Claims

1. A method of digital asset transaction, wherein:

a service providing device connected with an interface of a mobile terminal performs asset transaction using a coding medium corresponding to a stored fund, wherein information obtained from parsing code information corresponding to the coding medium includes a parameter corresponding to the stored fund, the stored fund referring to a digital currency;

wherein the service providing device stores identification information of any one or more of user, the mobile terminal, and the service providing device and/or information bound to the identification information; the parameter corresponding to the stored fund, in the form of the coding medium, is pre-stored in the service providing device, and is extracted for use by the service providing device through parsing the code information corresponding to the coding medium;

in an offline state, the service providing device provides service independently or through collaboration with the mobile terminal according to a parsing result and information stored; in an online state, the service providing device provides service independently or through collaboration with the mobile terminal and/or a background server according to the parsing result and information stored.

2. The method according to claim 1, wherein:

the parameter corresponding to the stored fund in the information obtained from parsing the code information corresponding to the coding medium includes a stored amount, and/or a designed account with the stored amount.

3. The method according to claim 2, wherein:

the asset transaction includes exchange, wherein the stored amount of a first digital currency unit is proportionally exchanged to a stored amount of a second digital currency unit.

4. The method according to claim 2, wherein:

the asset transaction includes exchange, wherein one kind of rewards points is proportionally

exchanged to a stored amount of a digital currency unit.

5. The method according to claim 3, wherein:

a coding medium management server using the first digital currency unit is in background connection with an exchange management organization to perform exchange.

6. The method according to claim 3 or 4, wherein:

the exchanged stored amount can be used to consume at a server using the corresponding digital currency unit.

7. The method according to claim 2, wherein:

any one of the following items provided by an operator is obtained through a transaction operation with an operator:

the coding medium corresponding to the stored fund;

carrier medium of the coding medium corresponding to the stored fund; and

the parameter corresponding to the stored fund;

the service providing device storing the coding medium corresponding to the stored fund;

the service providing device storing the carrier medium of the coding medium corresponding to the stored fund.

8. The method according to claim 2, further comprising:

releasing the coding medium corresponding to the stored fund or its carrier medium, wherein the service providing device or the mobile terminal may obtain and store the released coding medium;

or, transmitting the coding medium corresponding to the stored fund or its carrier medium to the service providing device or the mobile terminal to store;

wherein, the mobile terminal further transmits the coding medium corresponding to the stored fund or its carrier medium, which is acquired or received by the mobile terminal, to the service providing device to store.

9. The method according to claim 2, wherein:

the coding medium corresponding to the stored fund is generated by the mobile terminal or the service providing device or respective coding medium generating unit designed by the mobile terminal or the service providing device based on the parameter corresponding to the stored fund.

10. The method according to claim 2, wherein:

the asset transaction includes transfer:

a first user originally has a first coding medium corresponding to a first stored fund;

the first coding medium is assigned to a second user;

or, a second coding medium corresponding to the first stored fund is re-generated based on the parameter including the first stored fund; and the second coding medium corresponding to the first stored fund is provided to the second user;

11. The method according to claim 2, wherein:

the asset transaction includes transfer, wherein

a first user originally has a first coding medium corresponding to a first stored fund;

the amount of the first stored fund is adjusted to obtain a second stored fund, and the second coding medium corresponding to the second stored fund is generated based on the parameter including the second stored fund; and

the coding medium corresponding to the second stored fund is provided to the second user.

12. The method according to claim 10 or 11, wherein:

the information obtained from parsing the code information corresponding to the second coding medium further includes identification information of the first user, and/or identification information of the second user.

13. The method according to claim 10 or 11, wherein:

the parameter corresponding to the stored fund is updated by the operator.

14. The method according to any one of claims 2, 7~11, wherein:

the coding medium corresponding to the stored fund is displayed, or transmitted, or released by the mobile terminal or the service providing device, for an external coding medium identification device to identify, such that the parameter corresponding to the stored fund is obtained from parsing based on a code parsing rule matched with the preset coding rule.

15. The method according to any one of claims 2,7~9, wherein:

the mobile terminal and the service providing device collaborate to identify the coding medium corresponding to the stored fund and obtains the parameter corresponding to the stored fund from parsing.

16. The method according to claim 2, wherein:

performing a payment operation based on the parameter corresponding to the stored fund comprises:

deducting from the stored fund; or

deducting from the stored fund or creating a bill under the designated account.

