

ORDER PROCESSING METHOD, ELECTRONIC DEVICE, STORAGE MEDIUM, AND SYSTEM

TECHNICAL FIELD

[0001] This specification relates to the field of Internet technologies, and in particular, to an
5 order processing method, an electronic device, a storage medium, and a system.

BACKGROUND

[0002] With development of science and technology, payment methods become more
diversified. Conventional cash transactions, card scanning payment, code scanning payment,
biological recognition based payment, etc. greatly enriches payment choices of consumers, and
10 also promotes rapid development and fierce competition of the payment industry.

[0003] In an offline payment scenario, payment smoothness of a POS device of a merchant
directly affects payment experience of the consumers and satisfaction with the merchant, and is an
important indicator for evaluating cash collection experience by an operator of the merchant.
Usually, after a user performs a payment operation for an order, the operator can confirm an actual
15 payment result of the order based on a payment result displayed by the POS device. However, if
the POS device does not display the payment result after the user completes the payment operation,
the operator cannot determine the actual payment result of the order, and may have a standoff with
the user. Consequently, a payment time of the current order is too long, and consumption
experience of another user in the merchant is affected. In addition, cash collection efficiency of
20 the operator is low and cash collection experience is poor.

[0004] Content of the background part is merely information learned of by the inventor, and
neither means that the information has entered a public domain before an application date of the
present disclosure, nor means that the information can become a conventional technology of the
present disclosure.

SUMMARY

[0005] This specification provides an order processing method, an electronic device, a storage medium, and a system. When a POS device of a merchant does not display a payment result, the POS device can guide an operator to mark a payment result of a target order, to avoid a standoff
5 between the operator and a user and affecting consumption experience of another user in the merchant, and improve cash collection experience and cash collection efficiency of the operator.

[0006] According to a first aspect, this specification provides an order processing method, applied to an order management system. The order management system is configured to provide an order management service to a target merchant, and includes a service device and a POS device,
10 and the method is performed by the POS device and includes: after a user performs a payment operation on a target order by using the POS device, if a payment result corresponding to the target order is not received from the service device within first preset duration, displaying a first operation page to an operator of the target merchant, to guide the operator to mark the payment result of the target order; and determining the payment result corresponding to the target order
15 based on mark information provided by the operator on the first operation page.

[0007] According to a second aspect, this specification provides an order processing method, applied to an order management system. The order management system is configured to provide an order management service to a target merchant, and includes a service device and a POS device, and the method is performed by the service device and includes: when a user performs a payment
20 operation on a target order by using the POS device, receiving a payment result of the target order from an acquiring institution, and sending the payment result to the POS device; receiving an operation log corresponding to the target order from the POS device, where the operation log includes mark information of an operator of the target merchant for the target order and/or an identifier of the operator, and the mark information is information marked by the operator for the
25 payment result of the target order when the POS device does not receive the payment result from the service device within first preset duration; and determining, based on the operation log and the payment result, whether the target order is incorrectly marked.

[0008] According to a third aspect, this specification provides an order processing method, applied to an order management system. The order management system is configured to provide
30 an order management service to a target merchant, and includes a service device and a POS device,

and the method includes: after a user performs a payment operation on a target order by using the POS device, receiving a payment result of the target order from an acquiring institution, and sending the payment result to the POS device; if the POS device does not receive the payment result corresponding to the target order from the service device within first preset duration, displaying a first operation page to an operator of the target merchant, to guide the operator to mark the payment result of the target order; and determining, by the POS device, the payment result corresponding to the target order based on mark information provided by the operator on the first operation page.

[0009] According to a fourth aspect, this specification further provides an electronic device, serving as a POS device, and including: at least one storage medium, storing at least one instruction set; and at least one processor, communicatively connected to the at least one storage medium. When running, the at least one processor reads the at least one instruction set, and performs the method according to the first aspect based on an indication of the at least one instruction set.

[0010] According to a fifth aspect, this specification further provides an electronic device, serving as a service device, and including: at least one storage medium, storing at least one instruction set; and at least one processor, communicatively connected to the at least one storage medium. When running, the at least one processor reads the at least one instruction set, and performs the method according to the second aspect based on an indication of the at least one instruction set.

[0011] According to a sixth aspect, this specification provides a computer-readable non-transitory storage medium. The computer-readable non-transitory storage medium stores at least one instruction set, and when the at least one instruction set is executed by at least one processor, the method according to the first aspect, the second aspect, or the third aspect is implemented.

[0012] According to a seventh aspect, this specification provides an order management system, including a POS device and a service device. The service device is configured to: after a user performs a payment operation on a target order by using the POS device, receive a payment result of the target order from an acquiring institution, and send the payment result to the POS device. The POS device is configured to: after the user performs the payment operation on the target order by using the POS device, if the payment result corresponding to the target order is not received from the service device within first preset duration, display a first operation page to an operator of a target merchant, to guide the operator to mark the payment result of the target order; and

determine the payment result corresponding to the target order based on mark information provided by the operator on the first operation page.

[0013] Other functions of the order processing method, the electronic device, the storage medium, and the system provided in this specification are partially listed in the following descriptions. Creative aspects of the order processing method, the electronic device, the storage medium, and the system provided in this specification can be fully explained by practice or by using the methods, devices, systems, and combinations described in the following detailed examples.

BRIEF DESCRIPTION OF DRAWINGS

[0014] To describe the technical solutions in the embodiments of this specification more clearly, the following briefly describes the accompanying drawings needed for describing the embodiments. Clearly, the accompanying drawings in the following descriptions show merely some embodiments of this specification, and a person of ordinary skill in the art can still derive other drawings from these accompanying drawings without creative efforts.

[0015] FIG. 1 is a schematic diagram of an application scenario of an order management system according to an embodiment of this specification;

[0016] FIG. 2 is a schematic diagram of another application scenario of an order management system according to an embodiment of this specification;

[0017] FIG. 3 is a diagram of a hardware structure of an electronic device according to an embodiment of this specification;

[0018] FIG. 4 is a flowchart of an order processing method according to an embodiment of this specification;

[0019] FIG. 5 is a schematic diagram of a first operation page according to an embodiment of this specification;

[0020] FIG. 6 is a flowchart of another order processing method according to an embodiment of this specification; and

[0021] FIG. 7 is a schematic diagram of a second operation page according to an embodiment of this specification.

DESCRIPTION OF EMBODIMENTS

[0022] Specific application scenarios and requirements of this specification are provided in the following descriptions, so that a person skilled in the art can manufacture and use content of this specification. For the person skilled in the art, various local modifications to the disclosed
5 embodiments are clear, and the general principles defined herein can be applied to other embodiments and applications without departing from the spirit and scope of this specification. Therefore, this specification is not limited to the shown embodiments, but has a widest scope consistent with that of the claims.

[0023] The terms used herein are only intended to describe a particular example embodiment,
10 but do not impose a limitation. For example, unless otherwise specified in the context, the singular forms "one", "a", and "the" used herein can also include a plural form. When used in this specification, the terms "include", "comprise", and/or "have" indicate/indicates existence of an associated integer, step, operation, element, and/or component, but does not exclude existence of one or more other features, integers, steps, operations, elements, components, and/or groups, or
15 another feature, integer, step, operation, element, component, and/or group can be added to the system/method.

[0024] In consideration of the following descriptions, these and other features of this specification, operations and functions of related components of the structure, and economy of combination and manufacturing of components can be significantly improved. With reference to
20 the accompanying drawings, all of these form a part of this specification. However, it should be clearly understood that the accompanying drawings are merely used for the purpose of illustration and description, and are not intended to limit the scope of this specification. It should be further understood that the accompanying drawings are not drawn to scale.

[0025] The flowchart used in this specification illustrates operations implemented by a system
25 in some embodiments of this specification. It should be clearly understood that operations in the flowchart can be implemented out of sequence. On the contrary, operations can be implemented reversely or simultaneously. In addition, one or more other operations can be added to the flowchart. One or more operations can be removed from the flowchart.

[0026] Embodiments described in this specification can be applied to an order management
30 scenario of a merchant. The merchant can be merchants that provide various products or services,

including but not limited to a catering merchant, a store, a supermarket, a fruit and vegetable store, a flower store, a bookstore, a hotel, a beauty salon, a dry cleaning store, a barber store, etc. The merchant can be a small/micro merchant, a large merchant, a chain store, etc. This is not limited in this specification.

5 **[0027]** In some embodiments, the merchant can be a merchant that performs service development on an offline channel (in a real store). In this case, an order of the merchant can include an offline order. In some embodiments, the merchant can alternatively be a merchant that performs service development on an online channel (Internet). In this case, an order of the merchant can include an online order. In some embodiments, the merchant can alternatively be a merchant that support service development on both an online channel and an offline channel. In this case, an order of the merchant can include an offline order and an online order.

[0028] In this specification, the online order is a product or service purchase request submitted by a consumer on the online channel (for example, a website or an application). The offline order is a product or service purchase request submitted by the consumer on the offline channel, for example, a product or service purchase request submitted by the consumer with a cashier in a face-to-face manner.

