

I/We Claim:

1. A service providing method based on parsing of code information, comprising:

parsing, by a service providing device connected with a first mobile terminal via an interface of the first mobile terminal, code information obtained by the service providing device to extract service
5 information corresponding to the parsed code information;

providing, by the service providing device, a service based on the extracted service information and auxiliary information provided or stored by the service providing device, wherein the auxiliary information at least includes identification information of any one or more of: a user of the first mobile terminal, a user of the service providing device, the first mobile terminal, and the service providing device, and/or
10 information bound to the identification information;

maintaining a same network connection state during service providing; or, including, during the service providing, a plurality of phases, wherein at least one phase has a different network connection state; and wherein the network connection state refers to online or offline;

wherein when the network connection state is offline, the service providing device or the first mobile
15 device does not access a network capable of interacting with a background server, and then the service providing device provides the service independently or through collaboration with the first mobile terminal;

when the network connection state is online, the service providing device, or the first mobile device, or the service providing device and the first mobile device, access a network capable of interacting with one or more background servers, then the service providing device provides the service independently or
20 through collaboration with the first mobile terminal and/or the background server; and

wherein the code information obtained by the service providing device is obtained by decoding a first code medium obtained by the service providing device, the first mobile terminal, or the background server, or is received by the service providing device from the first mobile terminal or the background server.

25 2. The service providing method according to claim 1, wherein:

any interacting part transmits or receives the subsequent information to or from any other one or more interacting parties: interactive information, interactive code information corresponding to the interactive information, or an interactive code medium corresponding to the interactive information, or a carrier of the interactive code medium, or link information for obtaining the interactive information, interactive code
30 medium, or carrier;

wherein the corresponding interactive code information is generated based on the interactive information according to a predetermined coding rule, and then the corresponding interactive code medium is generated based on the interactive code information;

the interactive information includes one or more of:

5 extracted service information;

intermediate information needed for service providing;

notification information for feeding back a service providing result;

first identification information, referring to identification information of any one or more of: the user of the first mobile terminal, the user of the service providing device, the first mobile terminal, the service
10 providing device, and the background server;

second identification information, referring to identification information of a third party user, a third party mobile terminal, or a third party server, which are designated by the first mobile terminal, the service providing device, or the background server;

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

attribute information corresponding to one or more of: the user of the first mobile terminal, the user of the service providing device, the first mobile terminal, or the service providing device; and

the interacting party includes: the first mobile terminal, the service providing device, the background server, the third party mobile terminal, and the third party server.

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3. The service providing method according to claim 2, further comprising:

generating corresponding code information based on code information corresponding to the service information according to the predetermined coding rule and then generating a corresponding first code medium based on the code information;

25 transmitting the first code medium, the corresponding code information for generating the code medium, the link information for obtaining the code medium or the code information corresponding to the code medium, or the carrier for the code medium or corresponding code information or link information, to the first mobile terminal or the service providing device, or releasing the same to a place accessible to the user of the first mobile terminal or the user of the service providing device such that the first mobile
30 terminal or the service providing device autonomously obtains them; and

receiving or obtaining a same first code medium for one or more times, and decoding and parsing the first code medium received or obtained at each time for one or more times so as to extract service information.

5 4. The service providing method according to claim 3, further comprising:

when parsing the code information to determine that the first code medium is generated according to the predetermined coding rule, continuing to perform an operation of extracting the service information and subsequent operations; when parsing the code information to determine that the code medium is not generated according to the predetermined coding rule, not performing the operation of extracting the service information or the subsequent operations after prompting a parsing error alert, or providing code information with the parsing error, or providing information which may be linked to an actual corresponding page of the code information with the parsing error or a link to the actual corresponding page; wherein

15 in the case of continuously performing the operation of extracting the service information, the extracted service information at least includes command information, the command information being configured for actuating the service providing device to execute a flow of operations set thereto, or actuating the service providing device and the background server or the first mobile terminal in collaboration therewith to execute the flow of operations respectively set thereto.

