Claims

1. A payment method using a payment token, wherein:

a service providing device connected to an interface provided for a mobile terminal executes a payment operation:

deducting an amount from a stored fund corresponding to the payment token; or, mapping a to-be-paid amount to the payment token, recording the to-be-paid amount, and then settling when a collaborative background server is connected;

wherein the payment token refers to a numerical value replacing sensitive information, the numerical value being unique within a specific extent;

when executing the payment operation, the service providing device obtains a dynamically generated Hash value including the payment token; the Hash value corresponds to the sensitive information embedded in the service providing device; the information corresponding to the Hash value includes information prestored in the service providing device;

the stored fund is pre-deposited in the service providing device, wherein the service providing device deducts the amount from the stored fund; or, designated account is pre-deposited in the service providing device, wherein the service providing device records the to-be-paid amount under the designated account;

the service providing device obtaining the Hash value including the payment token includes a code issuance standard rule of a secure payment code issuance center; the service providing device performs parsing to extract prestored content so as to execute payment.

2. The method according to claim 1, wherein:

application of the numerical value has limited circumstances, and the numerical value is only allowed to apply when the numerical value is ensured to lie in the limited circumstances.

3. The method according to claim 1, wherein:

the limited circumstances include a specific merchant, or a specific channel, or a specific service providing device.

4. The method according to claim 1, wherein:

the sensitive information includes a designated account, wherein the designated account is bound to one or more of: the mobile terminal, or the user of the mobile terminal, or the service providing device.

5. The method according to claim 1, wherein:

a domain-control attribute is configured for the payment token, wherein the domain-control attribute includes a number of times of transactions with the payment token, transaction amount, valid period, and payment channel.

6. The method according to claim 1, wherein:

the payment token is applied in various procedures of a designated account-based transaction.

7. The method according to claim 1, wherein:

payment tokenization is completed by formulating a coding rule, wherein the payment tokenization refers to using the numerical value to represent the designated account for transaction verification.

8. The method according to claim 1, wherein:

identification information of the service providing device serves as a payment token for transaction verification.

9. The method according to claim 1, wherein:

in cases that the payment operation refers to deducting an amount from the stored value corresponding to the payment token, the payment token is embedded in the service providing device.

10. The method according to claim 1, wherein:

identification information which may uniquely identify the mobile terminal, or the user, or

the service providing device, and/or the association information among the mobile terminal, or the user, or the service providing device serves as the payment token.

11. The method according to claim 1, wherein:

a uniquely identifiable device serial number serves as the payment token.

12. The method according to claim 1, wherein:

the payment token is configured for masking the sensitive information.

13. The method according to claim 1, wherein:

a coding rule is stored at the service providing device or the mobile terminal;

corresponding code information can be generated from service information according to the coding rule; the service information is superimposed with identification information which serves as the payment token and may uniquely identify the mobile terminal, or the user, or the service providing device, and/or associated information of the mobile terminal, or the user, or the service providing device;

wherein payment tokenization can be implemented according to the coding rule so as to replace sensitive information with the payment token.

14. The method according to claim 1, wherein:

information uniquely identifying the mobile terminal includes one or more of the following: SIM card number, eSIM card number, telephone number, IMEI number of the mobile terminal, physical address of the interface of the mobile terminal, or digital certificate embedded in the service providing device to which the mobile terminal is connected.

15. The method according to any one of claims 1~14, wherein:

wherein the digital person refers to a combination of a natural person and a device which enables digitalized sensing access, and the digital person has an identifiable digital person token such that an operation executed by the digital person can be identified and recorded by a competent institution; and

the device which enables digitalized sensing access can implement parsing of the code information, wherein the device which enables digitalized sensing access includes a mobile terminal and a service providing device.

16. The method according to claim 15, wherein:

the digital person token is unique within a specific extent; and

the digital person token serves as identification information of a digital person identity.

17. The method according to claim 15, wherein:

the digital person token refers to any one of the following:

device information of the device which enables digitalized sensing access;

identity information of the user;

identity information of the user and the information bound to the identification information.

18. The method according to claim 1, wherein:

the Hash value is displayed via the mobile terminal; and

a third party obtains information corresponding to the Hash value by identifying the displayed Hash value, the information being used in payment.

19. The method according to claim 18, wherein:

the information corresponding to the Hash value also includes instantly obtained information.

20. The method according to claim 18, wherein:

the information corresponding to the Hash value includes a prepaid card number and/or prepaid amount embedded in the service providing device.

21. The method according to claim 18, wherein:

the information corresponding to the Hash value includes membership card information,

obtained via instant transaction.

22. The method according to claim 18, wherein:

the Hash value including the payment token is provided by a server end of the secure payment center.