[0029] When the merchant needs to perform service development on the offline channel, the merchant needs to purchase a sales device, and further needs to purchase a dedicated financial appliance from an acquiring institution, to manage the offline order. The financial appliance and the acquiring institution are communicatively connected through a dedicated network. The sales device provides an interaction function, and can display a product or a service sold by the merchant. The cashier of the merchant can help the consumer select the product or service on the sales device and submit an order based on a purchase requirement of the consumer. The order is an offline order. The sales device sends the offline order to the financial appliance. After the consumer performs a payment operation (for example, card scanning or code scanning) on the financial appliance, the financial appliance generates a payment request for the offline order, and sends the payment request to the acquiring institution, so that the acquiring institution completes a payment procedure for the offline order.

[0030] In this specification, the acquiring institution is an institution that signs with the merchant and is responsible for processing a payment request on a merchant side. In some embodiments, the acquiring institution can be a financial institution such as a card issuing bank.

In some embodiments, the acquiring institution can be, for example, a payment service provider of an electronic wallet. In some embodiments, the acquiring institution can alternatively be an aggregation service provider that aggregates a plurality of financial institutions or a plurality of payment service providers.

5 **[0031]** In an offline service development scenario, different consumers may select different payment channels for payment as payment modes are diversified. The merchant needs to be interconnected to a plurality of acquiring institutions, to meet payment requirements of different consumers. In this case, the merchant needs to purchase a financial appliance from each acquiring institution. During service development, the merchant sends, based on a payment channel selected
10 by the consumer, an order to a financial appliance corresponding to the payment channel, so that the financial appliance sends a payment request of the order to an acquiring institution corresponding to the payment channel. Usually, a price of the financial appliance provided by the acquiring institution is relatively high. The merchant purchases the financial appliance from each of a plurality of acquiring institutions, and relatively high purchase costs are generated. In addition,
15 a large quantity of financial appliances need to be placed on a working table of the merchant, and the working table is crowded. In addition, in the face of so many financial appliances, the merchant may use a wrong financial appliance to collect cash, and consequently, cash collection fails, thereby affecting cash collection efficiency.

[0032] When the merchant performs service development on the online channel, the merchant
20 can develop a store mini program, and dispose an access entry (for example, a two-dimensional code) of the store mini program in a store or any other possible location. The consumer accesses the store mini program through the access entry, and submits the order in the store mini program.

[0033] When the merchant performs service development on the online channel, the merchant can further cooperate with different network platforms. The network platform can include but is
25 not limited to a delivery platform, a wallet platform, a social platform, etc. The merchant may be interconnected to different network platforms in different manners. For example, when cooperating with some platforms (for example, a delivery platform), the merchant can apply for opening an online store on these platforms, and place a product or a service of the merchant in the online store, so that a consumer places an order in the online store. For another example, when the
30 merchant cooperates with some other platforms (for example, the wallet platform or the social platform), the store mini program can be placed on these platforms, so that the consumer places

an order in the store mini program.

[0034] In an online service development scenario, the merchant usually needs to cooperate with a plurality of network platforms, to attract more consumers. Therefore, an interconnection between the merchant and the network platform needs to take a lot of effort. In particular, in some geographical areas, each network platform covers a small quantity of consumers, and there are a large quantity of network platforms, for example, there may be hundreds or even thousands of network platforms. In such geographical areas, a quantity of network platforms that need to be interconnected to the merchant is huge, and it needs to take huge effort.

[0035] A sales device used by the merchant for offline service development can only process receiving of an offline order, and cannot receive an online order. To normally accept an order on the network platform, the merchant needs to purchase a dedicated order acceptance device from the network platform. Sometimes, a plurality of network platforms are active in the market, but no network platform is in a market monopoly position. In other words, the plurality of network platforms cover different consumer groups. In this case, if the merchant wants to operate normally, the merchant is forced to cooperate with each of the plurality of network platforms. When the merchant cooperates with the plurality of network platforms, the merchant needs to purchase the order acceptance device from the plurality of network platforms. Consequently, purchases costs are relatively high. In particular, the purchase costs of the merchant are huge when a relatively large quantity of network platforms are interconnected. In addition, a counter of the merchant is crowded if these order acceptance devices are placed on the counter. In addition, in the face of so many order acceptance devices, the merchant tends to be distracted, and does not process an order in a timely manner. Consequently, experience of the consumer is affected.

[0036] Further, when the merchant cooperates with the plurality of network platforms, the merchant has a relatively large quantity of order sources. Orders generated on different network platforms are stored in servers corresponding to the network platforms. When the merchant manages the online order, the merchant needs to visit service devices of different network platforms to perform order management (for example, an order query or order summary). The merchant cannot perform unified management of all orders. In addition, different network platforms may have different operation manners for order management. The merchant needs to be familiar with operation manners of different network platforms. Due to the above-mentioned factors, an order management workload of the merchant is relatively large, and order management

efficiency is relatively low.

[0037] Based on at least one of the technical problems described above, this specification provides an order management system. The order management system can help a merchant implement one-stop order management. To help a reader better understand one-stop order management, the following describes the order management system with reference to FIG. 1.

[0038] FIG. 1 is a schematic diagram of an application scenario 001 of an order management system according to an embodiment of this specification. For ease of understanding, an example in which a catering scenario is taken for description in FIG. 1. As shown in FIG. 1, the order management system can include a point of sale (POS) end 110 (or referred to as a POS device or a front-end device) and a service device 120 (or referred to as a service device, a server, or a back-end device).

[0039] The POS device 110 is a multi-functional terminal. The POS device 110 can be considered as a client of the order management system. In some embodiments, the POS device 110 can be a mobile device, for example, a handheld device. The POS device 110 can be carried by a worker of a merchant to different locations in a store for operation, and there is relatively high convenience. In some embodiments, POS device 110 can be a non-mobile device. In this case, the POS device 110 is usually placed on a checkout counter in an offline store of the merchant.

[0040] In this specification, the POS device 110 can receive an offline order and an online order of the merchant. The POS device 110 can further perform cash collection processing for the offline order. The POS device 110 can also be referred to as a cash collection device or a sales device, or referred to as an all-in-one POS device.

[0041] The POS device 110 is an electronic device with a specific computing capability. In some embodiments, the POS device 110 can include a hardware device with a data processing function and a necessary program needed for driving the hardware device to work. The POS device 110 can manage an order by driving the hardware device to execute the program. For example, the POS device 110 can be installed with order management software (or an order management program). The POS device 110 can manage the order by running the order management software. The order management software can correspond to an operating system installed in the POS device 110, or can correspond to an application (APP) or an instruction set installed in the POS device 110. The order management software can be software preset in the hardware device of the POS device 110 (for example, software built in the POS device 110 when the POS device 110 is

delivered from a factory), or can be software that is later installed in the POS device 110 by the worker of the merchant. This is not limited in this specification.

[0042] In some embodiments, the POS device 110 can have a display, or the POS device 110 can be externally connected to a display. The POS device 110 can provide an interaction capability through the display. For example, the POS device 110 displays, on the display, a product or a service sold by the merchant, and generates an offline order based on a product or a service selected by an operator (the worker of the merchant or a consumer). The POS device 110 can further display a cash collection entry on the display, so that an operator performs a cash collection operation for the offline order.

[0043] When cash collection is performed for the order, the POS device 110 supports a plurality of payment manners, including but not limited to cash payment, card scanning payment, code scanning payment, biological recognition (for example, facial recognition) based payment, near field communication (NFC) based payment, etc.

[0044] In some embodiments, when the POS device 110 supports cash payment, the POS device 110 can be provided with a cash box to store cash.

[0045] In some embodiments, a card reading apparatus 111 can be built in or externally connected to the POS device 110 when the POS device 110 supports card scanning payment. When a built-in manner is used, the card reading apparatus 111 can be disposed at any possible location of the POS device 110. This is not limited in this specification. When an externally connected manner is used, the POS device 110 can be connected to the card reading apparatus 111 in a wired or wireless manner. This is not limited in this specification. A wired connection manner can include but is not limited to a universal serial bus (USB) connection, an Ethernet connection, an optical fiber connection, etc. A wireless connection manner can include but is not limited to a Wi-Fi connection, a Bluetooth connection, etc.

[0046] The card reading apparatus 111 is an apparatus that can read card information of a payment card (for example, a debit card or a credit card) of the consumer according to a preset payment specification. When the consumer selects card scanning payment, the POS device 110 can control the card reading apparatus 111 to enter a card reading mode. The card reading apparatus 111 can read the card information of the payment card according to the preset payment specification in response to that the consumer places the payment card close to, attaches the payment card to, or inserts the payment card into the card reading apparatus.

[0047] In some embodiments, a code scanning apparatus 112 can be built in or externally connected to the POS device 110 when the POS device 110 supports code scanning payment. When a built-in manner is used, the code scanning apparatus 112 can be disposed at any possible location of the POS device 110. This is not limited in this specification. When an externally
5 connected manner is used, the POS device 110 can be connected to the code scanning apparatus 112 in a wired or wireless manner. This is not limited in this specification.

