CLAIMS

What is claimed is:

1. A computer-implemented method for paying transportation fare, the method comprising:

communicating, by a first mobile device to a toll terminal based on near field communication (NFC) technology, for paying a fare for using a transport system associated with the toll terminal;

deducting, through a user account associated with the first mobile device, the fare from an account balance associated with the user account;

recording, by the first mobile device, a remaining account balance associated with the user account after the fare is deducted;

determining, by the first mobile device, that the remaining account balance is less than a predetermined threshold;

providing, by the first mobile device, the remaining account balance to a second mobile device over the NFC technology in response to determining that the remaining account balance is less than the predetermined threshold to trigger a request from the second mobile device to a transaction server to add a predetermined balance to the user account, wherein the request to the transaction server is automatically triggered by opening an application associated with the user account on the second mobile device, and the predetermined balance is preset through the application; and

providing, by the first mobile device, transactions associated with the user account performed by using the first mobile device to communicate with the second mobile device through the NFC technology, to be forwarded by the second mobile device to a settlement server via the transaction server, wherein the transactions are used by the settlement server in combination with charging information uploaded by the toll terminal to the settlement server.

2. The computer-implemented method according to claim 1, wherein the first mobile device comprises a first NFC module and a second NFC module, and wherein the NFC technology with the toll terminal is performed by using the first NFC module and the NFC technology with the second mobile device is performed by using the second NFC module.

3. The computer-implemented method according to claim 2, wherein the request to the transaction server is further triggered by one or more of the deducting the fare from the account balance, or a predetermined time set for the user account is reached.

4. The computer-implemented method according to claim 1, wherein the NFC technology with the toll terminal is performed by a secure element (SE) chip of the first mobile device, and the account balance is stored in the SE chip.

5. The computer-implemented method according to claim 4, further comprising:

receiving, by the first mobile device through the NFC technology, a new account balance from the second mobile device after the predetermined balance is added to the remaining account balance by the transaction server; and

recording, by the first mobile device, the new account balance to the SE chip.

6. The computer-implemented method according to claim 1, wherein the first mobile device is a wearable device and the second mobile device is a mobile phone.

7. A computer-implemented system for paying transportation fare, comprising:

one or more computers; and

one or more computer memory devices interoperably coupled with the one or more computers and having tangible, non-transitory, machine-readable media storing one or more instructions that, when executed by the one or more computers, perform operations comprising:

communicating with a toll terminal based on near field communication (NFC) technology, for paying a fare for using a transport system associated with the toll terminal;

deducting, through a user account, the fare from an account balance associated with the user account;

recording a remaining account balance associated with the user account after the fare is deducted;

determining that the remaining account balance is less than a predetermined threshold;

providing the remaining account balance to a second mobile device over the

NFC technology in response to determining that the remaining account balance is less than the predetermined threshold to trigger a request from the second mobile device to a transaction server to add a predetermined balance to the user account, wherein the request to the transaction server is automatically triggered by opening an application associated with the user account on the second mobile device, and the predetermined balance is preset through the application; and

providing, by the computer-implemented system, transactions associated with the user account performed by using the computer-implemented system to communicate with the second mobile device through the NFC technology, to be forwarded by the second mobile device to a settlement server via the transaction server, wherein the transactions are used by the settlement server in combination with charging information uploaded by the toll terminal to the settlement server.

8. The computer-implemented system according to claim 7, wherein the computer-implemented system comprises a first NFC module and a second NFC module, and wherein the NFC technology with the toll terminal is performed by using the first NFC module and the NFC technology with the second mobile device is performed by using the second NFC module.

9. The computer-implemented system according to claim 8, wherein the request to the transaction server is further triggered by one or more of the deducting the fare from the account balance, or a predetermined time set for the user account is reached.

10. The computer-implemented system according to claim 7, wherein the NFC technology with the toll terminal is performed by a secure element (SE) chip of the computer-implemented system, and the account balance is stored in the SE chip.

11. The computer-implemented system according to claim 10, the operations further comprising:

receiving, by the computer-implemented system through the NFC technology, a new account balance from the second mobile device after the predetermined balance is added to the remaining account balance by the transaction server; and

recording, by the computer-implemented system, the new account balance to the SE chip.

12. The computer-implemented system according to claim 7, wherein the computer-implemented system is a wearable device and the second mobile device is a mobile phone.

13. A non-transitory, computer-readable medium storing one or more instructions thereon, the instructions executable by a computer system to perform operations for paying transportation fare, the operations comprising:

communicating to a toll terminal based on near field communication (NFC) technology, for paying a fare for using a transport system associated with the toll terminal;

deducting, through a user account, the fare from an account balance associated with the user account;

recording a remaining account balance associated with the user account after the fare is deducted;

determining that the remaining account balance is less than a predetermined threshold;

providing the remaining account balance to a second mobile device over the NFC technology in response to determining that the remaining account balance is less than the predetermined threshold to trigger a request from the second mobile device to a transaction server to add a predetermined balance to the user account, wherein the request to the transaction server is automatically triggered by opening an application associated with the user account on the second mobile device, and the predetermined balance is preset through the application; and

providing, by the computer system, transactions associated with the user account performed by using the computer system to communicate with the second mobile device through the NFC technology, to be forwarded by the second mobile device to a settlement server via the transaction server, wherein the transactions are used by the settlement server in combination with charging information uploaded by the toll terminal to the settlement server.

14. The non-transitory, computer-readable medium according to claim 13, wherein the computer system comprises a first NFC module and a second NFC module, and wherein the NFC technology with the toll terminal is performed by using the first NFC module

and the NFC technology with the second mobile device is performed by using the second NFC module.

15. The non-transitory, computer-readable medium according to claim 14, wherein the request to the transaction server is further triggered by one or more of the deducting the fare from the account balance, or a predetermined time set for the user account is reached.

16. The non-transitory, computer-readable medium according to claim 13, wherein the NFC technology with the toll terminal is performed by a secure element (SE) chip of the computer system, and the account balance is stored in the SE chip.

17. The non-transitory, computer-readable medium according to claim 16, the operations further comprising:

receiving, by the computer system through the NFC technology, a new account balance from the second mobile device after the predetermined balance is added to the remaining account balance by the transaction server; and

recording, by the computer system, the new account balance to the SE chip.

18. The non-transitory, computer-readable medium according to claim 13, wherein the computer system is a wearable device and the second mobile device is a mobile phone.