

Claims

1. A method for paying a fare, comprising:

establishing, by a user terminal of a user, a near field communication (NFC)
connection with a fare-collecting device of a public transit means,

5 obtaining, by the user terminal, a device ID of the fare-collecting device through the
NFC connection,

encrypting, by the user terminal, the device ID of the fare-collecting device and an
account ID of the user terminal to obtain encrypted data, and

transmitting, by the user terminal, the encrypted data to the fare-collecting device over
10 the NFC connection so that the fare-collecting device decrypts the encrypted data to verify the
device ID of the fare-collecting device and after verification, send the account ID to a server
for deducting a fare from an account corresponding to the account ID.

2. The method as claimed in claim 1, wherein encrypting the account ID of the user to
obtain the encrypted data specifically comprises:

15 acquiring a timestamp corresponding to a current time, and
encrypting the account ID of the user and the timestamp to obtain the encrypted data.

3. A method for paying a fare, comprising:

establishing, by a fare-collecting device of a public transit means, an NFC connection
with a user terminal of a user,

20 sending, by the fare-collecting device, a first device ID of the fare-collecting device to
the user terminal,

receiving over the NFC connection encrypted data transmitted from the user terminal,
decrypting the encrypted data to obtain an account ID of the user and a second device
ID of the fare-collecting device,

25 determining whether the first device ID and the second device ID are consistent, and
in response to the first device ID and the second device ID being consistent, sending
the account ID to a server to cause the server to deduct a fare from an account corresponding
to the account ID.

4. The method as claimed in claim 3, wherein the decrypting the encrypted data to
30 obtain the account ID specifically comprises:

decrypting the encrypted data to obtain the account ID and a timestamp, and
the sending the account ID to a server specifically comprises:

determining whether a time interval between a time corresponding to the timestamp and a current time satisfies a specified condition,

if yes, sending the account ID to the server, and

if no, refusing to send the account ID to the server.

5 5. The method as claimed in claim 4, wherein the sending the account ID to a server specifically comprises:

 sending the account ID to the server and controlling an opening of an entrance and/or reporting no error, and

 the refusing to send the account ID to the server specifically comprises:

10 refusing to send the account ID to the server and reporting an error and/or controlling a closing of the entrance.

 6. An apparatus for paying a fare, comprising:

 an establishment module, configured to establish an NFC connection with a fare-collecting device of a public transit means,

15 an encryption module, configured to obtain a device ID of the fare-collecting device through the NFC connection and encrypt the device ID of the fare-collecting device and an account ID of a user according to a pre-agreed encryption algorithm of a public transit system to obtain encrypted data, and

 a transmission module, configured to transmit the encrypted data to the fare-collecting device over the NFC connection so that the fare-collecting device decrypts the encrypted data to verify the device ID of the fare-collecting device and after verification, send the account ID to a server for deducting a fare from an account corresponding to the account ID.

20 7. The apparatus as claimed in claim 6, wherein the encryption module acquires a timestamp corresponding to a current time and encrypts the account ID of the user and the timestamp to obtain the encrypted data.

 8. An apparatus for paying a fare, comprising:

 an establishment module, configured to establish an NFC connection with a user terminal of a user and send a first device ID of a fare-collecting device to the user terminal,

 a receiving module, configured to receive over the NFC connection the encrypted data transmitted from the user terminal,

30 a decryption module, configured to decrypt the encrypted data to obtain an account ID of the user and a second device ID of the fare-collecting device, and

a sending module, configured to determine whether the first device ID and the second device ID are consistent, and in response to that the first device ID and the second device ID are consistent, send the account ID to a server so that the server deducts a fare from an account corresponding to the account ID.

5 9. The apparatus as claimed in claim 8, wherein the decryption module decrypts the encrypted data to obtain the account ID and a timestamp, and

the sending module determines whether a time interval from a time corresponding to the timestamp to a current time satisfies a specified condition; if yes, the sending module sends the account ID to the server, and if no, the sending module refuses to send the account
10 ID to the server.

10. The apparatus as claimed in claim 9, wherein the sending module sends the account ID to the server and controls an opening of an entrance and/or reports no error, or refuses to send the account ID to the server and reports an error and/or controls a closing of the entrance.

15 11. A device for paying a fare, comprising one or more processors and a memory, a program being stored in the memory and the device being so configured that the one or more processors perform the following steps:

establish an NFC connection with a fare-collecting device of a public transit means,
obtain a device ID of the fare-collecting device through the NFC connection,

20 encrypt the device ID of the fare-collecting device and an account ID of a user according to a pre-agreed encryption algorithm of a public transit system to obtain encrypted data, and

transmit the encrypted data to the fare-collecting device over the NFC connection so that the fare-collecting device decrypts the encrypted data to verify the device ID of the
25 fare-collecting device and after verification, send the account ID to a server for deducting a fare from an account corresponding to the account ID.

12. A device for collecting a fare, comprising one or more processors and a memory, a program being stored in the memory and the device being so configured that the one or more processors perform the following steps:

30 establish an NFC connection with a user terminal,
send a first device ID of a fare-collecting device to the user terminal,
receive over the NFC connection encrypted data transmitted from the user terminal,

decrypt the encrypted data to obtain an account ID of a user and a second device ID of the fare-collecting device,

determine whether the first device ID and the second device ID are consistent, and
in response to the first device ID and the second device ID being consistent, send the
5 account ID to a server to cause the server to deduct a fare from an account corresponding to the account ID.