[0048] For example, the code scanning apparatus 112 can be an apparatus with a code scanning capability. For example, the code scanning apparatus 112 can include a camera module. When the consumer chooses to pay the offline order by using a payment code, the POS device 110 can
10 control the code scanning apparatus 112 to enter a scanning mode. In response to that the consumer aligns the payment code with the code scanning apparatus 112, the code scanning apparatus 112 scans code information of the payment code by using the camera module.

[0049] For example, the code scanning apparatus 112 can be an apparatus with a collection code display capability (or the code scanning apparatus 112 can have another name, and this is not
15 limited in this specification). For example, the code scanning apparatus 112 can include a display. When the consumer chooses to pay the offline order by scanning a collection code, the POS device 110 can request collection code information of the offline order from the service device 120. After receiving the collection code information from the service device, the POS device 110 can control the code scanning apparatus 112 to enter a display mode to display the collection code. Therefore,
20 the consumer can scan the collection code by using a terminal device (for example, a mobile phone or a smart watch), to perform a payment operation.

[0050] For example, the code scanning apparatus 112 can be an apparatus with both a code scanning capability and a collection code display capability, and the operator can control the code scanning apparatus 112 to enter a scanning mode or a display mode by using the POS device 110.

[0051] In some embodiments, a photographing apparatus (not shown in FIG. 1) can be built in or externally connected to the POS device 110 when the POS device 110 supports biological
25 recognition based payment. When a built-in manner is used, the photographing apparatus can be disposed at any possible location of the POS device 110. This is not limited in this specification. When an externally connected manner is used, the POS device 110 can be connected to the photographing apparatus in a wired or wireless manner. This is not limited in this specification.
30 For example, when the consumer chooses to use facial scanning payment, the POS device 110 can

control the photographing apparatus to enter a photographing mode. In response to that the consumer aligns a face with the photographing apparatus, the photographing apparatus photographs a face image of the consumer.

[0052] In some embodiments, a near field communication apparatus (not shown in FIG. 1) can be built in or externally connected to the POS device 110 when the POS device 110 supports near field communication based payment. The near field communication apparatus can be disposed at any possible location of the POS device 110. This is not limited in this specification. When the consumer selects near field communication based payment, the POS device 110 can control the near field communication apparatus to enter a communication mode. When the consumer places a terminal device with a near field communication component close to the near field communication apparatus, the near field communication apparatus communicates with the near field communication component in the terminal, to obtain payment information of the order.

[0053] In some embodiments, a printing apparatus 113 can be built in or externally connected to the POS device 110. When a built-in manner is used, the printing apparatus 113 can be disposed at any possible location of the POS device 110. This is not limited in this specification. When an externally connected manner is used, the POS device 110 can be connected to the printing apparatus 113 in a wired or wireless manner. This is not limited in this specification. A printing paper or a label paper can be disposed in the printing apparatus 113. After the consumer successfully pays an order, the POS device 110 can control the printing apparatus 113 to print a ticket or an order label that is of the consumer and that corresponds to the order.

[0054] In some embodiments, the POS device 110 can further include an audio output apparatus (not shown in FIG. 1). The audio output apparatus can be, for example, a speaker. For example, when receiving an online order, the POS device 110 can output voice information by using the audio output apparatus, to remind the worker of the merchant to process the order in a timely manner. For another example, after the consumer performs a payment operation for an offline order by using the POS device 110, in response to that the POS device 110 receives a payment result of the order, the POS device 110 can output voice information by using the audio output apparatus, to indicate that the order is successfully paid or unsuccessfully paid.

[0055] Still as shown in FIG. 1, the service device 120 is a computing system with a specific computing capability. The service device 120 is communicatively connected to the POS device 110, and provides an order management service to the POS device 110. The service device 120

can correspond to a single computing device, or can correspond to a computing cluster including a plurality of computing devices. The service device 120 can be deployed locally, or can be deployed remotely. For example, the service device 120 can be a cloud server. In some embodiments, the service device 120 can include a hardware device with a data processing function and a necessary program needed for driving the hardware device to work. The service device 120 can provide the order management service to the POS device by driving the hardware device to execute the program. In some embodiments, the service device 120 can provide the order management service to the POS device in a software as a service (SaaS) mode.

[0056] In some embodiments, when the service device 120 is deployed remotely, the service device 120 can be connected to POS devices 110 of a plurality of merchants, and provide the order management service to the POS devices 110 of the plurality of merchants. In this case, the service device 120 can perform isolated management on orders of different merchants by using various isolation technologies, to avoid mutual interference between order data of the different merchants, and improve security of the order data. A person skilled in the art can understand that content of the order management service provided by the service device 120 to the POS devices 110 of the different merchants is similar. In the descriptions of this specification, only an example in which the service device 120 provides the order management service to a POS device 110 of one merchant is taken for description.

[0057] A service provided by the service device 120 to the POS device 110 can include an order management service for an offline order, and can further include an order management service for an online order.

[0058] The following describes a working process of the order management system by using a catering scenario as an example.

[0059] With reference to FIG. 1, a catering store can include a front-of-house area and a back-of-house area. The front-of-house area is used to receive a consumer and is used by the consumer for dining. The front-of-house area can also be referred to as a reception area. The back-of-house area is an area in which a cook cooks dishes. The back-of-house area can also be referred to as a preparation area. The POS device 110 is usually located in the front-of-house area. The service device 120 can be located in the front-of-house area, or can be in a cloud.

[0060] A process in which the order management system processes the offline order is follows: As shown in FIG. 1, a consumer A goes to a store to have a dinner. The consumer A notifies a

cashier of a required dish. The cashier selects a corresponding dish on the POS device 110, and places an order. The POS device 110 generates an offline order in response to an order placing operation of the cashier. The POS device 110 sends the offline order to the service device 120, so that the service device 120 stores the offline order. In an example in which the consumer A uses card scanning payment, after the cashier initiates a cash collection operation, the POS device 110 obtains card information of a payment card by using the card reading apparatus 111, and sends the card information to the service device 120. The service device 120 can generate a payment request for the offline order based on the card information, and send the payment request to an acquiring institution, so that the acquiring institution executes a payment procedure of the offline order. The service device 120 can send a payment result of the offline order to the POS device 110 after receiving the payment result from the acquiring institution.

[0061] The order management system can receive online orders from a plurality of online channels. The following provides descriptions by using three cases as examples.

[0062] Case 1: As shown in FIG. 1, the service device 120 can be deployed with a store mini program. A two-dimensional code of the store mini program is disposed on a dining table (or another location) of the store. A consumer B can scan the two-dimensional code by using a terminal device, to view a page of the store mini program. The consumer B selects a desired dish on the page of the mini program, and completes online payment. In this case, the service device 120 generates an online order, stores the online order, and then sends the online order to the POS device 110. Therefore, the POS device 110 receives the online order.

[0063] Case 2: As shown in FIG. 1, the merchant can place the store mini program on a network platform. The following provides descriptions by using an example in which the store mini program is placed on a wallet platform. When a consumer C uses the wallet platform, the consumer C accesses the store mini program on the wallet platform, selects a desired dish on the page of the mini program, and completes online payment. In this case, the wallet platform generates an online order, and sends the online order to the service device 120. After storing the online order, the service device 120 sends the online order to the POS device 110. Therefore, the POS device 110 receives the online order.

[0064] Case 3: As shown in FIG. 1, the merchant can open an online store on a network platform. The following provides descriptions by using an example in which the online store is opened on a delivery platform. When a consumer D uses the delivery platform, the consumer D

accesses the online store of the merchant on the delivery platform, selects a required dish, and completes online payment. In this case, the delivery platform generates an online order, and sends the online order to the service device 120. After storing the online order, the service device 120 sends the online order to the POS device 110. Therefore, the POS device 110 receives the online order.

[0065] It can be learned from the above-mentioned descriptions that an offline order received by the merchant and online orders from all channels are stored in the service device 120. Therefore, the merchant can implement unified management of all orders on the service device 120. Compared with a manner in which the merchant respectively manages orders on different channels, the order management system provided in this specification can improve convenience of order management of the merchant and improve order management efficiency.

[0066] The catering scenario continues to be taken as an example. After receiving an order, the merchant needs to process and cook a dish in the order. In an actual application, after the POS device 110 receives an order (including an offline order and an online order), the POS device 110 can control the printing apparatus to print a kitchen ticket that includes food content of the order, and the kitchen ticket is manually transferred to a back-of-house area. The cook cooks a dish based on the dish content in the kitchen order ticket. In such a manner of manually delivering the kitchen order ticket, a dish is easily cooked wrongly in a peak period of dining, and efficiency is relatively low. Consequently, dining duration of the consumer increases.

[0067] Therefore, in some embodiments of this specification, as shown in FIG. 1, the order management system can further include one or more display devices 130. For example, in the catering scenario, the display device 130 can also be referred to as a kitchen display system (KDS). The display device 130 is disposed in the back-of-house area, and is communicatively connected to the POS device 110. The display device 130 can receive an order from the POS device 110, and display a to-be-cooked dish to the cook, to improve cooking efficiency of the cook and reduce a probability that the cook wrongly cooks. In some embodiments, after a dish is cooked, the cook can further send a dish cooking completion notification to the POS device 110 by using the display device 130, so that the POS device 110 knows an order processing progress.

