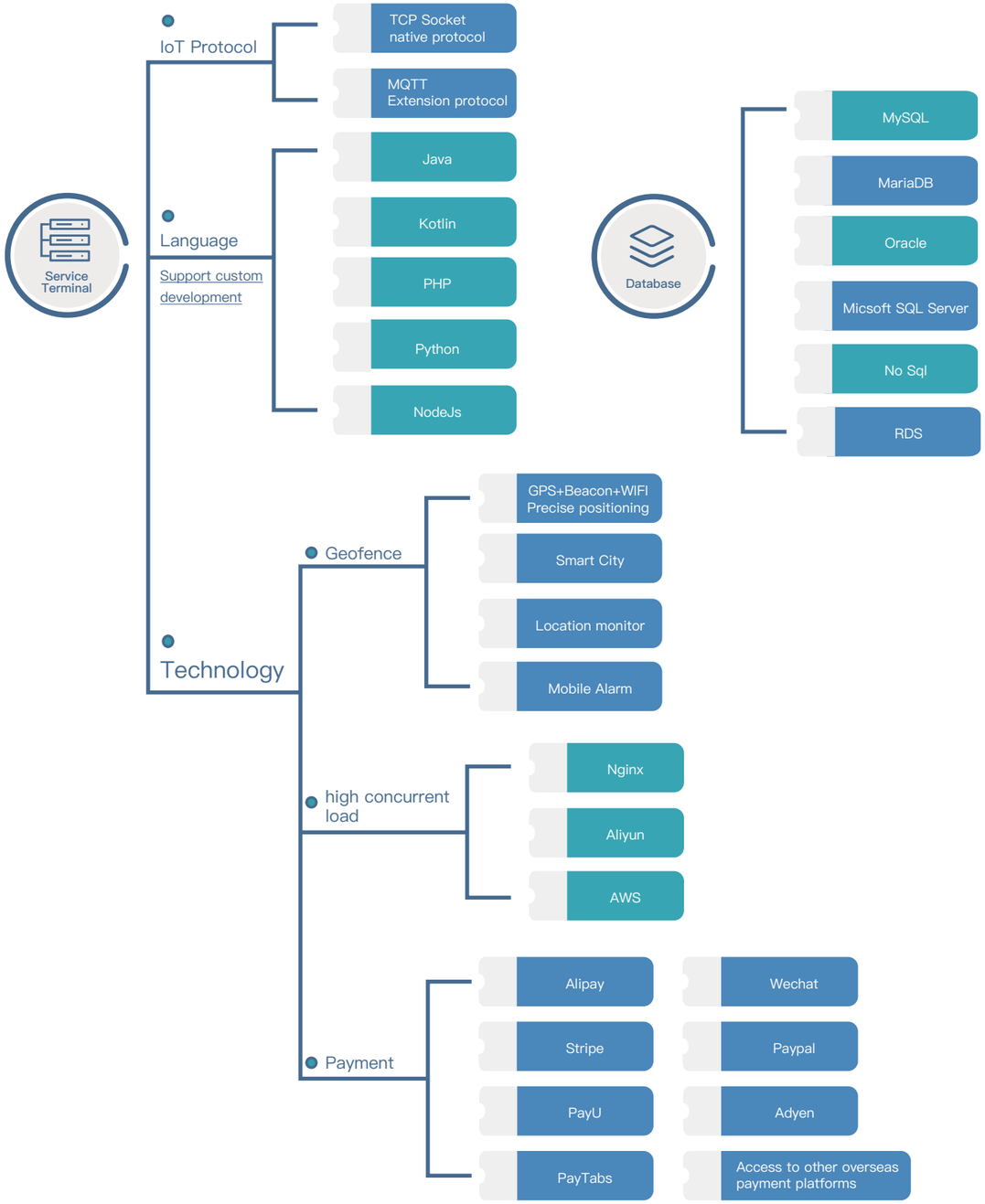


Tracking and positioning system APP development case

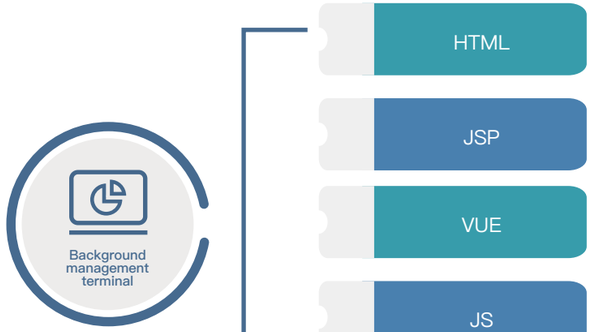
Case Show

Smart Cycling Display Case

Cloud Server/Database



Backend Management



Case show

Smart home background management system