

# ORDER MANAGEMENT METHOD AND SYSTEM, DEVICE, AND STORAGE MEDIUM

## TECHNICAL FIELD

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

## BACKGROUND

[0002] At present, with rapid development of globalization and digitalization, a business model of the retail and service industries is undergoing profound changes. Consumption patterns of consumers are constantly diversified with continuous development of payment technologies. For merchants, conventional simple offline service development mode cannot meet requirements of the consumers. Therefore, how to help the merchants realize diversified service development quickly and conveniently at lower costs has become a problem for service providers.

[0003] 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

[0004] This specification provides an order management method and system, a device, and a storage medium. A merchant can perform unified management of orders from offline channels and a plurality of online channels by using one POS device, to simplify an order management procedure, improve order management efficiency, and reduce hardware purchase costs.

[0005] According to a first aspect, this specification provides an order management method, applied to an order management system of a target merchant. The order management system includes a POS device and a service device, the POS device is located in an offline store of the target merchant, and the method is performed by the POS device and includes: generating an offline order based on an order placing operation performed by an operator on the POS device, and executing an offline order management procedure for the offline order; and receiving an online

order of the target merchant from the service device, and executing an online order management procedure for the online order. The online order includes orders from a plurality of online channels.

**[0006]** According to a second aspect, this specification further provides an order management method, applied to an order management system of a target merchant. The order management system includes a POS device and a service device, the POS device is located in an offline store of the target merchant, and is at least configured to: generate an offline order based on an order placing operation performed by an operator on the POS device, and execute an offline order management procedure for the offline order, and the method is performed by the service device and includes: receiving an online order of the target merchant from a plurality of online channels, and sending the online order to the POS device, so that the POS device executes an online order management procedure for the online order.

**[0007]** According to a third aspect, this specification further provides a POS device, including: at least one storage medium, storing at least one instruction set, to perform order management; and at least one processor, communicatively connected to the at least one storage medium. When the POS device runs, the at least one processor reads the at least one instruction set, and performs the order management method according to the first aspect based on an indication of the at least one instruction set.

**[0008]** According to a fourth aspect, this specification further provides a service device, including: at least one storage medium, storing at least one instruction set, to perform order management; and at least one processor, communicatively connected to the at least one storage medium. When the service device runs, the at least one processor reads the at least one instruction set, and performs the order management method according to the second aspect based on an indication of the at least one instruction set.

**[0009]** According to a fifth aspect, this specification further provides a computer-readable nonvolatile storage medium. The computer-readable nonvolatile storage medium stores at least one instruction set, and when the at least one instruction set is executed by at least one processor, the order management method according to the first aspect or the second aspect is implemented.

**[0010]** According to a sixth aspect, this specification further provides an order management system, including: a POS device, located in an offline store of a target merchant, configured to: generate an offline order based on an order placing operation performed by an operator on the POS device, and execute an offline order management procedure for the offline order; and a service device, communicatively connected to the POS device, and configured to: receive an online order of the target merchant from a plurality of online channels, and send the online order to the POS device. The POS device is further configured to: receive the online order from the service device, and perform an online order management procedure for the online order.

[0011] According to the order management system and method, the device, and the storage medium provided in this specification, an offline order and an online order are integrated for the target merchant, so that the merchant can process the orders quickly, to improve order management efficiency, and improve satisfaction of the merchant and a consumer. The POS device not only supports offline order management, but also can receive and process the online orders from the plurality of online channels through the communicatively connected service device. Instead of relying on different devices to process orders from different sources, the target merchant uses the same POS device to perform unified management of the orders from the plurality of channels. This simplifies the management procedure, reduces an error rate caused by device or platform switching, and reduces device costs. In addition, centrally processing orders from different sources by the target merchant can reduce management costs of the store.

[0012] Other functions of the order management method and system, the device, and the storage medium provided in this specification are partially listed in the following descriptions. Creative aspects of the order management system and method, the device, and the storage medium provided in this specification can be fully explained by practice or by using the methods, apparatuses, and combinations described in the following detailed examples.

## BRIEF DESCRIPTION OF DRAWINGS

[0013] 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.

[0014] FIG. 1 is a schematic diagram of an application scenario of an order management system according to an embodiment of this specification;

[0015] FIG. 2 is a diagram of a hardware structure of an electronic device according to an embodiment of this specification;

[0016] FIG. 3 is a flowchart of an order management method according to an embodiment of this specification;

[0017] FIG. 4 is a flowchart of an offline order management procedure according to an embodiment of this specification; and

[0018] FIG. 5 is a flowchart of an online order management procedure according to an embodiment of this specification.

## DESCRIPTION OF EMBODIMENTS

[0019] 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.

[0020] 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.

[0021] 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.

[0022] 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.

[0023] It should be noted that user data obtained in this specification is authorized by the user,  
30 and user privacy is not involved.

[0024] It should be noted that, collection, storage, use, processing, transmission, provision, disclosure, etc. of related information of a user in the technical solutions in this specification all comply with related laws and regulations, and do not violate public order and good morals.