[0068] In stores of some merchants, the back-of-house area include a plurality of ports. Different ports are equipped with different cooks who are responsible for cooking different types of dishes. With reference to FIG. 1, an example in which the back-of-house area includes a cold

dish port and a hot dish port is used. A cook X1 is responsible for cooking a cold dish and a cook X2 is responsible for cooking a hot dish. In this case, one display device 130 can be disposed in the cold dish port, and is configured to display, to the cook X1, a cold dish that needs to be cooked. One display device 130 can be disposed in the hot dish port, and is configured to display, to the cook X2, a hot dish that needs to be cooked. In this way, dish cooking in different ports does not interfere with each other, to further improve cooking efficiency.

[0069] In the application scenario shown in FIG. 1, the POS device 110 can be connected to each of the service device 120 and the display device 130 through a network.

[0070] It should be noted that in FIG. 1, the catering scenario is used. It can be understood by a person skilled in the art that when the order management system provided in this specification is applied to another scenario, an implementation solution and a technical effect of the order management system are similar to those of the catering scenario, and details are not described for another scenario in this specification.

[0071] It can be learned from the above-mentioned descriptions that the merchant can implement one-stop order management by using the order management system provided in this specification. The one-stop order management is embodied in at least the following aspects:

[0072] (1) The merchant can use one POS device 110 to implement processing of the offline order or implement processing of the online orders from the plurality of online channels. The merchant does not need to be interconnected to each of the plurality of online channels, thereby avoiding energy and time costs required for work docking. In addition, the merchant does not need to purchase an order acceptance device from each of the plurality of online channels, to reduce purchase costs of the merchant.

[0073] (2) All orders received by the POS device 110 are sent to the display device 130 in the back-of-house area in real time, without a need to manually transfer the kitchen ticket. This improves order processing efficiency.

[0074] (3) All orders received by the merchant are stored in the service device 120, and the merchant can implement unified management such as order query or summary on all the orders on the service device 120. The merchant does not need to perform decentralized management on the orders on different network platforms, to improve order management efficiency.

[0075] FIG. 2 is a schematic diagram of an application scenario 002 of an order management system according to an embodiment of this specification. FIG. 2 shows, by using a target merchant

as an example, the scenario 002 in which the order management system provides an order management service for the target merchant. The scenario 002 can include an order management system 100, a terminal device 200, and an acquiring institution 300.

[0076] The terminal device 200 can be a device used by a user to perform a payment operation in the target merchant. For example, the user performs, by using the terminal device 200, a code scanning payment operation or another payment operation in an offline store of the target merchant. This is not limited in this specification. The following mainly provides descriptions by using a code scanning payment operation as an example. The order management system 100 can receive a payment result of an order from the acquiring institution 300 after the user performs code scanning payment.

[0077] For example, the terminal device 200 can present an interaction interface to the user, so that the user performs the code scanning payment operation in the interaction interface, and receives a payment result of a paid order. The terminal device 200 can include a mobile device such as a mobile phone, a tablet computer, or a smart watch that can provide the user with a code scanning payment service. For example, the terminal device 200 can be installed with one or more applications (APPs), and the APP can provide the user with a capability of performing the code scanning payment operation.

[0078] It should be noted that, if the user performs another payment operation (for example, a card scanning payment operation) other than the code scanning payment operation, FIG. 2 may not include the terminal device 200. This is not limited in this specification.

[0079] As shown in FIG. 2, the POS device 110 is deployed in the offline store of the target merchant, and an operator (namely, a worker, briefly referred to as an operator) of the target merchant can place an order on the POS device 110, so that the user can perform the code scanning payment operation on the POS device 110. The service device 120 can receive the payment result of the order from the acquiring institution 300 after the user 200 performs the code scanning payment operation for the order.

[0080] Still as shown in FIG. 2, in actual applications, a geographical area in which the offline store of the target merchant is located may have poor network coverage. In a case, when the service device 120 is deployed remotely, a communication link between the POS device 110 and the service device 120 may be unstable; or when the service device 120 is deployed locally, a communication link between the service device 120 and the acquiring institution 300 may be

unstable.

[0081] Therefore, in an actual payment process, the following phenomenon exists: The service device 120 has a network problem, and a communication link between the service device 120 and the acquiring institution 300 is suddenly interrupted. Consequently, the service device 120 does not receive the payment result from the acquiring institution 300 (not shown in FIG. 2). Alternatively, although the service device 120 receives the payment result from the acquiring institution 300, the POS device 110 has a network problem, and consequently, the POS device does not receive the payment result.

[0082] In the above-mentioned case, the POS device may not display the payment result of the order. In this case, the operator needs to check a network, and analyze an actual payment result of the order. A check process needs to take some time. Consequently, cash collection efficiency and cash collection experience are relatively low. In view of this, this specification provides an order processing method, to overcome the above-mentioned problems.

[0083] In some embodiments, the POS device 110 and the service device 120 cooperate with each other, to perform the order processing method provided in this embodiment of this specification. The POS device 110 and the service device 120 can store data and instructions used to implement the order processing method, and can execute or be configured to execute the data and instructions. In some embodiments, the POS device 110 and the service device 120 can include a hardware device with a data information processing function and a necessary program needed for driving the hardware device to work.

[0084] FIG. 3 is a diagram of a hardware structure of an electronic device 400 according to an embodiment of this specification. In some embodiments, the electronic device 400 can serve as the POS device 110 or the service device 120 in FIG. 1 or FIG. 2.

[0085] As shown in FIG. 3, the electronic device 400 can include at least one storage medium 430 and at least one processor 420. In some embodiments, the electronic device 400 can further include a communication port 450 and an internal communication bus 410. In addition, the electronic device 400 can further include an I/O component 460.

[0086] The internal communication bus 410 can be connected to different system components. For example, the internal communication bus 410 can be connected to the storage medium 430, the processor 420, the communication port 450, and the I/O component 460.

[0087] The I/O component 460 supports an input/output between the electronic device 400

and another component.

[0088] The communication port 450 is used for data communication between the electronic device 400 and the outside. For example, the communication port 450 can be used for data communication between the electronic device 400 and a network. The communication port 450 can be a wired communication port, or can be a wireless communication port.

[0089] In some embodiments, the network can be any type of wired or wireless network, or a combination thereof. For example, the network can include a cable network, a wired network, an optical fiber network, a telecommunication network, an intranet, the internet, a local area network (LAN), a wide area network (WAN), a wireless local area network (WLAN), a metropolitan area network (MAN), a public switched telephone network (PSTN), a Bluetooth networkTM, a short-range wireless network (ZigBeeTM), a near field communication (NFC) network, or a similar network.

[0090] In some embodiments, the network can include one or more network access points. For example, the network can include a wired or wireless network access point, for example, a base station or an Internet switching point. Through the access point, one or more components in each device corresponding to the electronic device 400 can be connected to the network to exchange data or information.

[0091] The storage medium 430 can include a data storage apparatus. The data storage apparatus can be a non-transitory storage medium, or can be a transitory storage medium. For example, the data storage apparatus can include one or more of a disk 432, a read-only storage medium (ROM) 434, or a random access storage medium (RAM) 436. The storage medium 430 further includes at least one instruction set stored in the data storage apparatus. The instruction set can include computer program code, and the computer program code can include a program, a routine, an object, a component, a data structure, a process, a module, etc. for performing the order processing method provided in this specification.

[0092] The processor 420 can be communicatively connected to the storage medium 430. The processor 420 is configured to execute the at least one instruction set. When the electronic device 400 runs, the processor 420 reads the at least one instruction set, and performs, based on an indication of the at least one instruction set, the order processing method provided in this specification.

[0093] The processor 420 can be in a form of one or more processors. In some embodiments,

the processor 420 can include one or more hardware processors, for example, a microcontroller, a microprocessor, a reduced instruction set computer (RISC), an application-specific integrated circuit (ASIC), an application-specific instruction set processor (ASIP), a central processing unit (CPU), a graphics processing unit (GPU), a physical processing unit (PPU), a microcontroller unit, a digital signal processor (DSP), a field programmable gate array (FPGA), an advanced RISC machine (ARM), a programmable logic device (PLD), any circuit or processor that can perform one or more functions, or any combination thereof.

[0094] To merely describe a problem, only one processor 420 is shown in the electronic device 400 in the accompanying drawings. However, it should be noted that, the electronic device 400 in this specification can further include a plurality of processors. Therefore, the operations and/or method steps disclosed in this specification can be performed by one processor, or can be jointly performed by a plurality of processors in this specification. For example, if the processor 420 in the electronic device 400 in this specification performs step A and step B, it should be understood as that step A and step B can be jointly or separately performed by two different processors 420 (for example, a first processor performs step A, and a second processor performs step B, or a first processor and a second processor jointly perform step A and step B).

[0095] FIG. 4 is a flowchart of an order processing method P500 according to an embodiment of this specification. As shown in FIG. 4, the order processing method P500 is performed by a POS device, a service device, and an acquiring institution, and includes the following steps.