23. The method according to claim 18, wherein:

the Hash value including the payment token is obtained by the mobile terminal from the server end of the secure payment center via a wireless communication connection; wherein the mobile terminal includes a code parsing rule.

24. The method according to claim 18, wherein:

by operating in an application, the service providing device obtains a dynamically generated Hash value including the payment token, wherein the application refers to a merchant application or a general payment application.

25. The method according to claim 18, wherein:

by operating in a promotion page, the service providing device obtains a dynamically generated Hash value including the payment token, wherein the promotion page is obtained by decoding and parsing the coding medium.

26. The method according to claim 25, wherein:

the promotion page is configured for sharing a commodity and obtained by decoding and parsing the coding medium; wherein the coding medium is offline released by the merchant, and the promotion page may be forwarded.

27. The method according to claim 4, wherein:

the designated account refers to a bank account or a payment account.

28. The method according to claim 1, wherein:

the designated account is also pre-deposited in the mobile terminal or provided by a user via the mobile terminal, wherein the service providing device retrieves the designated account from the mobile terminal and then records the to-be-paid amount under the designated account.

29. The method according to claim 28, wherein:

the service providing device deducts the amount from the stored fund in a network connected state or in an offline state, wherein the stored fund refers to a digital currency;

or, payment is separated from settlement, wherein: in the network connected state or in an offline state, the service providing device records the to-be-paid amount; then, in the network connected state the service providing device and/or the mobile terminal is further connected to the collaborative background server to perform settlement;

wherein the settlement includes settling the payment with the user and/or the payee.

30. The method according to claim 29, wherein:

the service providing device and/or the mobile terminal interacts with the collaborative background server for transmitting the payment result; the service providing device and/or the mobile terminal provides the payment result to the user; transmitting or providing of the payment result is performed upon executing the payment operation in real time or non-real time.

31. The method according to claim 1, wherein:

the service providing device, or the mobile terminal or the collaborative background server performs parsing to also extract service information so as to execute payment;

wherein a code parsing rule used in parsing the code information is matched with a predetermined coding rule used in generating the code information; the predetermined coding rule is used in generating corresponding code information based on the service information, or generating corresponding code information based on the service information and generating a coding medium corresponding to the code information.

32. The method according to claim 31, wherein:

the service providing device or the mobile terminal establishes a connection with the collaborative background server based on the information extracted from the parsing;

or, the service providing device is instructed to execute the payment operation based on the information extracted from the parsing;

or, the information extracted from the parsing or a portion thereof is transmitted to the mobile terminal or provided to the user of the mobile terminal to view, or provided to the user of the mobile terminal to view for further confirmation.

33. The method according to claim 31, wherein:

the payment operation further comprises:

adjusting, by the service providing device, the amount involved in the payment independently or through interaction with the mobile terminal and/or the collaborative background server based on the attribute information corresponding to the service providing device, or the mobile terminal, or the user of the mobile terminal; or,

adjusting, by the service providing device, the amount involved in the payment independently or through interaction with the mobile terminal and/or the collaborative background server based on the location information corresponding to the service providing device, or the mobile terminal; or,

processing, by the service providing device, a service providing request initiated by the user or a default service providing request independently or through interaction with the mobile terminal and/or the collaborative background server.

34. The method according to claim 31, wherein:

the at least part of information needed to execute the payment includes one or more of:

first identification information, which refers to identification of any one or more of the collaborative background server, the user of the mobile terminal, the mobile terminal, or the service providing device;

second identification information, which refers to identification information of a third-party user, a third-party mobile terminal, or a third-party server specified by the mobile terminal, the service providing device, or the collaborative background server;

information correspondingly bound to the first identification information and/or second identification information;

attribute information corresponding to the user of the mobile terminal, or the mobile terminal, or the service providing device;

location information corresponding to the mobile terminal or the service providing device;

command information for driving the service providing device to execute a set operation flow, or driving the service providing device and the collaborative background server or the mobile terminal to execute an operation flow respectively set therefor;

registration information, which is provided by one or more of the user of the mobile terminal, or the mobile terminal, or the service providing device when registering with the collaborative background server.

35. The method according to claim 31, comprising:

generating corresponding code information from the service information based on a preset coding rule, then generating a corresponding coding medium from the code information; wherein the code information corresponding to the coding medium generated based on the preset coding rule is available for identification by any party storing the matched code parsing rule; wherein

the service information corresponds to the payment result, such that any party identifying the service information can obtain the payment result;

or, the service information is at least part of information needed by the operation of executing the payment, such that any party identifying the service information collaborated with the service providing device to execute payment operation;

or, the service information refers to interactive information involved in executing the payment operation, such that the any party identifying the service information can obtain the interaction information.

