CLAIMS

What is claimed is:

1. A non-stop charging method, applied to a road charging system, wherein the method comprises:

receiving, by a first Internet of Things (IoT) device, a message triggered by a second IoT device detecting that a vehicle is traveling on a road, wherein the second IoT device is a type of IoT device installed at each road section of the road, wherein the second IoT device at each road section sends an entrance notification to the road charging system in response to detecting that the vehicle enters a corresponding road section monitored by a corresponding second IoT device;

in response to receiving the message, obtaining, by the first IoT device, vehicle information of the vehicle on the road, wherein the vehicle information has a corresponding user account on a payment platform;

determining that a distance that the vehicle has traveled on the road reaches a predetermined distance based on a number of the entrance notifications sent by second IoT devices reaching a predetermined quantity; and

in response to determining that thea distance the vehicle has driven on the road reaches thea predetermined distance, initiating, by the first IoT device, an asset charging request for the vehicle information to the payment platform to charge, as a charged asset, an asset corresponding to the predetermined distance.

2. The method according to claim 1, wherein a plurality of first Internet of Things devices are separately installed at corresponding locations on the road, and a spacing between adjacent first Internet of Things devices is not greater than the predetermined distance; and the method further comprises:

determining that athe driving distance of the vehicle reaches the predetermined distance when multiple first Internet of Things devices successively obtain the vehicle information of the vehicle and a total spacing between the multiple first Internet of Things devices is the predetermined distance.

3. The method according to claim 1, wherein the first Internet of Things device comprises at least one of the following: a monitoring device, an RFID reader, a

Bluetooth device, an optical sensor, and a signal receiver.

4. The method according to claim 1, wherein the initiating an asset charging request for the vehicle information to the payment platform each time a driving distance of the vehicle on the road reaches thea predetermined distance, so as to charge an asset corresponding to the predetermined distance comprises:

when the driving distance of the vehicle on the road reaches the predetermined distance, initiating the asset charging request for the vehicle information to the payment platform; and

after the asset corresponding to the predetermined distance is charged, resetting the driving distance to recalculate the driving distance.

5. The method according to claim 1, wherein the charged asset corresponding to the predetermined distance comes from the user account corresponding to the vehicle information on the payment platform; or when a credit limit of the user account is not exceeded, the charged asset corresponding to the predetermined distance comes from a credit asset related to the user account.

6. The method according to claim 1, further comprising:

when the vehicle drives to an entrance of the road, initiating a query request to the payment platform based on the vehicle information of the vehicle; and

when it is determined that a user account corresponding to the vehicle information of the vehicle exists on the payment platform, allowing the vehicle to pass, so that the vehicle enters the road; otherwise, refusing the vehicle to pass.

7. A non-stop charging method, applied to a road charging system, wherein the method comprises:

receiving, by a first Internet of Things (IoT) device, a message triggered by a second IoT device detecting that a vehicle is traveling on a road wherein the second IoT device is a type of IoT device installed at each road section of the road, wherein the second IoT device at each road section sends an entrance notification to the road charging system in response to detecting that the vehicle enters a corresponding road section monitored by a corresponding second IoT device;

in response to receiving the message, obtaining, by the first IoT device, obtaining

vehicle information of the vehicle on the road, wherein the vehicle information has a corresponding user account on a payment platform;

determining that a distance that the vehicle has traveled on the road reaches a predetermined distance based on a number of the entrance notifications sent by second IoT devices reaching a predetermined quantity; and

in response to determining that the vehicle approaches an exit of the road, initiating, by the first IoT device, an asset charging request for the vehicle information to the payment platform based on a driving distance of the vehicle on the road, so as to charge an asset corresponding to the driving distance.

8. The method according to claim 7, wherein the initiating the asset charging request for the vehicle information to the payment platform based on a driving distance of the vehicle on the road each time the vehicle approaches any exit of the road, so as to charge an asset corresponding to the driving distance comprises:

when the vehicle approaches the any exit of the road, initiating the asset charging request for the vehicle information to the payment platform; and

after the asset corresponding to the driving distance is charged, resetting the driving distance to recalculate the driving distance.