[0096] S510: An operator performs an order placing operation on the POS device, to generate a target order.

[0097] The POS device can provide an order placing service to a target merchant, or can provide a cash collection service to a target merchant. This specification sets no limitation on a capability of the POS device. The cash collection service is, for example, that the POS device can display a collection code to a user in a face-to-face manner.

[0098] The target order can be a to-be-paid order initiated by the operator based on an object or a service purchased by the user.

[0099] S512: The POS device sends order information of the target order to the service device. Correspondingly, the service device receives the order information.

[0100] For example, if a payment operation selected by the user for the target order is a code scanning payment operation, the POS device needs to display a collection code corresponding to

the target order. The collection code needs to be provided by an acquiring institution or a downstream institution of the acquiring institution. In this case, the POS device can send the order information of the target order to the service device, so that the service device can request, based on the order information, the acquiring institution or the downstream institution for collection information that can be used to generate the collection code.

[0101] The downstream institution can be a financial institution such as a card issuing bank. This is not limited in this specification.

[0102] The order information includes but is not limited to an order code or an order number, a to-be-paid amount, etc. This is not limited in this specification.

[0103] The code scanning payment operation is, for example, that the user performs a payment operation by scanning, by the terminal device 200, the collection code displayed by the POS device.

[0104] S514: The service device sends a payment instruction corresponding to the target order to the acquiring institution. Correspondingly, the acquiring institution receives the payment instruction.

[0105] For example, the payment instruction is used to request the acquiring institution or the downstream institution to provide collection information corresponding to the target order, and collection information corresponding to different countries or regions can be different. In other words, collection code standards of different countries or regions are different. Therefore, after receiving payment instructions corresponding to different countries or regions, the acquiring institution sends different collection information to the service device.

[0106] S516: The acquiring institution sends the collection information corresponding to the target order to the service device. Correspondingly, the service device receives the collection information.

[0107] The collection information can include information such as a to-be-paid amount. For example, the collection information can be a collection code, or can be information used to generate the collection code, for example, a uniform resource locator (URL). This is not limited in this specification.

[0108] S518: The service device sends the collection information corresponding to the target order to the POS device. Correspondingly, the POS device receives the collection information.

[0109] S520: The POS device displays the collection code corresponding to the target order to the user.

[0110] For example, if the collection information includes the collection code corresponding to the target order, the POS device directly displays the collection code. Alternatively, if the collection code includes the URL, the POS device can generate and display the collection code based on the URL. The user can scan the collection code by using the terminal device 200, to
5 complete the code scanning payment operation.

[0111] In some embodiments, the payment operation selected by the user can be a card scanning payment operation, a biological recognition payment operation, etc.

[0112] For example, the card scanning payment operation is a payment operation performed by the user on the POS device by using a bank card or another payable card. The biological
10 recognition payment operation is a payment operation performed by the user on the POS device based on biological information such as a human face.

[0113] FIG. 4 shows a procedure related to the order processing method P500 by using the code scanning payment operation as an example. This specification is not limited thereto. For example, when the payment operation is the card scanning payment operation, before the acquiring
15 institution sends a payment result to the service device, S512 to S520 in the order processing method P500 can be replaced with the following: After the user performs the payment operation, the POS device sends a payment request for the target order to the service device, and the service device sends the payment request to the acquiring institution, so that the acquiring institution determines a payment result of the target order.

[0114] S530: The acquiring institution sends the payment result of the target order to the service device after the user performs the payment operation for the target order on the POS device by using the terminal device 200. Correspondingly, the service device receives the payment result of the target order.

[0115] The payment result represents that actual payment of the target order succeeds or actual
25 payment fails.

[0116] That the actual payment succeeds can be understood as follows: A fund transfer is not completed for a payment amount involved in the target order. In other words, funds in a payment account of the user are not changed for the target order.

[0117] That the actual payment fails can be understood as follows: A fund transfer is completed
30 for the payment amount involved in the target order. In other words, the funds in the payment account of the user are changed for the target order. For example, the payment account of the user

is reduced by an amount corresponding to the target order.

[0118] For example, the payment operation is the code scanning payment operation. After the user scans the collection code of the POS device by using the terminal device 200, the terminal device 200 can send the payment request corresponding to the target order to the acquiring institution 300. The acquiring institution can forward the payment request to the downstream institution, so that the acquiring institution can also receive the payment result of the target order from the downstream institution, and forward the payment result to the service device. The user can learn of the payment result in real time in a process of the code scanning payment operation. According to the order processing method provided in this specification, a confirmation delay of the operator for the payment result after the user performs the payment operation can be reduced, to avoid a case in which the operator spends too long time on one order and consumption experience of another user is affected.

[0119] In some embodiments, the order processing method P500 further includes:

[0120] S532: The service device stores the payment result of the target order in a database after receiving the payment result of the target order.

[0121] The database can be a local database of the service device, or can be a cloud database. This is not limited in this specification.

[0122] For example, the service device can store received payment results of all orders in the database. An identifier of the order and the payment result of the order can be stored. The identifier of the order includes but is not limited to the order number.

[0123] S534: The service device sends the payment result to the POS device after receiving the payment result of the target order.

[0124] In S534, the POS device may not receive the payment result of the target order due to a network problem. The POS device can display the payment result of the target order to the operator when the POS device receives the payment result. The following mainly describes an execution procedure in which the POS device does not receive the payment result.

[0125] S540: Display a first operation page to the operator if the payment result corresponding to the target order is not received from the service device within first preset duration.

[0126] A start moment of the first preset duration can be a moment at which the POS device displays the collection code. The first preset duration can be a value preconfigured by the service device for the POS device, or can be an empirical value that is collected by the service device

based on time consumed by historical orders paid in different payment manners, for example, average payment duration, maximum payment duration, etc. of the historical orders. This is not limited in this specification.

[0127] For example, the preset duration is any duration within 1 minute (min) or 30 seconds (s), for example, 3 seconds (s), 4s, 5s, 6s, 7s, 8s, 9s, 10s, or other approximate duration. This is not limited in this specification.

[0128] In some embodiments, the first operation page includes guidance information for guiding the operator to confirm an operation result corresponding to the payment operation with the user and mark the target order as "payment succeeds" or "payment fails" based on the operation result. In this embodiment, the POS device can automatically display the first operation page, to guide the operator to make a mark, thereby implementing simplicity and improving processing efficiency of the target order. After the user receives the payment result, the operator does not need to continue to spend too much time waiting for the POS device to display the payment result, thereby reducing consumption of another user.

[0129] For example, as shown in (a) in FIG. 5, for the target order, the guidance information displayed on the first operation page is "Please mark an order 112354***** as the following state", and two keys "Payment succeeds" and "Payment fails" are displayed. In a process in which the operator and the user communicate, if the user indicates that the payment result displayed on the terminal device 200 is "payment succeeds", the operator can mark the target order as "payment succeeds", for example, tap the key "Payment succeeds". In the process in which the operator and the user communicate, if the user indicates that the payment result displayed on the terminal device 200 is "Payment fails", the operator can mark the target order as "payment fails", for example, tap the key "Payment fails".

[0130] As shown in (b) in FIG. 5, for the target order, the guidance information displayed on the first operation page is "Are you sure you want to mark a payment result of an order 112354***** as "Payment succeeds"", and two keys "Yes" and "No" are displayed. In the process in which the operator and the user communicate, if the user indicates that the payment result displayed on the terminal device 200 is "payment fails", the operator can mark the target order as "payment succeeds", for example, tap the key "Yes". In the process in which the operator and the user communicate, if the user indicates that the payment result displayed on the terminal device 200 is "Payment fails", the operator can tap the key "No".

[0131] It can be understood that, for the target order, the payment result marked by the operator on the POS device is a payment result provided by the user, and may be the same as or different from an actual payment result. For example, when the user deceives or the operator makes a wrong mark, the marked payment result is different from the actual payment result.

5 **[0132]** S542: The POS device determines the payment result corresponding to the target order based on mark information provided by the operator on the first operation page.

[0133] For example, as shown in (a) in FIG. 5, if the operator taps the key "Payment succeeds", the POS device can determine that the payment result of the target order is "Payment succeeds"; or if the operator taps the key "Payment fails", the POS device can determine that the payment
10 result of the target order is "Payment fails".

[0134] For example, as shown in (b) in FIG. 5, if the operator taps the key "Yes", the POS device can determine that the payment result of the target order is "Payment succeeds"; or if the operator taps the key "No", the POS device can determine that the payment result of the target order is "Payment fails".

15 **[0135]** In some embodiments, the order processing method P500 further includes:

[0136] S550: The POS device sends an operation log to the service device. Correspondingly, the service device receives the operation log. The operation log includes mark information of the operator for the target order and/or an identifier of the operator.

[0137] For example, before the POS device sends the operation log, the POS device can
20 generate the operation log corresponding to the target order based on a specific operation of the operator on the first operation page. After generating the operation log, the POS device can store the operation log in a preset storage unit, to avoid a problem that sending of the operation log fails in a short period of time, and subsequent execution of the service device is affected after the operation log is lost.