36. The method according to claim 35, wherein:

the coding medium is generated by the service providing device, or the mobile terminal, or

the collaborative background server, or by a coding medium generating device specified by the service providing device or the mobile terminal or the collaborative background server, or by a third party coding medium generating device according to the predetermined coding rule.

37. The method according to claim 36, wherein:

the coding medium, when being generated by the service providing device, or the mobile terminal, or the coding medium generating device designated by the service providing device or the mobile terminal based on the preset coding rule, is further superimposed with any one or more of the following information:

first identification information, which refers to identification of any one or more of the collaborative background server, the user of the mobile terminal, the mobile terminal, and the service providing device;

second identification information, which refers to identification information of a third-party user, a third-party mobile terminal, or a third-party server specified by the mobile terminal, the service providing device, or the collaborative background server; and

information correspondingly bound to the first identification information and/or second identification information.

38. The method according to any one of claims 35~37, wherein:

the coding medium generated by the service providing device, or the mobile terminal, or the coding medium generating device designated by the service providing device or the mobile terminal based on the preset coding rule, is released, or transmitted, or displayed, or stored by the service providing device or the mobile terminal.

39. The method according to any one of claims 25, 26, 31, or 35, wherein:

the coding medium refers to any one of the following or a combination thereof:

a bar code image generated in a pattern of one-dimensional code, two-dimensional code, or multi-dimensional code; an optical lattice diagram generated in a form of light-shadow ray or refurbishing frequency variation or in a form of visible light or UV or infrared light or polarized light; and a digitalized acoustic wave or radio wave generated with a specific law or a

specific frequency variation pattern.

40. The method according to any one of claims 28, 31 or 35, wherein:

the service providing device performs parsing or executes the payment operation by running an application configured therein;

or, the service providing device collaborates with the mobile terminal to run the application such that the service providing device and the mobile terminal collaborate to perform parsing or execute the payment operation, wherein the application configured for the mobile terminal is associated with the application configured for the service providing device;

or, the mobile terminal and the service providing device independently run their own configured applications, such that the service providing device and the mobile terminal collaborate to execute the payment operation; the application configured by the mobile terminal is a general payment application, or an application an application configured for the mobile terminal or the service providing device are associated.

41. The method according to any one of claims 1~ 14, 29, or 31, wherein:

the collaborative background server includes one or more of the following:

server of the operator of the service providing device;

server of the issuer of the service providing device;

server of the issuer of the code information or its corresponding coding medium;

server of the operator of the application configured in the service providing device;

server of the operator of the application configured in the mobile terminal;

server of the payee; and

server which manages digital currency exchange.

42. The method according to any one of claims 1~ 14, 25, 26, 29, 31, or 35, wherein:

the service providing device is connected with the interface of the mobile terminal;

wherein the service providing device is always connected with the interface of the mobile terminal; or, the service providing device is connected with the interface of the mobile terminal when performing parsing and/or executing the payment operation.

43. The method according to claim 42, wherein:

verification is performed when executing the payment operation, or when the service providing device is re-connected with the interface of the mobile terminal after disconnection, or when the service providing device is connected with an interface of another mobile terminal.

44. The method according to claim 43, wherein:

verification is performed by one of the service providing device, the mobile terminal, and the collaborative server, or performed collaboratively by more of the parties; the verification comprising:

determining whether password information provided by the user agrees with a preset password;

or, determining whether biometric information acquired from the user agrees with preset biometric information;

or, verifying through identity questions;

or, verifying through short messages;

or, determining whether the service providing device has a digital certificate, further confirming user identity through the digital certificate and verifying association between the mobile terminal and the digital certificate.

45. The method according to claim 42, wherein:

the service providing device is a USB device with a USB connector, which is connected to a mobile terminal with a corresponding USB interface;

or, the service providing device is a memory card, which is connected to the mobile terminal with a corresponding memory card slot or memory card interface;

or, the service providing device is a SIM card, which is connected to the mobile terminal with a corresponding SIM card slot or SIM card interface;

or, the service providing device is an eSIM card, which is connected to the mobile terminal with a corresponding eSIM card integration interface or is integrated in the mobile terminal;

or, the service providing device is a device having a wired or wireless communication interface, which is in signal connection with the mobile terminal having a corresponding wired

or wireless communication interface, wherein the signal connection allows the service providing device to communicate with the mobile terminal when offline or online;

or, the service providing device is a device with an infrared interface, which is in signal connection with the mobile terminal with a corresponding infrared interface;

or, the service providing device is a device with a Bluetooth interface, which is in signal connection with a mobile terminal with a corresponding Bluetooth interface;

or, the service providing device is wirelessly connected with the mobile terminal based on NFC identification;

or, the service providing device is a combination of at least two components that are respectively connected to the mobile terminal in same or different manners, wherein one component in the combination is any one in a first group including a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface, a device with an infrared interface, a device with a Bluetooth interface, or a device that is connected based on NFC identification; the other component in the combination is any one in a second group including a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface, a device with an infrared interface, a device with a Bluetooth interface, or a device that is connected based on NFC identification..