20 5. The service providing method according to claim 4, wherein:

the service providing device or the first mobile terminal provides the service or collaborates in providing the service via a client software configured thereto based on a parameter which results from parsing the code information and is automatically substituted in the client software; when it is determined that a client software for substituting and interpreting the parameter obtained from parsing the code information is not installed, the client software is automatically installed for the service providing device or the first mobile terminal; wherein the substituted parameter comes from the parsed and extracted service information, or from the service information and the auxiliary information.

6. The service providing method according to claim 2 or 4, further comprising:

30 presenting or releasing the first code medium or the interactive code medium via the first mobile

terminal, such that any of the background server, the third mobile terminal, or the third party server may obtain the first code medium or the interactive code medium to decode and parse; wherein

the first code medium or interactive code medium respectively refers to any one or any combination of: 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.

7. The service providing method according to claim 1 or 5, further comprising:

generating a to-be-paid order by the service providing device, the first mobile terminal, or the background server based on the extracted service information; and

deducting, by the service providing device, the first mobile terminal, or the background server, an order-related payment from a pre-deposited amount under a designated account number, or generating a postpaid bill including the order-related payment for the designated account number; wherein

the designated account number refers to an account number bound to the identification information of any one or more of: the service providing device, the first mobile terminal, the user of the first mobile terminal or the user of the service providing device, a payer designed by the user of the first mobile terminal or the user of the service providing device; and

the designated account number, link information for retrieving the designated account number, a pre-saved code medium or its carrier, is stored in the service providing device, the first mobile terminal, or the background server; and the designated account number, the pre-deposited amount, or link information for retrieving the designated account number is included in corresponding code information obtained from recognizing and decoding the pre-saved code medium or in a result of parsing the code information corresponding to the pre-saved code medium.

8. The service providing method according to claim 6, wherein:

when order processing is performed in an offline network connection state, the service providing device or the first mobile terminal actuated by the service providing device deducts the order-related payment from the pre-deposited amount under the designated account number stored in the service providing device or in the first mobile terminal;

or, when order processing is performed in an offline network connection state, the service providing device or the first mobile terminal actuated by the service providing device records information about the order-related payment under the designated account number stored in the service providing device or the first mobile terminal; and when the network connection becomes online, the service providing device or the first mobile terminal actuated by the service providing device provides, to the background server, information about a record of the order-related payment under the designated account number so as to generate a postpaid bill;

or, when order processing is performed in an online network connection state, the service providing device or the first mobile terminal actuates the background server to deduct the order-related payment from the pre-deposited amount under the designated account number, or to record the information about the order-related payment under the designated account number so as to generate a postpaid bill.

9. The service providing method according to any one of claims 1~8, wherein:

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

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

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

or, the service providing device is a combination of at least two components that are respectively connected to the first mobile terminal in same or different manners; 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, and a device with a wired or wireless communication interface; 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, and a device with a wires

or wireless communication interface.

10. The service providing method according to claim 9, wherein:

the service providing device is a component having a code information parsing unit and storing a
5 designated account number or a pre-saved code medium;

or, the service providing device is a combination of two components, where one component has the
code information parsing unit and the other component stores the designated account number or the
pre-saved code medium;

wherein the code information parsing unit stores a code parsing rule matching a predetermined coding
10 rule; the code information parsing unit parses the code information obtained by the service providing
device, and/or parses the code information corresponding to the pre-saved code medium.

11. The service providing method according to any one of claims 1~ 10, wherein:

at the time of generating the first code medium or at any time point therebefore, the auxiliary
15 information is provided to one or more of the following recipients; or at the time of service providing or
collaborating in service providing or at any time point therebefore, the auxiliary information is provided to
one or more of the following recipients; wherein

the recipients include: the service providing device, the first mobile terminal, the background server, a
third party code medium generating device for generating the first code medium, an operator system of the
20 client software, and an operator system of the service providing device.

12. The service providing method according to any one of claims 1 or 7~10, wherein:

the service providing device, the first mobile terminal, or the background server checks and compares
verification information provided by the user of the first mobile terminal or the user of the service
25 providing device with verification-comparison information stored in the service providing device, the first
mobile terminal, or the background server; and the service is provided when it is determined that the
verification information is consistent with the verification-comparison information.