25 **[0138]** For example, the preset storage unit is a non-volatile storage unit. In this way, it can be ensured that the operation log stored in the preset storage unit is not lost after the POS device is powered off due to a power failure or another reason. Therefore, all operation logs of an order marked by the operator can be sent to the service device for processing.

[0139] In this embodiment, the service device can determine, based on the operation log,
30 whether the operator makes a wrong mark, so that the POS device and the service device unify the payment result of the target order, thereby avoiding a problem of confusion in order management.

[0140] The POS device can send the operation log in a plurality of manners. The following uses three examples. This specification is not limited thereto.

[0141] Manner 1

5 **[0142]** The POS device can periodically send the operation log to the service device at a preset time interval until the service device successfully receives the operation log. In this manner, a case in which the service device cannot receive the operation log due to a network problem can be avoided, so that the service device cannot learn of mark content of the operator.

[0143] The POS device can determine, based on whether the service device feeds back a reception success message, whether the service device successfully receives the operation log. For
10 example, if the POS device receives the reception success message from the service device after sending the operation log, the POS device determines that the service device successfully receives the operation log. When the POS device does not receive the reception success message from the service device after sending the operation log, the POS device further needs to continue to send the operation log.

15 **[0144]** Manner 2

[0145] The POS device can periodically monitor a communication link between the POS device and the service device at a preset time interval, and send the operation log to the service device when it is detected that the communication link is normal. Therefore, power consumption and a resource waste that are caused by periodically sending the operation log by the POS device
20 when the communication link is abnormal are avoided.

[0146] In Manner 2, the POS device can determine, based on whether the service device feeds back a reception success message, whether the service device successfully receives the operation log.

[0147] Manner 3

25 **[0148]** The POS device obtains the operation log corresponding to the target order from the preset storage unit, and sends the operation log to the service device. For example, the POS device can constantly view the operation log in the preset storage unit through a thread, and poll and send an operation log that is not successfully sent.

[0149] For example, the POS device can obtain the operation log corresponding to the target
30 order from the preset storage unit at a preset time interval, and periodically send the operation log to the service device, until a reception confirmation message of the operation log is received from

the service device.

[0150] For example, the preset storage unit stores operation logs of a plurality of paid orders, and the plurality of paid orders include the application target order. The POS device periodically sends the operation logs respectively corresponding to the plurality of paid orders to the service device at the preset time interval. Specifically, in a period, the POS device can send the operation logs respectively corresponding to the plurality of paid orders by using one message, or send the operation logs respectively corresponding to the plurality of paid orders by using a plurality of messages. This is not limited in this specification.

[0151] For example, the POS device can periodically monitor a communication link between the POS device and the service device at a preset time interval, obtain the operation log corresponding to the target order from the preset storage unit when it is detected that the communication link is normal, and send the operation log to the service device. The POS device can further receive the reception confirmation message corresponding to the operation log from the service device.

[0152] For example, the preset storage unit stores operation logs of a plurality of paid orders, and the plurality of paid orders include the application target order. The POS device sends the operation logs respectively corresponding to the plurality of paid orders to the service device when periodically detecting that the communication link is normal. Specifically, when the communication link is normal, the operation logs respectively corresponding to the plurality of paid orders are sent by using one message, or the operation logs respectively corresponding to the plurality of paid orders are sent by using a plurality of messages. This is not limited in this specification.

[0153] In this embodiment of this specification, the preset time interval is, for example, 1 min, 3 min, 5 min, 3s, 5s, or 10s. This is not limited in this specification.

[0154] After determining that the operation log is successfully sent, the POS device can delete the operation log corresponding to the target order from the preset storage unit, to save memory.

[0155] In some embodiments, the order processing method P500 further includes:

[0156] S552: The service device determines, based on the operation log and the payment result, whether the target order is incorrectly marked.

[0157] Content of the operation log can be in a plurality of forms. The following uses three examples to describe an operation performed after the service device receives the operation log.

[0158] Form 1: The operation log includes the identifier of the operator corresponding to the target order.

[0159] For example, the POS device sends the operation log only when the service device and the POS device considers by default that the operator marks the target order as "payment succeeds".

5 To be specific, if the service device receives the operation log from the POS device, it indicates that the operator marks the target order as "payment succeeds"; or if the service device does not receive the operation log from the POS device, it indicates that the operator does not perform a mark operation or the operator chooses to mark the payment result as "payment fails". For example, the operator selects "Payment fails" in (a) in FIG. 5 or "No" in (b) in FIG. 5.

10 **[0160]** For example, after the service device receives the operation log corresponding to the target order, the service device queries the payment result of the target order from the database (namely, a database used to store a payment result of each order) based on the operation log. If the payment result is "payment fails", the service device determines that the target order is incorrectly marked; or if the payment result is "payment succeeds", the service device determines that the
15 target order is not incorrectly marked. If the service device does not receive the operation log corresponding to the target order, the service device can query the payment result of the target order from the database. If the payment result is "payment fails", the service device determines that the target order is not incorrectly marked; or if the payment result is "payment succeeds", the service device determines that the target order is incorrectly marked.

20 **[0161]** In a default case of the service device and the POS device, the service device can determine, based on whether the operation log is received and the stored payment result, whether the operator makes a wrong mark. Therefore, the operation log does not need to carry specific mark information, thereby reducing communication resources.

[0162] Form 2: The operation log includes the mark information of the operator for the target
25 order.

[0163] For example, the operation log includes the mark information of the operator for the target order, and the mark information represents "payment succeeds" or "payment fails". The service device can query the payment result of the target order from the database (namely, the database used to store the payment result of each order) based on the operation log. If the mark
30 information is inconsistent with the payment result, the service device determines that the target order is incorrectly marked; or if the mark information is consistent with the payment result, the

service device determines that the target order is not incorrectly marked.

[0164] In a non-default case of the service device and the POS device, the service device can determine the mark information of the operator based on the mark information in the operation log, to learn, based on the mark information, of whether the operator makes a wrong mark, thereby facilitating accurate management of a paid historical order.

[0165] Form 3: The operation log includes the identifier of the operator and the mark information of the operator for the target order.

[0166] For example, the service device can query the payment result of the target order from the database (namely, the database used to store the payment result of each order) based on the operation log. If the mark information is inconsistent with the payment result, the service device determines that the target order is incorrectly marked; or if the mark information is consistent with the payment result, the service device determines that the target order is not incorrectly marked. In this way, the service device can further lock the operator when determining that the target order is incorrectly marked.

[0167] In some embodiments, when the target order is incorrectly marked, the order processing method P500 further includes: The service device generates alarm information corresponding to the target order based on the operation log, and sends or stores the alarm information.

[0168] For example, corresponding to Form 1, the operation log includes the identifier of the operator. When determining that the target order is incorrectly marked, the service device can generate the alarm information based on the order information and the identifier of the operator. The alarm information includes the order information of the target order and the identifier of the operator, and can further include the mark information of the target order. For example, default mark information is "payment succeeds". When the service device does not receive the operation log, the generated alarm information can include the order information of the target order, and can further include the mark information of the target order. For example, default mark information is "payment fails". A manager of the target merchant can lock the operator indirectly based on an order in the alarm information.

[0169] For example, corresponding to Form 2, the operation log includes the mark information of the operator for the target order. When determining that the target order is incorrectly marked, the service device can generate the alarm information based on the order information and the mark information. The alarm information includes the order information of the target order and the mark

information. A manager of the target merchant can lock the operator indirectly based on an order in the alarm information.

[0170] For example, corresponding to Form 3, the operation log includes the identifier of the operator and the mark information that correspond to the target order. When determining that the target order is incorrectly marked, the service device can generate the alarm information based on the order information, the identifier of the operator, and the mark information. To be specific, the alarm information includes the order information of the target order, the identifier of the operator, and the mark information. A manager of the target merchant can lock the operator directly based on the alarm information.

[0171] In the above-mentioned example, when determining that the operator makes a wrong mark, the service device can generate the alarm information, and send the alarm information to the manager of the target merchant, or store the alarm information to be queried by the manager, so that the manager can determine, based on the alarm information, whether the operator makes a malicious mark, to reduce a capital loss caused by the malicious mark, and help the target merchant accurately manage the order.

[0172] For example, the service device pre-stores information such as an email and a phone of the manager, and can select a corresponding sending manner based on the stored information, to send the alarm information to the manager.

[0173] FIG. 6 is a flowchart of an order processing method P600 according to an embodiment of this specification. As shown in FIG. 6, the order processing method P600 is performed by a POS device, a service device, and an acquiring institution, and includes the following steps.

[0174] S610: An operator performs an order placing operation on the POS device, to generate a target order.

[0175] S612: The POS device sends order information of the target order to the service device.

Correspondingly, the service device receives the order information.

[0176] S614: The service device sends a payment instruction corresponding to the target order to the acquiring institution. Correspondingly, the acquiring institution receives the payment instruction.

[0177] S616: The acquiring institution sends collection information corresponding to the target order to the service device. Correspondingly, the service device receives the collection information.