46. The method according to claim 1, wherein:

a wearable device serves as the mobile terminal or is connected with the mobile terminal;

or, the service providing device is embedded in the wearable device.

47. The method according to claim 46, wherein:

the wearable device refers to one of the following parts or a portion thereof:

accessories, eyeglass, eyeglass clips, headwear, hats, tie clips, brooches, bow ties, bracelets, watches, earphones, clothing, and shoes; the wearable device is at least provided with an information display and input device.

48. A service providing device for paying with a payment token, wherein:

the service providing device is connected with an interface of a mobile terminal;

the service providing device executes a payment operation: deducting an amount from a stored fund corresponding to the payment token; or, mapping a to-be-paid amount to the payment token, recording the to-be-paid amount, and then settling when a collaborative background server is connected; wherein the payment token refers to a numerical value replacing sensitive information, the numerical value being unique within a specific extent;

wherein the service providing device includes a memory unit which stores the payment token, or the stored fund, or the to-be-paid amount, which is extracted for use in executing the payment operation; when executing the payment operation, the service providing device obtains a dynamically generated Hash value including the payment token; the Hash value corresponds to the sensitive information embedded in the service providing device; the information corresponding to the Hash value includes information prestored in the service providing device;

the stored fund is pre-deposited in the service providing device, wherein the service providing device deducts the amount from the stored fund; or, designated account is pre-deposited in the service providing device, wherein the service providing device records the to-be-paid amount under the designated account;

the service providing device obtaining the Hash value including the payment token includes a code issuance standard rule of a secure payment code issuance center; the service providing device performs parsing to extract prestored content so as to execute payment.

49. The service providing device according to claim 48, wherein:

application of the numerical value has limited circumstances, and the numerical value is only allowed to apply when the numerical value is ensured to lie in the limited circumstances.

50. The service providing device according to claim 49, wherein:

the limited circumstances include a specific merchant, or a specific channel, or a specific service providing device.

51. The service providing device according to claim 48, wherein:

the sensitive information includes a designated account, wherein the designated account is bound to one or more of: the mobile terminal, or the user of the mobile terminal, or the service

providing device.

52. The service providing device according to claim 48, wherein:

a domain-control attribute is configured for the payment token, wherein the domain-control attribute includes a number of times of transactions with the payment token, transaction amount, valid period, and payment channel.

53. The service providing device according to claim 48, wherein:

the payment token is applied in various procedures of a designated account-based transaction.

54. The service providing device according to claim 48, wherein:

payment tokenization is completed by formulating a coding rule, wherein the payment tokenization refers to using the numerical value to represent the designated account for transaction verification.

55. The service providing device according to claim 48, wherein:

identification information of the service providing device serves as a payment token.

56. The service providing device according to claim 48, wherein:

in cases that the payment operation refers to deducting from the stored value corresponding to the payment token, the payment token is embedded in the service providing device and/or generated by the service providing device.

57. The service providing device according to claim 48, wherein:

identification information which may uniquely identify the mobile terminal, or the user, or the service providing device, and/or the association information among the mobile terminal, or the user, or the service providing device serves as the payment token.

58. The service providing device according to claim 48, wherein:

a uniquely identifiable device serial number serves as the payment token.

59. The service providing device according to claim 48, wherein:

the payment token is configured for masking the sensitive information.

60. The service providing device according to claim 48, wherein:

a coding rule is stored at the service providing device;

corresponding code information can be generated from service information according to the coding rule; the service information is superimposed with identification information which serves as the payment token and may uniquely identify the mobile terminal, or the user, or the service providing device, and/or associated information of the mobile terminal, or the user, or the service providing device;

wherein payment tokenization can be implemented according to the coding rule so as to replace sensitive information with the payment token.

61. The service providing device according to any one of claims 48~60, wherein:

the digital person refers to a combination of a natural person and a device which enables digitalized sensing access, wherein the digital person has an identifiable digital person token, such that an operation executed by the digital person can be identified and recorded by a competent institution; wherein the device capable of digitalized sensing access can implement parsing the code information; wherein the device capable of digitalized sensing access includes a mobile terminal and a service providing device.

62. The service providing device according to claim 61, wherein:

the digital person token is unique within a specific extent;

the digital person token serves as identification information of a digital person identity.

63. The service providing device according to claim 61, wherein:

the digital person token refers to any one of the following:

device information of the device which enables digitalized sensing access;

identity information of the user; or

identity information of the user and the information bound to the identification information.