13. A service providing method based on parsing of code information, comprising:

30 implementing a connection between a service providing device and a first mobile terminal via an

interface of the first mobile terminal at least upon generating code information or a first code medium corresponding thereto or at least upon collaborating in service providing;

wherein the service providing device provides or stores auxiliary information as well as a predetermined coding rule and/or a matching code parsing rule, the auxiliary information at least including:
5 identification information of any one or more of: a user of the first mobile terminal, a user of the service providing device, the first mobile terminal, and the service providing device, and/or information bound to the identification information;

generating, by the first mobile terminal, the service providing device, or a third party code medium generating device respectively designated thereby, code information corresponding to service information
10 according to a predetermined coding rule, and the first code medium corresponding to the code information; wherein the service information includes the auxiliary information;

transmitting, by the service providing device to a first background server or a second mobile terminal, the code medium, the corresponding code information for generating the first code medium, link information for obtaining the first code medium or the code information corresponding thereto, or a carrier
15 for the first code medium, the code information, or the link information, or releasing the same to a place accessible to a user of the first background server or the user of the second mobile terminal for the first background server or the second mobile terminal to retrieve by themselves;

decoding and parsing the first code medium obtained by the first background server or the second mobile terminal, or parsing the code information obtained by the first background server or the second
20 mobile terminal, to extract the corresponding service information, wherein the first background server or the second mobile terminal provides a service independently based on the extracted service information, or the first background server or the second mobile terminal collaborates with any one or more of collaborators below to provide the service: the first mobile terminal; the service providing device; one or more third party servers or one or more third party mobile terminals designated by the first mobile terminal,
25 the service providing device, the first background server, or the second mobile terminal.

14. The service providing method according to claim 13, wherein:

the first background server or the second mobile terminal or a third party decoding-parsing device respectively designated thereby decodes and parses the obtained code medium or the obtained code
30 information based on the code parsing rule matching the predetermined coding rule, wherein the parsed and

extracted service information at least includes command information for actuating the first background server or the second mobile terminal or a collaborator thereof to execute flow of operations respectively set therefor;

when parsing the code information and determining that the first code medium is generated according to the predetermined coding rule, the first background server or the second mobile terminal continues performing the operation of extracting the service information and subsequent operations; and when parsing the code information and determining that the first code medium is not generated according to the predetermined coding rule, the first background server or the second mobile terminal does not performing the operation of extracting the service information or the subsequent operations after prompting a parsing error alert, or providing code information with the parsing error, or providing information which may be linked to an actual corresponding page of the code information with the parsing error or a link to the actual corresponding page.

15. The service providing method according to claim 13 or 14, wherein:

the service providing device or the first mobile terminal collaborates in service providing via a client software based on a parameter automatically substituted into the client software; wherein

the parameter substituted into the client software comes from one or more sources below: corresponding code information for generating the first code medium, service information for generating the code information corresponding to the first code medium, code information obtained from decoding the first code medium, service information extracted from the parsed code information, and auxiliary information.

16. The service providing method according to claim 15, wherein:

at the time of generating the code medium or at any time point therebefore, the auxiliary information is provided to one or more of the following recipients; or at the time of service providing or collaborating in service providing or at any time point therebefore, the auxiliary information is provided to one or more of the following recipients; wherein

the recipients include: the service providing device, the first mobile terminal, the first background server, the second mobile terminal, the third party server, the third party mobile terminal, the third party code medium generating device, an operator system of the client software, and an operator system of the

service providing device.