[0178] S618: The service device sends the collection information corresponding to the target

order to the POS device. Correspondingly, the POS device receives the collection information.

[0179] S620: The POS device displays a collection code corresponding to the target order to a user.

[0180] S630: The acquiring institution sends a payment result of the target order to the service device after the user performs a payment operation for the target order on the POS device by using the terminal device 200. Correspondingly, the service device receives the payment result of the target order.

[0181] In some embodiments, the order processing method P600 further includes:

[0182] S632: The service device stores the payment result of the target order in a database after receiving the payment result of the target order.

[0183] S634: The service device sends the payment result to the POS device after receiving the payment result of the target order.

[0184] In S634, the POS device may not receive the payment result of the target order due to a network problem. The POS device can display the payment result of the target order to the operator when the POS device receives the payment result. The following mainly describes an execution procedure in which the POS device does not receive the payment result.

[0185] It can be understood that S610 to S634 are similar to S510 to S534. For specific content, refer to the above-mentioned descriptions. Details are not described again.

[0186] S642: The POS device sends a query request corresponding to the target order to the service device if the POS device does not receive the payment result corresponding to the target order from the service device within first preset duration. Correspondingly, the service device receives the query request. The query request is used to query the payment result of the target order.

[0187] For example, if the POS device does not receive the payment result corresponding to the target order from the service device within the first preset duration, the POS device can automatically send the query request, to improve intelligence of the POS device and reduce operation complexity of the operator. The query request can be sent one time, or can be sent a plurality of times. When the query request is sent a plurality of times, the query request can be sent periodically. For a specific sending manner, refer to the above-mentioned related descriptions of sending the operation log. Details are not described again. In addition to automatically sending the query request by the POS device, the query request can be sent by the operator through manual confirmation.

[0188] In some embodiments, the order processing method P600 further includes:

[0189] S640: The POS device displays a second operation page to the operator if the POS device does not receive the payment result corresponding to the target order from the service device within the first preset duration, to ask the operator whether to query the service device for the payment result of the target order.

[0190] For example, as shown in FIG. 7, the second operation page displays guidance information "Are you sure you want to query a payment result of an order 112354*****", to guide the operator to determine, based on a willingness of the operator, whether to send the query request, to avoid an unnecessary communication resource waste.

[0191] The POS device sends the query request to the service device in response to a query operation performed by the operator on the second operation page.

[0192] For example, as shown in FIG. 7, the POS device sends the query request if the operator taps a key "Yes"; or the POS device does not send the query request if the operator taps a key "No".

[0193] When the POS device determines, based on the query operation performed by the operator, to send the query request to the service device, the POS device can send the query request one time, or can send the query request a plurality of times. For details, refer to the above-mentioned related descriptions of sending the operation log. Details are not described again.

[0194] In this embodiment, when the POS device does not receive the payment result within the first preset duration, the POS device can first query the payment result, to display an actual payment result on the POS device as far as possible, reduce manual marks, and improve accuracy of the payment result confirmed by the POS device.

[0195] S644: The service device sends a query result corresponding to the query request to the POS device.

[0196] For example, after receiving the query request, the service device can query the payment result of the target order from the database (namely, the database used to store the payment result of each order). When the payment result is "actual payment succeeds", the service device sends, to the POS device, a query result that represents "payment succeeds"; or when the payment result is "actual payment fails", the service device sends, to the POS device, a query result that represents "payment fails".

[0197] For example, after receiving the query request, if no payment result of the target order is queried from the database (for example, the service device is deployed locally, and does not

receive the payment result due to a network problem), the service device can send the query request to the acquiring institution, receive the query result corresponding to the query request from the acquiring institution, and forward the query result to the POS device.

[0198] After S644, there may be two cases. Case 1 is that the POS device receives the query result. Case 2 is that the POS device does not receive the query result. The following separately describes the two cases.

[0199] Case 1

[0200] The POS device performs S646 if the POS device receives the query result corresponding to the query request from the service device within the second preset duration.

[0201] For example, a start moment of the second preset duration can be a sending moment of the query request. A time length corresponding to the second preset duration can be the same as or different from a time length corresponding to the first preset duration. This is not limited in this specification.

[0202] S646: The POS device determines the payment result corresponding to the target order based on the query result.

[0203] When receiving the query result, the POS device can directly determine the payment result corresponding to the target order, to improve accuracy of managing the payment result of the order by the POS device. For example, if the query result represents "payment fails", the POS device determines that the payment result corresponding to the target order is "payment fails"; or if the query result represents "payment succeeds", the POS device determines that the payment result corresponding to the target order is "payment succeeds".

[0204] Case 2

[0205] The POS device performs S646' and S648' if the POS device does not receive the query result corresponding to the query request from the service device within the second preset duration.

[0206] S646': Display the first operation page to the operator if the POS device does not receive the payment result corresponding to the target order from the service device within the second preset duration.

[0207] S648: The POS device determines the payment result corresponding to the target order based on the mark information provided by the operator on the first operation page.

[0208] It can be understood that S646' and S648' are similar to S540 and S542. For details, refer to related descriptions in S540 and S542. Details are not described again.

[0209] In Case 2, when the POS device does not receive the query result within the second preset duration, the operator can communicate with the user to mark the payment result of the target order, to reduce a delay of confirming the payment result on the POS device, to balance accuracy of the payment result determined by the POS device and processing efficiency of the target order, and avoid affecting consumption of another user.

[0210] In some embodiments, Case 2 further includes S650' and S652'.

[0211] S650': The POS device sends the operation log to the service device. Correspondingly, the service device receives the operation log. The operation log includes the mark information of the operator for the target order and/or the identifier of the operator.

[0212] S652': The service device determines, based on the operation log and the payment result, whether the target order is incorrectly marked.

[0213] It can be understood that S650' to S652' are similar to S550 to S552. For specific content, refer to related descriptions of S550 to S552. Details are not described again.

[0214] For some procedures, terms, embodiments, and beneficial effects involved in the order processing method P600, refer to the content in the order processing method P500. Details are not described again.

[0215] In conclusion, according to the order processing method, the electronic device, the storage medium, and the system that are provided in this specification, in an offline payment scenario, when the POS device does not receive the payment result, the operator can mark the payment result of the target order based on communication with the user, to avoid a case in which there is a standoff with the user in terms of a current order due to a delay of waiting for displaying the payment result by the POS device, and consumption experience of another user in the merchant is affected. In addition, the operator can correspondingly make a mark under guidance on an operation page, and it is easy to do, so that cash collection experience and cash collection efficiency of the operator can be improved.

[0216] Another aspect of this specification provides a computer-readable non-transitory storage medium, storing at least one group of executable instructions used to perform order processing. When the executable instructions are executed by a processor, the executable instructions instruct the processor to implement the steps of the method P500 or P600 described in this specification. In some possible implementations, aspects of this specification can further be implemented in a form of a program product, including program code. When the program product

runs on an electronic device 400, the program code is used to enable the electronic device 400 to perform the steps of the method P500 or P600 described in this specification. The program product configured to implement the above-mentioned method can be a portable compact disc read-only memory (CD-ROM) that includes program code, and can run on the electronic device 400.

5 However, the program product in this specification is not limited thereto. In this specification, a readable storage medium can be any tangible medium that includes or stores a program, and the program can be used by or in combination with an instruction execution system. The program product can be any combination of one or more readable media. The readable medium can be a readable signal medium or a readable storage medium. The readable storage medium can be, for
10 example, an electrical system, apparatus, or device, a magnetic system, apparatus, or device, an optical system, apparatus, or device, an electromagnetic system, apparatus, or device, an infrared system, apparatus, or device, or a semiconductor system, apparatus, or device, or any combination thereof. More specific examples of the readable storage medium include: an electrical connection including one or more conducting wires, a portable disk, a hard disk, a random access memory
15 (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or flash memory), an optical fiber, a portable compact disc read-only memory (CD-ROM), an optical storage component, a magnetic storage component, or any proper combination thereof. The computer-readable storage medium can include a data signal propagated in a baseband or as part of a carrier, and carries readable program code. The propagated data signal can be in a plurality of
20 forms, and includes but is not limited to an electromagnetic signal, an optical signal, or any proper combination thereof. The readable storage medium can further be any readable medium other than the readable storage medium, and the readable medium can be used to send, propagate, or transmit a program used by or in combination with an instruction execution system, apparatus, or component. The program code included in the readable storage medium can be transmitted in any
25 proper medium, including but not limited to a wireless medium, a wired medium, optical cable, an RF medium, or any proper combination thereof. Program code for performing an operation of this specification can be written in any combination of one or more program design languages. The program design language includes an object-oriented program design language, for example, Java or C++, and further includes a conventional procedural program design language, for example,
30 "C" language, or a similar program design language. The program code can be completely executed on the electronic device 400, partially executed on the electronic device 400, executed

as an independent software package, partially executed on the electronic device 400 and partially executed on a remote computing device, or completely executed on a remote computing device.

[0217] In the embodiments of this specification, the term "and/or" describes an association relationship between associated objects and indicates that three relationships may exist. For example, "A and/or B" may indicate the following three cases: Only A exists, both A and B exist, and only B exists. The character "/" usually indicates an "or" relationship between the associated objects.