64. The service providing device according to claim 48, wherein:

the Hash value is displayed via the mobile terminal;

a third party obtains information corresponding to the Hash value by identifying the displayed Hash value, the information being used in payment.

65. The service providing device according to claim 64, wherein:

the information corresponding to the Hash value also includes instantly obtained information.

66. The service providing device according to claim 64, wherein:

the information corresponding to the Hash value includes a prepaid card number and/or prepaid amount embedded in the service providing device.

67. The service providing device according to claim 64, wherein:

the information corresponding to the Hash value includes membership card information, obtained via instant transaction.

68. The service providing device according to claim 64, wherein:

the Hash value including the payment token is provided by a server end of the secure payment center.

69. The service providing device according to claim 64, wherein:

by operating in a promotion page or in an application, the service providing device obtains a dynamically generated Hash value including the payment token, wherein the application refers to a merchant application or a general payment application;

the promotion page is configured for sharing a commodity and obtained by decoding and

parsing the coding medium; wherein the coding medium is offline released by the merchant; the promotion page may be forwarded.

70. The service providing device according to claim 48, wherein:

the service providing device comprises: a transmitting/receiving unit which may interact with the mobile terminal when offline, and may interact with the mobile terminal and/or a background server when online;

the transmitting/ receiving unit may further obtain code information from the mobile terminal or the background server and passes the code information to the code information parsing unit of the service providing device to parse;

or, the transmitting/ receiving unit further obtains a coding medium or its carrier medium from the mobile terminal or the background server; after the code information is obtained from decoding the coding medium, the code information is passed to a code parsing unit to parse; and a decoding unit is provided at the service providing device or the mobile terminal or the background server.

71. The service providing device according to claim 70, wherein:

a memory unit of the service providing device stores the stored fund from which an amount is deducted when executing the payment operation, wherein the service providing device does not interact with the mobile terminal or the background server when deducting the amount from the stored fund; or, the service providing device needs to interact with the mobile terminal or the background server or the user before or when deducting the amount from the stored fund.

72. The service providing device according to claim 70, wherein:

a memory unit of the service providing device stores a designated account or link information for retrieving the designated account, wherein the designated account is pre-stored, or included in the service information, extracted from parsing, and then stored, or the designated account is stored after being retrieved by the transmitting/receiving unit based on link information, or the designated account is provided by the mobile terminal or provided by

the user through the mobile terminal and stored after being retrieved by the transmitting/receiving unit; and

the service providing device deducts the amount from the stored fund under the designated account; or, the service providing device records the to-be-paid amount under the designated account, and when the service providing device is connected to a collaborative background server, the transmitting/ receiving unit transmits the designated account and the to-be-paid amount for settlement, and deduction or billing is performed under the designated account.

73. The service providing device according to claim 70, wherein:

the memory unit of the service providing device stores a digital certificate through which to further confirm user identity and verify association between the mobile terminal and the digital certificate.

74. The service providing device according to claim 70, wherein:

a code parsing rule used by the code parsing unit in parsing the code information is matched with a predetermined coding rule used in generating the code information; the predetermined coding rule is used in generating corresponding code information based on the service information, or generating corresponding code information based on the service information and generating a coding medium corresponding to the code information;

the memory unit or the code parsing unit stores the code parsing rule or stores the code parsing rule and a coding rule;

the coding medium refers to any one or any combination of the following: a bar code image generated in a pattern of one-dimensional code, two-dimensional code, or multi-dimensional code; an optical lattice diagram in a form of light-shadow ray or refurbishing frequency variation or in a form of visible light or UV or infrared light or polarized light; and a digitalized acoustic wave or radio wave generated with a specific law or a specific frequency variation pattern.

75. The service providing device according to claim 70, wherein:

the service information extracted from the coding medium parsed by the code parsing unit

or the code parsing rule further includes command information; the command information is configured for driving the service providing device to execute an operation procedure set thereto, or for driving the service providing device and the background server in collaboration therewith or the mobile terminal to execute the operation procedures respectively set thereto.

76. The service providing device according to claim 70, wherein:

a corresponding service is provided or an amount involved in the payment operation is adjusted based on attribute information; wherein the attribute information corresponds to the mobile terminal, or the user of the mobile terminal, or the service providing device, or corresponds to the code information, or corresponds to the coding medium corresponding to the code information;

wherein the attribute information is included in the service information extracted from parsing by the code parsing unit; or the attribute information is included in the content pre-stored by the memory unit and is extracted after parsing; or, the attribute information is provided by the mobile terminal, or the user of the mobile terminal, or the service providing device, or the background server before or during service provision and obtained by the transmitting/ receiving unit.