17. The service providing method according to claim 16, wherein:

any interacting part transmits or receives the subsequent information to or from any other one or more
5 interacting parties: interactive information, interactive code information corresponding to the interactive
information, or an interactive code medium corresponding to the interactive information, or a carrier of the
interactive code medium, or link information for obtaining the interactive information, interactive code
medium, or carrier;

wherein the corresponding interactive code information is generated based on the interactive
10 information according to the predetermined coding rule, and then the corresponding interactive code
medium is generated based on the interactive code information;

the interactive information includes one or more of:

extracted service information;

intermediate information needed for service providing;

15 notification information for feeding back a service providing result;

identification information of any one or more of: the first mobile terminal, the service providing
device, the first background server, the second mobile terminal, the third mobile terminal, the third party
server, user of the first mobile terminal or the second mobile terminal or the third party mobile terminal, an
operator of the first background server or the third part server;

20 information correspondingly bound to the identification information;

attribute information corresponding to one or more of: the user of the first mobile terminal, the user of
the service providing device, the first mobile terminal, or the service providing device; and

the interacting parties include the first mobile terminal, the service providing device, the first
background server, the second mobile terminal, the third party mobile terminal, and the third party server.

25 18. The service providing method according to any one of claims 13~ 17, wherein:

the service providing device or the first mobile terminal stores a designated account number or link
information for retrieving the designated account number, or stores a pre-saved code medium or a carrier
thereof;

30 corresponding code information obtained from recognizing and decoding the pre-saved code medium

or a result of parsing the code information corresponding to the pre-saved code medium includes the designated account number or the link information for retrieving the designated account number;

the designated account number refers to an account number bound to the identification of any one or more of: the service providing device, the first mobile terminal, the user of the first mobile terminal or the user of the service providing device, a payer designed by the user of the first mobile terminal or the user of the service providing device; and

any of the first background server, the third party server, the second mobile terminal or the third party mobile terminal as a payer, which obtains the designated account number, the link information for obtaining the designated account number, the pre-saved code medium, or the carrier for the pre-saved code medium, deducts an order-related payments from the pre-deposited amount under the designated account number, or generates, for the designated account number, a postpaid bill for the order-related payment.

19. The service providing method according to any one of claims 13~ 18, wherein:

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

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

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

or, the service providing device is a combination of at least two components that are respectively connected to the first mobile terminal in same or different manners; 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, and a device with a wired or wireless communication interface; 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, and a device with a wires

or wireless communication interface.

20. The service providing method according to claim 19, wherein:

the service providing device is a component having a code information parsing unit and storing a
5 designated account number or a pre-saved code medium;

or, the service providing device is a combination of two components, where one component has the
code information parsing unit and the other component stores the designated account number or the
pre-saved code medium;

wherein the code information parsing unit stores the preset code parsing rule and/or the code parsing
10 rule matching thereto; and the code information parsing unit further parses the code information
corresponding to the pre-saved code medium.

21. The service providing method according to any one of claims 13~ 20, wherein:

the service providing device or the first mobile terminal checks and compares verification information
15 provided by the user of the first mobile terminal or the user of the service providing device with
verification-comparison information stored in the service providing device, the first mobile terminal, the
background server, or the third party server; wherein the service is provided when it is determined that the
verification information is consistent with the verification-comparison information.

22. The service providing method according to claim 13 or 17, wherein:

the first code medium or interactive code medium respectively refers to any one or any combination of:
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
25 acoustic wave or radio wave generated with a specific law or a specific frequency variation pattern.

23. A service providing device, wherein:

the service providing device implements a connection with a first mobile terminal via an interface of
the first mobile terminal; when the network connection state is offline, the service providing device or the
30 first mobile device does not access a network capable of interacting with a background server, and then the

service providing device provides the service independently or through collaboration with the first mobile terminal; and when the network connection state is online, the service providing device, or the first mobile device, or the service providing device and the first mobile device, access a network capable of interacting with one or more background servers, then the service providing device provides the service independently or through collaboration with the first mobile terminal and/or the background server;

the service providing device comprising:

a code information parsing unit configured for parsing code information obtained by the service providing device to extract service information corresponding to the parsed code information, such that the service providing device may provide a service based on the extracted service information and auxiliary information stored in the service providing device;

a transmitting/ receiving unit configured for interacting with the first mobile terminal in the case of offline or online; wherein in the case of online, the transmitting/ receiving unit interacts with the first mobile terminal and/or the background server; the code information obtained by the service providing device is received by the transmitting/ receiving unit from the first mobile terminal or the background server; and

a memory unit storing the auxiliary information, wherein the auxiliary information at least includes identification information of any one or more of: a user of the first mobile terminal, a user of the service providing device, the first mobile terminal, and the service providing device, and/or information bound to the identification information.