[0218] The terms such as "first" and "second" in this specification are intended to distinguish between similar or same types of objects or entities, but do not necessarily indicate a specific order or sequence.

[0219] "Plurality of" mentioned in this specification shall be understood as two or more unless otherwise specified.

[0220] Specific embodiments of this specification are described above. Other embodiments fall within the scope of the appended claims. In some cases, the actions or steps described in the claims can be performed in an order different from that in the embodiments, and the desired results can still be achieved. In addition, the process depicted in the accompanying drawings does not necessarily need a particular order or consecutive order to achieve the desired results. In some implementations, multitasking and parallel processing are possible or may be advantageous.

[0221] In conclusion, after reading the detailed disclosure, a person skilled in the art can understand that the detailed disclosure can be presented only in an example manner, and can impose no limitation. Although it is not explicitly stated here, a person skilled in the art can understand that the requirements of this specification include various proper changes, improvements, and modifications to the embodiments. These changes, improvements, and modifications are intended to be presented in this specification, and fall within the spirit and scope of the example embodiments of this specification.

[0222] In addition, some terms in this specification are used to describe the embodiments of this specification. For example, "one embodiment", "an embodiment", and/or "some embodiments" mean that particular features, structures, or characteristics described with reference to the embodiments can be included in at least one embodiment of this specification. Therefore, it can be emphasized and understood that two or more of "an embodiment", "one embodiment", or "alternative embodiments" referred in parts of this specification do not necessarily indicate the

same embodiment. In addition, particular features, structures, or characteristics can be properly combined in one or more embodiments of this specification.

[0223] It should be understood that in the above-mentioned descriptions of the embodiments of this specification, to help understand a feature, for the purpose of simplifying this specification, various features are combined in a single embodiment, accompanying drawing, or description thereof in this specification. However, this does not mean that the combination of these features is necessary. It is entirely possible for a person skilled in the art to mark some devices and understand the devices as separate embodiments when reading this specification. In other words, the embodiments in this specification can also be understood as an integration of a plurality of secondary embodiments. Content of each secondary embodiment is also true when features are less than all features in one of the above-mentioned disclosed embodiments.

[0224] Each patent, patent application, publication of the patent application, and other materials, for example, articles, books, specification, publications, documents, literature, etc. (excluding any historical examination documents related thereto) that are cited in the present disclosure are incorporated by reference for all purposes related to the present disclosure, such as in the description and claims of the present disclosure. However, if there is any inconsistency or conflict between the description, definition, and/or term of the above-mentioned material and use of the description, definition, and/or term in the present disclosure, the description, definition, and/or terminology used in the present disclosure shall prevail.

[0225] Finally, it should be understood that the principles of the implementation solutions of this specification are described in the implementation solutions of the application disclosed in this specification. Other modified embodiments also fall within the scope of this specification. Therefore, the embodiments disclosed in this specification are merely examples and not limitations. A person skilled in the art can use an alternative configuration according to the embodiments of this specification to implement the application in this specification. Therefore, the embodiments of this specification are not limited to the embodiments accurately described in the application.

CLAIMS

What is claimed is:

1. An order processing method, applied to an order management system, wherein the order management system is configured to provide an order management service to a target merchant, and comprises a service device and a POS device, and the method is performed by the POS device and comprises:

after a user performs a payment operation on a target order by using the POS device, if a payment result corresponding to the target order is not received from the service device within first preset duration, displaying a first operation page to an operator of the target merchant, to guide the operator to mark the payment result of the target order; and

determining the payment result corresponding to the target order based on mark information provided by the operator on the first operation page.

2. The method according to claim 1, wherein the first operation page comprises guidance information for guiding the operator to confirm the operation result corresponding to the payment operation with the user and mark the target order as "payment succeeds" or "payment fails" based on the operation result.

3. The method according to claim 1, wherein before the displaying a first operation page to an operator of the target merchant, the method further comprises:

sending a query request corresponding to the target order to the service device, wherein the query request is used to query the payment result of the target order; and

the displaying a first operation page to an operator of the target merchant comprises:

displaying the first operation page to the operator if a query result corresponding to the query request is not received from the service device within second preset duration.

4. The method according to claim 3, wherein the sending a query request corresponding to the target order to the service device comprises:

displaying a second operation page to the operator, to ask the operator whether to query the service device for the payment result of the target order; and

sending the query request to the service device in response to a query operation performed by the operator on the second operation page.

5. The method according to claim 3, wherein the method further comprises:

determining the payment result corresponding to the target order based on the query result if the query result corresponding to the query request is received from the service device within the second preset duration.

6. The method according to claim 1, wherein the method further comprises:

5 generating an operation log corresponding to the target order, wherein the operation log comprises the mark information of the operator for the target order and/or an identifier of the operator; and

sending the operation log to the service device.

10 7. The method according to claim 6, wherein the sending the operation log to the service device comprises:

periodically sending the operation log to the service device at a preset time interval until the service device successfully receives the operation log; or

15 periodically monitoring a communication link between the POS device and the service device at a preset time interval, and sending the operation log to the service device when it is detected that the communication link is normal.

8. The method according to claim 6, wherein after the generating an operation log corresponding to the target order, the method further comprises:

storing the operation log in a preset storage unit; and

the sending the operation log to the service device comprises:

20 obtaining the operation log corresponding to the target order from the preset storage unit, and sending the operation log to the service device.

9. The method according to claim 8, wherein the preset storage unit is a non-volatile storage unit.

25 10. The method according to claim 1, wherein the payment operation comprises a code scanning payment operation.

11. An order processing method, applied to an order management system, wherein the order management system is configured to provide an order management service to a target merchant, and comprises a service device and a POS device, and the method is performed by the service device and comprises:

30 when a user performs a payment operation on a target order by using the POS device, receiving a payment result of the target order from an acquiring institution, and sending the

payment result to the POS device;

receiving an operation log corresponding to the target order from the POS device, wherein the operation log comprises mark information of an operator of the target merchant for the target order and/or an identifier of the operator, and the mark information is information marked by the operator for the payment result of the target order when the POS device does not receive the payment result from the service device within first preset duration; and

determining, based on the operation log and the payment result, whether the target order is incorrectly marked.

12. The method according to claim 11, wherein the operation log comprises the mark information, and the mark information represents "payment succeeds" or "payment fails"; and

the determining, based on the operation log and the payment result, whether the target order is incorrectly marked comprises:

if the mark information is inconsistent with the payment result, determining that the target order is incorrectly marked; or

if the mark information is consistent with the payment result, determining that the target order is not incorrectly marked.

13. The method according to claim 11, wherein the operation log is sent by the POS device when the operator marks the payment result of the target order as "payment succeeds", the operation log comprises the identifier of the operator, and the determining, based on the operation log and the payment result, whether the target order is incorrectly marked comprises:

if the payment result is "payment fails", determining that the target order is incorrectly marked; or

if the payment result is "payment succeeds", determining that the target order is not incorrectly marked.

14. The method according to claim 12 or 13, wherein when the target order is incorrectly marked, the method further comprises:

generating alarm information corresponding to the target order based on the operation log; and

sending or storing the alarm information.

15. The method according to claim 11, wherein before the receiving an operation log corresponding to the target order from the POS device, the method further comprises:

receiving a query request corresponding to the target order from the POS device, wherein the query request is used to query the payment result of the target order; and
sending a query result corresponding to the query request to the POS device.

16. An electronic device, serving as a POS device, and comprising:

5 at least one storage medium, storing at least one instruction set; and
 at least one processor, communicatively connected to the at least one storage medium, wherein when running, the at least one processor reads the at least one instruction set, and performs the method according to any one of claims 1 to 10 based on an indication of the at least one instruction set.

10 17. An electronic device, serving as a service device, and comprising:

 at least one storage medium, storing at least one instruction set; and
 at least one processor, communicatively connected to the at least one storage medium, wherein when running, the at least one processor reads the at least one instruction set, and performs the method according to any one of claims 11 to 15 based on an indication of the at least one
15 instruction set.

 18. A computer-readable non-transitory storage medium, wherein the computer-readable non-transitory storage medium stores at least one instruction set, and when the at least one instruction set is executed by at least one processor, the method according to any one of claims 1 to 15 is implemented.

20 19. An order management system, comprising:

 a service device, configured to: after a user performs a payment operation on a target order by using a POS device, receive a payment result of the target order from an acquiring institution, and send the payment result to the POS device; and

 a POS device, configured to: after the user performs the payment operation on the target order
25 by using the POS device, if the payment result corresponding to the target order is not received from the service device within first preset duration, display a first operation page to an operator of a target merchant, to guide the operator to mark the payment result of the target order; and determine the payment result corresponding to the target order based on mark information provided by the operator on the first operation page.

30 20. The system according to claim 19, wherein

 the POS device is further configured to: generate an operation log corresponding to the target

order, and send the operation log to the service device, wherein the operation log comprises the mark information of the operator for the target order and/or an identifier of the operator; and

the service device is further configured to determine, based on the operation log and the payment result, whether the target order is incorrectly marked.