

CLAIMS

What is claimed is:

1. An offline payment method, applied to a payee terminal, wherein when the payee terminal is in an offline state, the offline payment method comprises:

5 enabling a collection function, and obtaining a payment code of a payer terminal, wherein the payment code comprises a payment account associated with the payer terminal;

generating a corresponding target optical signal based on transaction information, and transmitting the target optical signal within a predetermined range while the payee terminal is in the offline state, wherein the transaction information comprises at least a transaction amount and
10 a collection account; and

determining that the payee terminal is online, and sending collection information to a payment server, wherein the collection information comprises the transaction information and the payment account, wherein

when the payer terminal is within the predetermined range, the payer terminal can collect the
15 target optical signal and identify the transaction information, and the payer terminal can send payment information to the payment server, wherein the payment information comprises the transaction information and the payment account; and the payment server matches the collection information with the payment information, and after determining that the collection information matches the payment information, the payment server transfers the transaction amount from the
20 payment account to the collection account.

2. The offline payment method according to claim 1, wherein the transaction information further comprises a transaction time, and the transaction time comprises a time of obtaining the payment code.

3. The offline payment method according to claim 1, wherein the transaction information
25 further comprises a transaction order identifier.

4. The offline payment method according to claim 1, wherein the generating a corresponding target optical signal based on transaction information, and transmitting the target optical signal within a predetermined range comprises:

obtaining the transaction information;

30 encoding the transaction information based on a predetermined encoding rule, to generate the target optical signal corresponding to the transaction information; and

transmitting the target optical signal within the predetermined range by using an optical transmission module of the payee terminal.

5 5. The offline payment method according to claim 4, wherein the encoding rule comprises encoding at least one of the following items based on content of the transaction information: a quantity of light emission times, a light emission frequency, and illumination, color, and duration of each time of light emission of the target optical signal, and the payer terminal pre-stores the encoding rule.

6. The offline payment method according to claim 1, wherein the sending collection information to a payment server comprises:

identifying the payment account based on the payment code; and

sending the transaction information and the payment account to the payment server.

10 7. The offline payment method according to claim 1, wherein the sending collection information to a payment server comprises:

sending the transaction information and the payment code to the payment server.

15 8. The offline payment method according to claim 1, wherein after the generating a corresponding target optical signal based on transaction information, and transmitting the target optical signal within a predetermined range, the offline payment method further comprises:

generating and displaying offline payment success information.

20 9. The offline payment method according to claim 1, wherein the predetermined range comprises a valid identification distance of the payee terminal, the payer terminal is within the predetermined range of the payee terminal when the payer terminal is within the valid identification distance, and the payer terminal is outside the predetermined range of the payee terminal when the payer terminal is outside the valid identification distance.

10. An offline payment system, comprising a payee terminal, comprising:

a collection module, configured to collect a payment code of a payer terminal;

25 an optical transmission module, located close to the collection module, and configured to transmit a target optical signal within a predetermined range, wherein the target optical signal is generated based on transaction information, and the transaction information comprises at least a transaction amount and a collection account;

at least one storage medium, storing at least one instruction set for offline payment; and

30 at least one processor, communicatively connected to the collection module, the optical transmission module, and the at least one storage medium, wherein

when the offline payment system runs, the at least one processor reads the at least one instruction set, and performs the offline payment method according to any one of claims 1 to 9 based on instructions in the at least one instruction set.

35 11. The offline payment system according to claim 10, wherein the target optical signal comprises an infrared optical signal, and the optical transmission module comprises at least one

infrared lamp.

12. An offline payment method, applied to a payer terminal, and comprising:

obtaining and displaying a payment code, wherein the payment code comprises a payment account associated with the payer terminal, and the payment code can be collected by a payee terminal;

collecting, by using an optical receiving module, a target optical signal sent by the payee terminal when the payee terminal is in an offline state, wherein the target optical signal is an optical signal that is generated within a predetermined range of the payee terminal based on transaction information and that corresponds to the transaction information, and the transaction information comprises at least a transaction amount and a collection account;

identifying the transaction information based on the target optical signal; and

when determining that the payer terminal is online, sending payment information to a payment server, wherein the payment information comprises the transaction information and the payment account, wherein

when the payee terminal is online, the payee terminal can send collection information to the payment server, wherein the collection information comprises the transaction information and the payment account; and the payment server matches the collection information with the payment information, and after determining that the collection information matches the payment information, the payment server transfers the transaction amount from the payment account to the collection account.

13. The offline payment method according to claim 12, wherein the transaction information further comprises a transaction time, and the transaction time comprises a time when the payee terminal device obtains the payment code.

14. The offline payment method according to claim 12, wherein the transaction information further comprises a transaction order identifier.

15. The offline payment method according to claim 14, wherein the target optical signal is generated by the payee terminal by encoding the transaction information based on a predetermined encoding rule, and the payer terminal pre-stores the encoding rule; and

the identifying the transaction information based on the target optical signal comprises:

decoding the target optical signal based on the encoding rule to obtain the transaction information.

16. The offline payment method according to claim 15, wherein the encoding rule comprises encoding at least one of the following items based on content of the transaction information: a quantity of light emission times, a light emission frequency, and illumination, color, and duration of each time of light emission of the target optical signal.

17. The offline payment method according to claim 12, wherein after the identifying the transaction information based on the target optical signal, the offline payment method further comprises:

generating and displaying offline payment success information.

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18. An offline payment system, comprising a payer terminal, comprising:

an optical receiving module, configured to receive an optical signal;

at least one storage medium, storing at least one instruction set for offline payment; and

at least one processor, communicatively connected to the optical receiving module and the at least one storage medium, wherein

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when the offline payment system runs, the at least one processor reads the at least one instruction set, and performs the offline payment method according to any one of claims 12 to 17 based on instructions in the at least one instruction set, and the optical signal comprises the target optical signal.