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24. The service providing device according to claim 23, wherein:

the memory unit of the service providing device stores a designated account number, or a pre-deposited amount under the designated account number, link information for retrieving the designated account number, a pre-saved code medium or a carrier thereof; the corresponding code information obtained from recognizing and decoding the pre-saved code medium or a result of parsing the code information corresponding to the pre-saved code medium includes the designated account number, the pre-deposited amount, or link information for retrieving the designated account number; and

the designated account number refers to an account number bound to identification information of at least one of: the service providing device, the first mobile terminal, the user of the first mobile terminal or service providing device, and a payer designated by the user.

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25. The service providing device according to claim 24, wherein:

the service providing device transmits or receives via the transmitting/ receiving unit: interactive information, an interactive code medium corresponding to the interactive information, interactive code information corresponding to the interactive code medium, a carrier of the interactive code medium, or link information for obtaining the interactive information, the interactive code medium, or the carrier;

The interactive code medium transmitted by the service providing device is generated by a code medium generating unit arranged for the service providing device based on the interactive code information corresponding to the interactive information, or is received by the service providing device via the transmitting/receiving unit;

the service providing device parses, via the code information parsing unit, the interactive code information corresponding to the interactive code medium received by the service providing device, so as to obtain interactive information transmitted to the service providing device;

the interactive information transmitted or received by the service providing device includes one or more of:

intermediate information needed for service providing;

notification information for feeding back a service providing result;

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

second identification information of a third party user, a third party mobile terminal, or a third party server designated to any one or more parties above;

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

attribute information corresponding to one or more of: the user of the first mobile terminal, the user of the service providing device, the first mobile terminal, or the service providing device.

26. The service providing device according to claim 23 or 24, wherein:

the code information obtained by the service providing device is obtained by decoding the first code medium obtained by the first mobile terminal or the service providing device;

the first code medium refers to any one or any combination of: a bar code image where the code information is generated in a pattern of one-dimensional code, two-dimensional code, or multi-dimensional code; an optical lattice diagram where the code information is 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.

27. The service providing device according to claim 26, wherein:

the code information parsing unit of the service providing device, when parsing the code information to determine that the first code medium is generated according to the predetermined coding rule, continues to perform an operation of extracting the service information and subsequent operations, and when parsing the code information to determine that the code medium is not generated according to the predetermined coding rule, does not perform the operation of extracting the service information or the subsequent operations after prompting a parsing error alert, or providing code information with the parsing error, or providing information which may be linked to an actual corresponding page of the code information with the parsing error or a link to the actual corresponding page; wherein

in the case of continuously performing the operation of extracting the service information, the extracted service information at least includes command information, the command information being configured for actuating the service providing device to execute a flow of operations set thereto, or actuating the service providing device and the background server or the first mobile terminal in collaboration therewith to execute the flow of operations respectively set thereto.

28. The service providing device according to claim 27, wherein:

the code information parsing unit of the service providing device automatically substitutes a parameter obtained from parsing the code information into a client software configured for the service providing device or the first mobile terminal, such that the service providing device may provide a service; or the first mobile terminal may collaborate in service providing via the client software; wherein the substituted parameter comes from the parsed and extracted service information or from the service information and auxiliary information;

the service providing device further comprises:

a client software monitoring unit configured for monitoring whether the service providing device or the first mobile terminal is installed with a client software for substituting and interpreting the parameter obtained from parsing the code information;

a client software installing unit configured for automatically installing the client software when the client software monitoring unit determines that the service providing device or the first mobile terminal is not installed with the client software.

29. The service providing device according to claim 23 or 24, wherein:

the memory unit of the service providing device further stores verification-comparison information or link information for retrieving the verification-comparison information; at the time of being connected to the first mobile terminal or before service providing, the service providing device, the background server, or the first mobile terminal extracts the verification-comparison information or its link information from the memory unit, for checking and comparing the verification-comparison information with the verification information provided by the user of the first mobile terminal or the user of the service providing device.