17. The method according to claim 16, wherein:

the payment procedure is separated from the settlement procedure, wherein the service providing device or the mobile terminal records a to-be-paid amount under the designated account, and provides the designated account and the to-be-paid amount till the background server is connected, such that the background server performs settlement.

18. The method according to claim 17, wherein:

the mobile terminal or the service providing device obtains order information and payment collection account number by identifying coding information corresponding to a payment collection coding medium.

19. The method according to any one of claims 1~5,7~11,16~17, wherein:

the mobile terminal or the service providing device obtains a dynamically generated coding

medium including a payment token;

wherein the payment token refers to a numerical value replacing the designated account, wherein the numerical value is unique within a specific range.

20. The method according to claim 19, 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.

21. The method according to claim 2 or 16, wherein:

a designated account number refers to an account number bound to the identification of any one or more of the user, the mobile terminal, the service providing device serves.

22. The method according to claim 19, wherein:

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

corresponding code information can be generated from the service information according to the coding rule; the service information is superimposed with identification information which serves as 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.

23. The method according to claim 19, wherein:

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

24. The method according to claim 19, wherein:

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

25. The method according to claim 19, wherein:

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

26. The method according to claim 19, wherein:

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

27. The method according to claim 19, wherein:

the payment token is embedded in the service providing device.

28. The method according to claim 19, wherein:

a designated account number refers to an account number bound to the identification of any one or more of the mobile terminal, the user, or the service providing device.

29. The method according to claim 19, wherein:

a device serial number that may be uniquely identified serves as the payment token.

30. The method according to claim 27, wherein:

the information uniquely identifying the mobile terminal includes SIM card number, eSIM card number, telephone number, and IMEI number of the mobile terminal.

31. The method according to any one of claims 1~5,7~11,16~17, wherein:

the identification information of the service providing device is a digital person token;

wherein the digital person refers to a combination of a natural person and a device enabling digitalized sensing access, and the digital person has an identifiable digital person token as identification information of the digital person identity such that an operation executed by the digital person can be identified and recorded by a privileged organization;

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

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

32. The method according to claim 31, wherein:

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

device information of the device enabling digitalized sensing access;

identity information of the user;

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

33. The method according to claim 19, wherein:

by operating in the application, the service providing device obtains a dynamically generated coding medium including the payment token, wherein the application refers to a merchant application or a general payment application;

or, by operating in a promotion page, the service providing device obtains a dynamically generated coding medium including the payment token, wherein the promotion page is obtained by decoding and parsing the coding medium; the coding medium is released offline; and the promotion page is forwardable.

34. The method according to claim 17, wherein:

the service providing device deducts from the stored fund in a network connected state or in a network disconnected state; or,

the service providing device records a to-be-paid amount in a network connected state or in a network disconnected state; the service providing device and/or the mobile terminal is further connected to the background server to perform settlement in the network connected state;

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

35. The method according to claim 32, wherein:

The service providing device and/or the mobile terminal interacts with the background server for transmitting the payment result; and the service providing device and/or the mobile terminal provides the payment result to the user; wherein transmitting or providing of the payment result is performed in real time upon executing the payment operation or performed not in real time.

36. The method according to claim 16, wherein:

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

or, the service providing device is instructed to perform 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.

37. The method according to claim 16, wherein:

the payment operation further comprises:

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

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

38. The method according to any one of claims 1~5,7~11,16~17,32~35, wherein:

the information obtained from parsing the code information corresponding to the coding medium further comprises any one of the following:

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

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

39. The method according to any one of claims 1~5,7~11,16~17,32~35, 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 1~5,7~11,16~17,32~35, wherein:

the service providing device performs an operation of parsing or paying or asset transaction 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 an operation of parsing, or paying, or asset transaction; 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 perform an operation of parsing, or paying, or asset transaction; the application configured by the mobile terminal is a general payment application, or the applications configured separately for

the mobile terminal and the service providing device are associated.

41. The method according to any one of claims 1~5,7~11,16~17,32~35, wherein:

the 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 managing digital currency exchange.

42. The method according to any one of claims 1~5,7~11,16~17,32~35, wherein:

the service providing device is connected with an 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 an operation of parsing or paying or asset transaction.

43. The method according to claim 40, wherein:

verification is performed when performing the operation of parsing, or paying, or asset transaction, or verification is performed when the service providing device is re-connected with the interface of the mobile terminal after disconnection, or verification is performed when the service providing device is connected with the interface of another mobile terminal.