77. The service providing device according to claim 70, wherein:

the memory unit of the service providing device further stores verification and check information or stores link information for retrieving the verification and check information; the transmitting/ receiving unit further transmits the verification and checking information and/or verification information;

when the service providing device is connected to the mobile terminal or is providing a service or is performing a payment operation, the verification and check information is retrieved by the service providing device or the background server or a verification unit of the mobile terminal, used for checking with the verification information provided by the background server or the mobile terminal or the user or with the verification information acquired from the user.

78. The service providing device according to claim 70, wherein:

The memory unit of the service providing device further stores the coding medium or its carrier medium; the code information corresponding to the coding medium can be parsed by the service providing device or parsed by the mobile terminal or background server or other mobile terminal obtaining the coding medium;

wherein the coding medium or its carrier medium is pre-stored before being distributed by the service providing device;

or, the coding medium or its carrier medium is autonomously obtained by the service providing device or received from the mobile terminal or the background server before or during service provision;

or, the coding medium or its carrier medium is generated by the mobile terminal or the coding medium generating unit configured for the service providing device.

79. The service providing device according to any one of claims 70~78, wherein:

the service providing device generates corresponding second code information from second service information according to a predetermined coding rule, and then a corresponding second coding medium is generated from the second code information; the second code information is available to any party storing a matching code parsing rule to identify;

wherein the second code information or the second coding medium can be transmitted by the transmitting/receiving unit, and/or stored by the memory unit;

the second service information includes any one or more items of the following:

the payment result after executing the payment operation;

first identification information, which refers to identification of any one or more of the collaborative background server, the user of the mobile terminal, the mobile terminal, and the service providing device;

second identification information, which refers to identification information of a third-party user, a third-party mobile terminal, or a third-party server specified by the mobile terminal, the service providing device, or the collaborative background server;

information correspondingly bound to the first identification information and/or second identification information; and

attribute information corresponding to the user of the mobile terminal, or the mobile terminal, or the service providing device.

80. The service providing device according to claim 48, wherein:

the service providing device is a USB device with a USB connector, which is connected to a mobile terminal with a corresponding USB interface; or

the service providing device is a memory card, which is connected to the mobile terminal with a corresponding memory card slot or memory card interface; or

the service providing device is a SIM card, which is connected to the mobile terminal with a corresponding SIM card slot or SIM card interface; or

the service providing device is an eSIM card, which is connected to the mobile terminal with a corresponding eSIM card integrated interface or is integrated in the mobile terminal; or,

the service providing device is a device having a wired or wireless communication interface, which is in signal connection with the mobile terminal having a corresponding wired or wireless communication interface, wherein the signal connection allows the service providing device to communicate with the mobile terminal when offline or online; or

the service providing device is a device with an infrared interface, which is in signal connection with the mobile terminal with a corresponding infrared interface; or

the service providing device is a device with a Bluetooth interface, which is in signal connection with a mobile terminal with a corresponding Bluetooth interface; or

the service providing device is wirelessly connected with the mobile terminal based on NFC identification; or

the service providing device is a combination of at least two components that are respectively connected to the mobile terminal in same or different manners, wherein one component in the combination is any one in a first group including a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface, a device with an infrared interface, a device with a Bluetooth interface, or a device that is connected based on NFC identification; the other component in the combination is any one in a second group including a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface, a device with an infrared interface, a device

with a Bluetooth interface, or a device that is connected based on NFC identification.

81. The service providing device according to claim 48, wherein:

a wearable device serves as the mobile terminal or is connected with the mobile terminal;

or, the service providing device is embedded in the wearable device.

82. The service providing device according to claim 81, wherein:

the wearable device refers to one of the following parts or a portion thereof:

accessories, eyeglass, eyeglass clips, headwear, hats, tie clips, brooches, bow ties, bracelets, watches, earphones, clothing, and shoes; the wearable device is at least provided with an information display and input device.

83. A mobile terminal for paying with a payment token, wherein:

the mobile terminal has an interface to connect with a service providing device, wherein the service providing device executes a payment operation: deducting an amount from a stored fund corresponding to the payment token; or, mapping a to-be-paid amount to the payment token, recording the to-be-paid amount, and then settling when a collaborative background server is connected;

wherein the payment token refers to a numerical value replacing sensitive information, the numerical value being unique within a specific extent; the sensitive information includes a designated account; the identification information of the mobile terminal services as the payment token or is bound to or associated with the numerical value as the payment token;

when executing the payment operation, the service providing device obtains a dynamically generated Hash value including the payment token; the Hash value corresponds to the sensitive information embedded in the service providing device; the information corresponding to the Hash value includes information prestored in the service providing device;

the stored fund is pre-deposited in the service providing device, wherein the service providing device deducts the amount from the stored fund; or, designated account is pre-deposited in the service providing device, wherein the service providing device records the to-be-paid amount under the designated account;

the service providing device obtaining the Hash value including the payment token includes a code issuance standard rule of a secure payment code issuance center; the service providing device performs parsing to extract prestored content so as to execute payment.