30. The sensing access device according to any one of claim 23~29, wherein:

at the time of generating the first code medium or at any time point thereof, the auxiliary information is provided to one or more of the following recipients; or at the time of service providing or collaborating in service providing or at any time point thereof, the auxiliary information is provided to one or more of the following recipients; wherein

the recipients include: the service providing device, the first mobile terminal, the background server, a third party code medium generating device for generating the first code medium, an operator system of the client software, and an operator system of the service providing device.

31. The service providing device according to any one of claims 23~30, wherein:

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

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

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

or, the service providing device is a combination of at least two components that are respectively connected to the first mobile terminal in same or different manners; 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, and a device with a wired or wireless communication interface; 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, and a device with a wires or wireless communication interface.

15 32. A mobile terminal, wherein

the mobile terminal implements connection with a service providing device via an interface arranged in the mobile terminal;

the mobile terminal comprising

an obtaining module configured for obtaining a first code medium of a corresponding type, wherein
20 the obtained first code medium is decoded by a decoding unit configured to any of the mobile terminal, the service providing device, or a background server to obtain corresponding code information, and a code information parsing unit parses the decoded code information to extract corresponding service information;

a transmitting/ receiving unit configured for interacting with the service providing device when a network connection state is offline or online and interacting with the service providing device and/or
25 background server when the network connection state is online; wherein when the network connection state is offline, the service providing device or the mobile terminal does not access a network capable of interacting with the background server, such that the service providing device provides a service independently or through collaboration with the mobile terminal based on the parsed and extracted service information as well as auxiliary information provided or stored in the service providing device; when the
30 network connection state is online, the service providing device or the mobile terminal, or the service

providing device and the mobile terminal, access to a network capable of interacting with one or more background servers, such that the service providing device provides a service independently or through collaboration with the mobile terminal and/or the background server based on the parsed and extracted service information as well as the auxiliary information provided or stored in the service providing device;

5 an input unit for inputting information when interacting with the service providing device and/or the background server;

 a presenting unit for presenting the input information or output information upon interaction, and configured for presenting a first code medium obtained by the mobile terminal, decoded code information, parsed and extracted service information or auxiliary information;

10 wherein the auxiliary information at least includes identification information of any one or more of: a user of the first mobile terminal, a user of the service providing device, the first mobile terminal, and the service providing device, and/or information bound to the identification information.

33. The mobile terminal according to claim 32, wherein:

15 a parameter obtained after parsing the code information is automatically substituted into the client software configured for the mobile terminal, such that the mobile terminal may execute, based on the parsed and extracted service information, a flow of operations set for the mobile terminal in the service information, so as to collaborate for service providing, wherein the substituted parameter comes from the parsed and extracted service information or comes from the service information and the auxiliary
20 information.

34. The mobile terminal according to claim 32 or 33, wherein:

 the mobile terminal is further provided with an acquiring module configured for acquiring attribute information corresponding to one or more of: the user of the mobile terminal, the user of the service
25 providing device, the mobile terminal, or the service providing device; or, configured for acquiring verification information provided by the user so as to check and compare the verification information with verification-comparison information pre-saved in the mobile terminal, the service providing device, or background server.

30 35. The information processing method according to any one of claims 32~34, wherein:

the mobile terminal transmits or receives via the transmitting/ receiving unit: interactive information, an interactive code medium corresponding to the interactive information, interactive code information corresponding to the interactive code medium, a carrier of the interactive code medium, or link information for obtaining the interactive information, the interactive code medium, or the carrier;

5 the interactive code medium sent by the mobile terminal is generated by a code medium generating unit arranged for the mobile terminal or the service providing device based on the interactive code information corresponding to the interactive information, or is received by the mobile terminal via the transmitting/receiving unit;

the code information parsing unit of the service providing device or a further code information parsing
10 unit autonomously configured for the mobile terminal parses the interactive code information corresponding to the interactive code medium received by the service providing device to obtain interactive information sent to the service providing device;

the interactive information transmitted or received by the mobile terminal includes one or more of:
service information;

15 intermediate information needed for service providing;

notification information for feeding back a service providing result;

first identification information, referring to identification information corresponding to any one or more of: the user of the mobile terminal, the user of the service providing device, the mobile terminal, the service providing device, and the background server;

20 second identification information, referring to identification of a third party user, a third party mobile terminal, or a third party server designated by any one or more parties above;

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

attribute information corresponding to one or more of: the user of the mobile terminal, the user of the
25 service providing device, the mobile terminal, or the service providing device.