44. The method according to claim 41, wherein:

verification is performed by one of the service providing device, the mobile terminal, and the background server, or performed collaboratively by more of the service providing device, the mobile terminal, and the background server; wherein the verification comprises:

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, and 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 40, 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.

46. The method according to claim 43, 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; wherein the wearable device is at least provided with an information display and input device.

48. A service providing device for digital asset transaction, wherein:

the service providing device connected with an interface of a mobile terminal performs asset transaction and/or payment operation with a coding medium corresponding to a stored fund, wherein information obtained from parsing code information corresponding to the coding medium includes a parameter corresponding to the stored fund; and the stored fund refers to a digital currency;

the service providing device comprises a memory unit to store identification information of any one or more of user, the mobile terminal, and the service providing device and/or information bound to the identification information; the parameter corresponding to the stored fund, in the form of the coding medium, is pre-stored in the service providing device, and is extracted to use in performing asset transaction and/or payment operation by the service providing device through parsing the code information corresponding to the coding medium;

in an offline state, the service providing device provides service independently or through

collaboration with the mobile terminal according to a parsing result and information stored; in an online state, the service providing device provides service independently or through collaboration with the mobile terminal and/or a background server according to the parsing result and information stored.

49. 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, so as to transmit information before, during, or after the asset transaction and/or payment operation;

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

the memory unit of the service providing device stores the code information and/or the parsed information, which are extracted to use in performing asset transaction and/or payment operation;

the parameter corresponding to the stored fund in the information obtained from parsing the code information corresponding to the coding medium includes a stored amount, and/or a designed account with the stored amount.

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

the transmitting/ receiving unit of the service providing device interacts with the background server;

the service providing device is connected to an organization for managing digital currency exchange via the background server to perform digital currency exchange:

a stored amount of a first digital currency unit is proportionally exchanged to a stored amount of a second digital currency unit; or a kind of rewards points is proportionally exchanged to a stored amount of a digital currency unit.

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

the service providing device obtains any one of the following provided by an operator via

the transmitting/ receiving unit:

coding medium corresponding to the stored fund;

carrier medium of the coding medium corresponding to the stored fund; and

parameter corresponding to the stored fund; or,

the operator provides: a service providing device storing the coding medium corresponding to the stored fund; or a service providing device storing a carrier medium of the coding medium corresponding to the stored fund.

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

the service providing device obtains, via the obtaining module, the released coding medium corresponding to the stored fund or its carrier medium, and then stores the released coding medium or its carrier medium to the memory unit, wherein the obtaining module is provided at the service providing device or the mobile terminal or is connected with the mobile terminal or the service providing device;

or, the service providing device, via the transmitting/ receiving unit, receives the coding medium corresponding to the stored fund as transmitted or forwarded by the transmitting/or receiving unit, or the stored fund, or the code information corresponding to the coding medium, or the information obtained from parsing the code information and then stores them to the memory unit.

54. The service providing device according to any one of claims 49~53, wherein:

the service providing device comprises a code parsing unit which parses the code information corresponding to the coding medium to obtain a parameter corresponding to the stored fund; or, obtains, via the transmitting/receiving unit, the parameter corresponding to the stored fund as obtained from the mobile terminal and/or the background server's parsing the code information corresponding to the coding medium;

or, the transmitting/ receiving unit of the service providing device further obtains the code information from the mobile terminal or the background server, and passes it to the code parsing unit to parse; or, the transmitting/ receiving unit may further obtain a coding medium or other carrier medium from the mobile terminal or the background server; passes the code information

obtained from parsing the coding medium to the code parsing unit to parse; a decoding unit is provided at the service providing device or the mobile terminal or the background server.

55. The service providing device according to any one of claims 48,52~53, wherein:

the service providing device comprises a coding medium generating unit, or the service providing device drives the mobile terminal or respective external coding medium generating module designated thereby to generate the coding medium corresponding to the stored fund based on the parameter corresponding to the stored fund.

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

the service providing device displays, or transmits, or releases the coding medium corresponding to the stored fund independently or via the mobile terminal connected thereto, for an external coding medium identification device to identify, such that the parameter corresponding to the stored fund is obtained from parsing based on a code parsing rule matched with the preset coding rule.

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

the asset transaction includes transfer; wherein

a first user originally has a first coding medium corresponding to a first stored fund;

the first coding medium is assigned to a second user;

or, a second coding medium corresponding to the first stored fund is re-generated based on the parameter including the first stored fund; and the second coding medium corresponding to the first stored fund is provided to the second user.