84. The mobile terminal according to claim 83, wherein:

application of the numerical value has limited circumstances, and the numerical value is only allowed to apply when the numerical value is ensured to lie in the limited circumstances.

85. The mobile terminal according to claim 84, wherein:

the limited circumstances include a specific merchant, or a specific channel, or a specific service providing device.

86. The mobile terminal according to claim 83, wherein:

the designated account is bound to one or more of: the mobile terminal, or the user of the mobile terminal, or the service providing device.

87. The mobile terminal according to claim 83, wherein:

a domain-control attribute is configured for the payment token, wherein the domain-control attribute includes a number of times of transactions with the payment token, transaction amount, valid period, and payment channel.

88. The mobile terminal according to claim 83, wherein:

the payment token is applied in various procedures of a designated account-based transaction.

89. The mobile terminal according to claim 83, wherein:

payment tokenization is completed by formulating a coding rule, wherein the payment tokenization refers to using the numerical value to represent the designated account for transaction verification.

90. The mobile terminal according to claim 83, wherein:

identification information which may uniquely identify the mobile terminal, or the user, or the service providing device, and/or the association information among the mobile terminal, or the user, or the service providing device serves as the payment token.

91. The mobile terminal according to claim 83, wherein:

a uniquely identifiable device serial number serves as the payment token.

92. The mobile terminal according to claim 83, wherein:

information uniquely identifying the mobile terminal includes one or more of the following: the SIM card number, the eSIM card number, the telephone number, the IMEI number of the mobile terminal, the physical address of the interface of the mobile terminal, or the digital certificate embedded in the service providing device to which the mobile terminal is connected.

93. The mobile terminal according to claim 83, wherein:

the mobile terminal stores a coding rule and is further provided with a coding medium generating unit;

corresponding code information can be generated from service information according to the coding rule; the service information is superimposed with identification information which serves as the payment token and may uniquely identify the mobile terminal, or the user, or the service providing device, and/or associated information of the mobile terminal, or the user, or the service providing device;

wherein payment tokenization can be implemented according to the coding rule so as to replace sensitive information with the payment token.

94. The mobile terminal according to claim 83, wherein:

the mobile terminal as a device capable of performing digitalized sensing access has a digital person token.

95. The mobile terminal according to claim 94, wherein:

the digital person token refers to any one of the following:

device information of the mobile terminal;

identity information of the user; or

identity information of the user and the information bound to the identification information.

96. The mobile terminal according to claim 94, wherein:

the digital person token is unique within a specific extent;

the digital person token serves as digital person identity identification information used in verification.

97. The mobile terminal according to claim 83, wherein:

the Hash value of the payment token is obtained by the mobile terminal; the hash value may be displayed by the mobile terminal; and a third party obtains information corresponding to the Hash value by identifying the displayed Hash value, the information being used in payment;

the information corresponding to the Hash value includes information prestored in the service providing device, and/or instantly obtained information.

98. The mobile terminal according to claim 96, wherein:

the Hash value is further provided by the mobile terminal to the service providing device.

99. The mobile terminal according to claim 98, wherein:

the service providing device obtaining the Hash value including the payment token includes a code issuance standard rule of a secure payment code issuance center; the Hash value including the payment token, after being obtained by the mobile terminal from the server end of the secure payment center, is provided by a server end of the secure payment center.

100. The mobile terminal according to claim 96, wherein:

the information corresponding to the Hash value includes a prepaid card number and/or prepaid amount embedded in the service providing device.

101. The mobile terminal according to claim 96, wherein:

the information corresponding to the Hash value includes membership card information, obtained via instant transaction.

102. The mobile terminal according to any one of claims 83~101, wherein:

a transmitting/ receiving unit of the mobile terminal may interact with the service providing device when offline and may interact with the service providing device and/or the background server when online; wherein the transmitting/receiving unit transmits or forwards code information, or coding medium or its carrier medium, to the service providing device to identify; the service providing device, after parsing the code information or decoding and parsing the coding medium, executes the payment operation.

103. The mobile terminal according to claim 102, wherein:

the mobile terminal transmits or forwards via the transmitting/receiving unit a designated account or the coding medium or its carrier medium whose corresponding service information includes the designated account to the service providing device; the designated account is stored at the mobile terminal, or provided by the user or the background server during service provision or during executing the payment operation;

the service providing device deducts an amount from the stored fund under the designated account; or, the service providing device records the to-be-paid amount under the designated account, so as to provide the designated account and the to-be-paid amount for settlement when the service providing device or the mobile terminal is connected to a background server, and to deduct the amount or form a bill under the designated account.