36. The mobile terminal according to claim 35, wherein:

the presenting unit of the mobile terminal is configured for presenting the first code medium and/or the interactive code medium, such that a further acquiring module configured to the background server may
30 obtain the first code medium and/or the interactive code medium to decode and parse;

the first code medium or the interactive code medium respectively refers to any one or any combination of: 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
5 acoustic wave or radio wave generated with a specific law or a specific frequency variation pattern.

37. The mobile terminal according to any one of claims 32~36, wherein:

the service providing device is any one of a USB device, a memory card, a SIM card, an eSIM card, or a device having a wired or wireless communication interface, and the mobile terminal connected thereto
10 has a corresponding USB interface, a memory card slot or a memory card interface, a SIM card slot or SIM card interface, an eSIM card integration interface, or a wired or wireless communication interface;

or, the mobile terminal is simultaneously connected to at least two components of the service providing device, wherein one component of the service providing device has a code information parsing unit, referring to any one in a first group including a USB device, a memory card, a SIM card, an eSIM
15 card, and a device with a wired or wireless communication interface; the other component in the service providing device has a memory unit, referring to any one in a second group including a USB device, a memory card, a SIM card, an eSIM card, and a device with a wires or wireless communication interface;

or, the mobile terminal is a standalone device or a first combination of a plurality of devices, wherein at least one device of the plurality of devices in the first combination is a wearable device; and the service
20 providing device connected to the mobile terminal refers to a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface;

or, the mobile terminal is a combination of a body part and a plurality of external parts, wherein the acquiring module of the mobile terminal is disposed in the body part; the presenting unit is disposed in the body part or in the at least one external part; the service providing device refers to a USB device, or a
25 memory card, or a SIM card, or an eSIM card, or a device with a wired or wireless communication interface, which is connected to the body part of the mobile terminal or at least one externally connected part.

38. A service providing system, wherein:

30 at least at the time of generating code information or a first code medium corresponding thereto, or at

least at the time of collaborating for service providing, a service providing device is enabled to implement connection with a first mobile terminal via an interface of the first mobile terminal; wherein

the service providing device has a memory unit which stores a predetermined coding rule as well as auxiliary information, wherein the auxiliary information includes identification information of any one or more of: a user of the first mobile terminal, a user of the service providing device, the first mobile terminal, and the service providing device, and/or information bound to the identification information;

a code medium generating unit configured to the service providing device generates, or the service providing device actuates a further code medium generating unit configured to the first mobile terminal to generate, the code information corresponding to the service information and a first code medium corresponding to the code information according to a predetermined coding rule;

a transmitting/ receiving unit configured to the service providing device transmits, or the service providing device actuates a further transmitting/ receiving unit configured to the first mobile terminal to transmit, the first code medium, the corresponding code information for generating the first code medium, link information for obtaining the first code medium or the code information corresponding to the first code medium, or a carrier for the first code medium or the code information or the link information, to a first background server or a second mobile terminal, or releases/to release the same to a place accessible to the first background server or the user of the second mobile terminal, for the first background server or the second mobile terminal to retrieve by themselves;

the first code medium received or the first code medium obtained by the obtaining unit is decoded by the first background server or the second mobile terminal via a decoding unit; the code information received or the code information obtained by the decoding unit is parsed by the first background server or the second mobile terminal via the code information parsing unit so as to extract corresponding service information and obtain the auxiliary information included therein;

the first background server or the second mobile terminal separately provides a service based on the extracted service information, or the first background server or the second mobile terminal provides a service through collaboration with any one or more of following collaborators: the first mobile terminal, the service providing device, one or more third party servers or one or more third party mobile terminals designated by the first mobile terminal, the service providing device, the first background server, or the second mobile terminal.