9. A non-stop charging apparatus, applied to a road charging system, wherein the apparatus comprises:

a first Internet of Things (IoT) device, configured to transmit a message triggered by a second IoT device detecting that a vehicle is traveling on a road, wherein the second IoT device is a type of IoT device installed at each road section of the road, wherein the second IoT device at each road section sends an entrance notification to the road charging system in response to detecting that the vehicle enters a corresponding road section monitored by a corresponding second IoT device;

an acquisition unit, configured to, in response to receiving the message, obtain vehicle information of the vehicle on the road, wherein the vehicle information has a corresponding user account on a payment platform;

determining that a distance that the vehicle has traveled on the road reaches a predetermined distance based on a number of the entrance notifications sent by second IoT devices reaching a predetermined quantity; and

a requesting unit, configured to initiate, in response to determining that the~~a~~

distance the vehicle has driven on the road reaches thea predetermined distance, an asset charging request for the vehicle information to the payment platform to charge, as a charged asset, an asset corresponding to the predetermined distance.

10. The apparatus according to claim 9, wherein a plurality of first Internet of Things devices are separately installed at corresponding locations on the road, and a spacing between adjacent first Internet of Things devices is not greater than the predetermined distance; and the apparatus further comprises:

a determining unit, configured to determine that athe driving distance of the vehicle reaches the predetermined distance when multiple first Internet of Things devices successively obtain the vehicle information of the vehicle and a total spacing between the multiple first Internet of Things devices is the predetermined distance.

11. The apparatus according to claim 9, wherein the first Internet of Things device comprises at least one of the following: a monitoring device, an RFID reader, a Bluetooth device, an optical sensor, and a signal receiver.

12. The apparatus according to claim 9, wherein the requesting unit is specifically configured to:

when athe driving distance of the vehicle on the road reaches the predetermined distance, initiate the asset charging request for the vehicle information to the payment platform; and

after the asset corresponding to the predetermined distance is charged, reset the driving distance to recalculate the driving distance.

13. The apparatus according to claim 9, wherein the charged asset corresponding to the predetermined distance comes from the user account corresponding to the vehicle information on the payment platform; or when a credit limit of the user account is not exceeded, the charged asset corresponding to the predetermined distance comes from a credit asset related to the user account.

14. The apparatus according to claim 9, further comprising:

a querying unit, configured to: when the vehicle drives to an entrance of the road, initiate a query request to the payment platform based on vehicle information of the

vehicle; and

a control unit, configured to: when it is determined that a user account corresponding to the vehicle information of the vehicle exists on the payment platform, allow the vehicle to pass, so that the vehicle enters the road; otherwise, refuse the vehicle to pass.

15. A non-stop charging apparatus, applied to a road charging system, wherein the apparatus comprises:

a first Internet of Things (IoT) device, configured to transmit a message triggered by a second IoT device detecting that a vehicle is traveling on a road, wherein the second IoT device is a type of IoT device installed at each road section of the road, wherein the second IoT device at each road section sends an entrance notification to the road charging system in response to detecting that the vehicle enters a corresponding road section monitored by a corresponding second IoT device;

an acquisition unit, configured to, in response to receiving the message, obtain vehicle information of the vehicle on the road, wherein the vehicle information has a corresponding user account on a payment platform;

determining that a distance that the vehicle has traveled on the road reaches a predetermined distance based on a number of the entrance notifications sent by second IoT devices reaching a predetermined quantity; and

a requesting unit, configured to initiate, in response to determining that the vehicle approaches an exit of the road, an asset charging request for the vehicle information to the payment platform based on a driving distance of the vehicle on the road, so as to charge an asset corresponding to the driving distance.

16. The apparatus according to claim 15, wherein the requesting unit is specifically configured to:

when the vehicle approaches the any exit of the road, initiate the asset charging request for the vehicle information to the payment platform; and

after the asset corresponding to the driving distance is charged, reset the driving distance to recalculate the driving distance.

17. An electronic device, comprising:

a processor; and

a memory, configured to store a processor-executable instruction, wherein

the processor is configured to perform the method according to any one of claims 1 to 8.