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

the asset transaction includes transfer:

a first user originally has a first coding medium corresponding to a first stored fund;

the amount of the first stored fund is adjusted to obtain a second stored fund, and the second coding medium corresponding to the second stored fund is generated based on the parameter including the second stored fund; and

the coding medium corresponding to the second stored fund is provided to the second user.

59. The service providing device according to claim 57 or 58, wherein:

the information obtained from parsing the code information corresponding to the second coding medium further includes identification information of the first user, and/or identification information of the second user.

60. The service providing device according to claim 57 or 58, wherein:

the parameter of the stored fund is updated by an operator, or updated by the service providing device, or updated by a user, or updated by the third party identifying the coding medium.

61. The service providing device according to any one of claims 48~53, wherein:

a payment operation performed based on the parameter corresponding to the stored fund comprises: deducting from the stored amount; or deducting from the stored amount or creating a bill under the designated account;

wherein the service providing device or the mobile terminal records a to-be-paid amount under the designated account, and provides the designated account and the to-be-paid amount till the background server is connected, such that the background server performs settlement;

wherein the designated account is represented by a payment token; the payment token refers to a numerical value replacing the designated account, wherein the numerical value is unique within a specific range.

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

the mobile terminal or the service providing device obtains a dynamically generated coding medium including a payment token;

wherein the payment token refers to a numerical value replacing the designated account, wherein the numerical value is unique within a specific range.

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

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

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

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

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

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

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

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

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

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

the payment token is embedded in the service providing device or is generated by the service providing device including a code distributing and encoding rule.

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

a designated account number refers to an account number bound to the identification of any one or more of the mobile terminal, the user, the service providing device.

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

a device serial number that may be uniquely identified serves as the payment token.

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

the identification information of the service providing device is a digital person token.

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

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

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

device information of the service providing device;

identity information of the user of the service providing device; and

information regarding binding the identity information of the user of the service providing device to the device information.

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

by operating in the application, the service providing device obtains a dynamically generated coding medium including the payment token, wherein the application refers to a merchant application or a general payment application;

or, by operating in a promotion page, the service providing device obtains a dynamically generated coding medium including the payment token, wherein the promotion page is obtained by decoding and parsing the coding medium; the coding medium is released offline; and the promotion page is forwardable.

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

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

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

a code parsing rule used by the code parsing unit in parsing the code information matches a preset coding rule used in generating the code information; the preset coding rule is used in

generating corresponding code information based on the service information, or generating corresponding coding 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.

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

the service information extracted from the coding medium parsed by the code parsing unit or the code parsing rule further includes command information, wherein the command information is configured for actuating the service providing device to execute an operation procedure set thereto, or for actuating the service providing device and the background server in collaboration therewith or the mobile terminal to execute the operation procedures respectively set thereto.

77. The service providing device according to claim 61, 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.

78. The service providing device according to claim 61, 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 of the service providing device further transmits the verification and check information and/or the 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.

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

The memory unit of the service providing device further stores the coding medium or its carrier medium, wherein the code information corresponding to the coding medium can be parsed by the service providing device or can be parsed by the mobile terminal or background server or another 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.

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

the service providing device generates corresponding second code information from second service information according to a preset coding rule, and then a corresponding second coding medium is generated from the second code information, wherein 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 a transmitting/receiving unit, and/or stored by a memory unit;

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 background server, 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 designated by the mobile terminal, the service providing device, or the 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.

81. The service providing device according to claim 61, 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.

82. The service providing device according to claim 61, 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.

83. The service providing device according to claim 82, 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; wherein the wearable device is at least provided with an information display and input device.

84. A mobile terminal for digital asset transaction, wherein:

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

the mobile terminal comprising:

a transmitting/receiving unit which may interact with the service providing device when offline and may interact with the service providing device and/or a background server when

online, wherein the transmitting/ receiving unit transmits or forwards any one or more of stored fund, the coding medium, code information, or parsed information, to the service providing device; wherein

the service providing device stores identification information of any one or more of user, the mobile terminal, and the service providing device and/or information bound to the identification information;

the parameter corresponding to the stored fund, in the form of the coding medium, is pre-stored in the service providing device, and is extracted to use in performing asset transaction and/or payment operation with the coding medium corresponding to the stored fund by the service providing device through parsing the code information corresponding to the coding medium; the information obtained from parsing the code information corresponding to the coding medium includes a parameter corresponding to the stored fund, including: stored amount, and/or a designated account with the stored amount; wherein the stored fund refers to a digital currency;

in an offline state, the service providing device provides service independently or through collaboration with the mobile terminal according to a parsing result and information stored; in an online state, the service providing device provides service independently or through collaboration with the mobile terminal and/or a background server according to the parsing result and information stored.