104. The mobile terminal according to claim 102, wherein:

the mobile terminal further comprises: an obtaining module configured for obtaining a coding medium of a corresponding type, wherein the obtained coding medium is decoded by a

decoding unit configured to any party of the mobile terminal or the service providing device or the background server for decoding to obtain corresponding code information, and the decoded code information is parsed by a code information parsing unit configured to the service providing device to extract corresponding service information;

the coding medium refers to any one or any combination of the following: a bar code image generated in a pattern of one-dimensional code, two-dimensional code, or multi-dimensional code; an optical lattice diagram in a form of light-shadow ray or refurbishing frequency variation or in a form of visible light or UV or infrared light or polarized light; and a digitalized acoustic wave or radio wave generated with a specific law or a specific frequency variation pattern.

105. The mobile terminal according to claim 102, wherein:

the mobile terminal further comprises:

an input unit configured for obtaining user inputted information;

a displaying unit for displaying the input information or information from the service providing device or the background server upon interaction to the user or the external, and presenting the coding medium obtained by the mobile terminal, or code information obtained from decoding, or service information extracted from parsing.

106. The mobile terminal according to claim 102, wherein:

the mobile terminal further comprises:

a verifying unit configured for checking and comparing verification and check information with verification provided by the background server or the mobile terminal or the user or verification acquired from the user when the service providing device is connected to the mobile terminal or is providing a service or is performing a payment operation; the verification and check information is pre-stored in the mobile terminal or the service providing device or the background server; and the transmitting/receiving unit further transmits the verification and check information and/or verification information.

107. The mobile terminal according to claim 102, wherein:

a coding medium generating unit of the mobile terminal is configured for generating corresponding second code information from second service information according to a predetermined coding rule, and then generating a corresponding second coding medium from the second code information; the second code information is available to any party storing a matching code parsing rule to identify;

wherein the second code information or the second coding medium can be transmitted by the transmitting/receiving unit, and/or stored by the mobile terminal or the service providing device;

the second service information includes any one or more items of the following:

payment result after executing the payment operation;

first identification information, which refers to identification of any one or more of the collaborative background server, the user of the mobile terminal, the mobile terminal, and the service providing device;

second identification information, which refers to identification information of a third-party user, a third-party mobile terminal, or a third-party server specified by the mobile terminal, the service providing device, or the collaborative background server;

information correspondingly bound to the first identification information and/or second identification information; or

attribute information corresponding to the user of the mobile terminal, or the mobile terminal, or the service providing device.

108. The mobile terminal according to claim 83, wherein:

the service providing device is a USB device with a USB connector, which is connected to a mobile terminal with a corresponding USB interface; or

the service providing device is a memory card, which is connected to the mobile terminal with a corresponding memory card slot or memory card interface; or

the service providing device is a SIM card, which is connected to the mobile terminal with a corresponding SIM card slot or SIM card interface; or

the service providing device is an eSIM card, which is connected to the mobile terminal with a corresponding eSIM card integrated interface or is integrated in the mobile terminal; or,

the service providing device is a device having a wired or wireless communication interface, which is in signal connection with the mobile terminal having a corresponding wired or wireless communication interface, wherein the signal connection allows the service providing device to communicate with the mobile terminal when offline or online; or

the service providing device is a device with an infrared interface, which is in signal connection with the mobile terminal with a corresponding infrared interface; or

the service providing device is a device with a Bluetooth interface, which is in signal connection with a mobile terminal with a corresponding Bluetooth interface; or

the service providing device is wirelessly connected with the mobile terminal based on NFC identification; or

the service providing device is a combination of at least two components that are respectively connected to the mobile terminal in same or different manners, wherein one component in the combination is any one in a first group including a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface, a device with an infrared interface, a device with a Bluetooth interface, or a device that is connected based on NFC identification; the other component in the combination is any one in a second group including a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface, a device with an infrared interface, a device with a Bluetooth interface, or a device that is connected based on NFC identification.

109. The mobile terminal according to claim 83, wherein:

a wearable device serves as the mobile terminal or is connected with the mobile terminal;

or, the service providing device is embedded in the wearable device;

wherein the transmitting/receiving unit, the obtaining unit, the input unit, the displaying unit, the coding medium generating unit, and the decoding unit are provided in one wearable device or separately provided in a plurality of wearable devices or separately provided in the wearable device and the mobile terminal.

110. The mobile terminal according to claim 109, wherein:

the wearable device refers to one of the following parts or a portion thereof:

accessories, eyeglass, eyeglass clips, headwear, hats, tie clips, brooches, bow ties, bracelets, watches, earphones, clothing, and shoes.