39. The service providing system according to claim 38, wherein:

the service providing device or the first mobile terminal collaborates in service providing via a client software based on a parameter automatically substituted into the client software;

the parameter substituted into the client software comes from one or more sources below:

5 corresponding code information for generating a first code medium, service information for generating the code information corresponding to the first code medium, code information obtained from decoding the first code medium, service information extracted from the parsed code information, and auxiliary information.

wherein the code information obtained by decoding the first code medium or the service information
10 extracted after parsing the code information is obtained from decoding and parsing by a code information parsing unit respectively configured to the service providing device or the first mobile terminal, or obtained from decoding and parsing by a code information parsing unit respectively configured to the first background server or the second mobile terminal.

15 40. The service providing system according to claim 39, wherein:

the transmitting/ receiving unit of the service providing device or the first mobile terminal provides auxiliary information to one or more of the following recipients at the time of generating the code medium or at any time point therebefore; or provides the auxiliary information to any one or more recipients below at the time of service providing or collaborating for service providing or at any time point therebefore;

20 the recipients include: a first background server, a second mobile terminal, a third party server, a third party mobile terminal, an operator system of the client software, and an operator system of the service providing device.

41. The service providing system according to any one of claims 38~40, wherein:

25 the mobile terminal is provided with a presenting unit for presenting a first code medium generated by the mobile terminal or the service providing device for one or more times; the first background server, the second mobile terminal, the third party server, or the third party mobile terminal decodes and parses the presented first code medium to obtain one or more of the following interactive information:

service information;

30 intermediate information needed for service providing;

notification information for feeding back a service providing result;

identification information of any one or more of: the first mobile terminal, the service providing device, the first background server, the second mobile terminal, the third mobile terminal, the third party server, user of the first mobile terminal, user of the second mobile terminal, user of the third party mobile terminal, an operator of the first background server, or an operator of the third part server;

information correspondingly bound to the identification information of any one or more parties above, and

attribute information corresponding to one or more of: the user of the first mobile terminal, the user of the service providing device, the first mobile terminal, or the service providing device.

42. The service providing system according to any one of claims 38~41, wherein:

the service providing device is any one of a USB device, a memory card, a SIM card, an eSIM card, and a device having a wired or wireless communication interface, and the first mobile terminal connected thereto has a corresponding USB interface, a memory card slot or a memory card interface, a SIM card slot or SIM card interface, eSIM card integration interface, or a wired or wireless communication interface;

or, the service providing device is a combination of at least two components that are respectively connected to the first mobile terminal in same or different manners, wherein one component in the combination has a code information parsing unit, referring to any one in a first group including a USB device, a memory card, a SIM card, an eSIM card, and a device with a wired or wireless communication interface; the other component in the combination has a memory unit, referring to any one in a second group including a USB device, a memory card, a SIM card, an eSIM card, and a device with a wires or wireless communication interface;

or, the first mobile terminal is a standalone device or a combination of a plurality of devices, wherein at least one device of the plurality of devices in the first combination is a wearable device; and the service providing device connected to the first mobile terminal refers to a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface;

or, the first mobile terminal is a combination of a body part and a plurality of external parts, wherein the presenting unit of the first mobile terminal is disposed in the body part or in the at least one external part; the service providing device refers to a USB device, a memory card, a SIM card, an eSIM card, or a device with a wired or wireless communication interface, which is connected to the body part of the mobile

terminal or at least one externally connected part.

43. The service providing system according to claim 42, wherein:

the first mobile terminal is further provided with an acquiring module configured for acquiring
5 attribute information corresponding to one or more of: the user of the first mobile terminal, the user of the
service providing device, the first mobile terminal, or the service providing device, or configured for
acquiring verification information provided by the user so as to check and compare the verification with the
verification-comparison information pre-saved in the first mobile terminal, the service providing device,
the first background server, or the second mobile terminal.

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