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

the mobile terminal obtains, via the transmitting/ receiving unit, any one of the following contents provided by an operator and transmits it to the service providing device:

coding medium corresponding to the stored fund;

carrier medium of the coding medium corresponding to the stored fund; and

parameter corresponding to the stored fund.

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

the mobile terminal obtains, via an obtaining module, the released coding medium corresponding to the stored fund or its carrier medium, and then provides the released coding medium or its carrier medium to the service providing device, wherein the obtaining module is

provided at the service providing device or the mobile terminal or is connected with the mobile terminal or the service providing device;

or, the mobile terminal, via the transmitting/ receiving unit, transmits or forwards to the service providing device the coding medium corresponding to the stored fund, or the stored fund, or the code information corresponding to the coding medium, or the information obtained by collaborating with the service providing device to parse the coding information .

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

the mobile terminal comprises a coding medium generating unit, or drives the service providing device or respective external coding medium generating module designated thereby to generate the coding medium corresponding to the stored fund based on the parameter corresponding to the stored fund.

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

the mobile terminal displays, or transmits, or releases the coding medium corresponding to the stored fund by itself or via the service providing device connected thereto, for an external coding medium identification device to identify, such that the parameter corresponding to the stored fund is obtained from parsing based on a code parsing rule matched with the preset coding rule.

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

the asset transaction includes transfer, wherein

a first user originally has a first coding medium corresponding to a first stored fund;

the first coding medium is assigned to a second user;

or, a second coding medium corresponding to the first stored fund is re-generated based on the parameter including the first stored fund; and the second coding medium corresponding to the first stored fund is provided to the second user.

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

the asset transaction includes transfer, wherein

a first user originally has a first coding medium corresponding to a first stored fund;

the amount of the first stored fund is adjusted to obtain a second stored fund, and the second coding medium corresponding to the second stored fund is generated based on the parameter including the second stored fund; and

the coding medium corresponding to the second stored fund is provided to the second user.

91. The mobile terminal according to claim 89 or 90, wherein:

the information obtained from parsing the code information corresponding to the second coding medium further includes identification information of the first user, and/or identification information of the second user.

92. The mobile terminal according to claim 89 or 90, wherein:

the parameter of the stored fund is updated by the operator, or updated by the service providing device, or updated by the user, or updated by a third party identifying the coding medium.

93. The mobile terminal according to any one of claims 84~88, wherein:

the payment operation performed based on the parameter corresponding to the stored fund comprises: deducting from the stored amount; or deducting from the stored amount or creating a bill under the designated account;

wherein the service providing device or the mobile terminal records a to-be-paid amount under the designated account, and provides the designated account and the to-be-paid amount till the background server is connected, such that the background server performs settlement.

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

the mobile terminal has a digital person token;

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

device information of the mobile terminal;

identity information of the user; and

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

information.

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

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

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

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

a designated account number refers to an account number bound to the identification of any one or more of the user, the mobile terminal, the service providing device.

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

the coding rule is stored at the mobile terminal;

corresponding code information can be generated from the service information according to the coding rule; the service information is superimposed with identification information which serves as 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.

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

the payment token is applied in various procedures of a transaction based on the designated account, wherein the payment token refers to a numerical value replacing the designated account, wherein the numerical value is unique within a specific range.

99. The mobile terminal according to claim 98, 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.

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

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

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

a device serial number that may be uniquely identified serves as the payment token.

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

the 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.

103.The mobile terminal according to claim 93, 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; and

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.

104.The mobile terminal according to claim 93, 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 displaying the coding medium obtained by the mobile terminal, or code information obtained from decoding, or service information extracted from parsing.

105.The mobile terminal according to claim 93, 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.

106.The mobile terminal according to claim 93, 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 preset 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 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 designated by the mobile terminal, the service providing device, or the 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.

107. The mobile terminal according to claim 84, 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.

108. The mobile terminal according to claim 84, 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.

109. The mobile terminal according to claim 108, 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.