**[0025]** Embodiments described in this specification can be applied to an order management 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.

**[0026]** 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.

**[0027]** 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.

**[0028]** 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.

**[0029]** 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.

**[0030]** 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 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, 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.

**[0031]** When the merchant performs service development on the online channel, the merchant 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.

**[0032]** 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 not limited to a delivery platform, a wallet platform, a social platform, etc. An interconnection manner between the merchant and different network platforms can be different. For example, when cooperating with some platforms (for example, a delivery platform), the merchant can apply to open 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 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.

**[0033]** In an online service development scenario, the merchant usually needs to cooperate with a plurality of network platforms, to attract more consumers. Therefore, the merchant is interconnected to the network platform, and it takes 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.

**[0034]** 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, purchase 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.

**[0035]** 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 serving ends 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.

**[0036]** 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.

**[0037]** FIG. 1 is a schematic diagram of an application scenario 100 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) device 110 (or referred to as a POS end or a front-end device) and a service device 120 (or referred to as a serving end, a server, or a back-end device).

[0038] 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.

[0039] 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.

[0040] The POS device 110 is an electronic device with a specific computing capability. In some embodiments, 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.

[0041] 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 online 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.

[0042] When cash collection is performed for the order, the POS device 110 supports a plurality of payment modes, 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.

[0043] 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.

**[0044]** 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 external 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.

**[0045]** 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.

**[0046]** 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 external 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. The code scanning apparatus 112 is 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 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.

**[0047]** 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 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 external 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. 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.

**[0048]** 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 device, to obtain payment information of the order.

**[0049]** 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 external 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 receipt or an order label that is of the consumer and that corresponds to the order.

**[0050]** 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.

**[0051]** 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.

5   **[0052]**     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.

15   **[0053]**     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.

**[0054]**     The following describes a working process of the order management system by using a catering scenario as an example.

20   **[0055]**     With reference to FIG. 1, a catering store can include a dining area and a kitchen area. The dining area is used to receive a consumer and is used by the consumer for dining. The dining area can also be referred to as a reception area. The kitchen area is an area in which a cook cooks dishes. The kitchen area can also be referred to as a preparation area. The POS device 110 is usually located in the dining area. The service device 120 can be located in the dining area, or can be in a cloud.

25   **[0056]**     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 online 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.

[0057] The order management system can receive online orders from a plurality of online channels. The following provides descriptions by using three cases as examples.

[0058] 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.

[0059] 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.

[0060] 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.

[0061] It can be learned from the above-mentioned descriptions that an online 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. In comparison 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.

[0062] 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 online 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 kitchen area. The cook cooks a dish based on the dish content in the kitchen ticket. In such a manner of manually transferring the kitchen 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.

**[0063]** 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 kitchen 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.

**[0064]** In stores of some merchants, the kitchen 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 kitchen 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, the 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, the 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.

**[0065]** 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. The network is a medium used to provide a communication connection. The network can facilitate exchange of information or data. 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 telecommunications 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 network, a ZigBee network, a near field communication (NFC) network, or a similar network. 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.

[0066] It should be noted that the catering scenario is used as an example in FIG. 1. 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. Details of the another scenario are not described in this specification.

[0067] 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: (1) The merchant can use one POS device 110 to implement processing of the online 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. (2) All orders received by the POS device 110 are sent to the display device 130 in the kitchen area in real time, without a need to manually transfer the kitchen ticket. This improves order processing efficiency. (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.

[0068] FIG. 2 is a diagram of a hardware structure of an electronic device 200 according to an embodiment of this specification. The electronic device 200 can serve as the POS device 110 or the service device 120 in FIG. 1, to perform the order management method described in this specification.

[0069] As shown in FIG. 2, the electronic device 200 can include at least one storage medium 230 and at least one processor 220. In some embodiments, the electronic device 200 can further include a communication port 250 and an internal communication bus 210. The electronic device 200 can further include an I/O component 260.

[0070] The internal communication bus 210 can be connected to different system components. For example, the internal communication bus 210 can be connected to the storage medium 230, the processor 220, the communication port 250, and the I/O component 260.

[0071] The I/O component 260 supports an input/output between the electronic device 200 and another component.

[0072] The communication port 250 is used for data communication between the electronic device 200 and the outside. For example, the communication port 250 can be used for data

communication between the electronic device 200 and a network 140. The communication port 250 can be a wired communication port, or can be a wireless communication port.

**[0073]** The storage medium 230 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 232, a read-only storage medium (ROM) 234, or a random access storage medium (RAM) 235. The storage medium 230 further includes at least one instruction set stored in the data storage apparatus. The instruction set can include computer program code. The computer program code can include a program, a routine, an object, a component, a data structure, a process, a module, etc.

**[0074]** The at least one processor 220 can be communicatively connected to the at least one storage medium 230. When the electronic device 200 runs, the at least one processor 220 reads the at least one instruction set, and performs, based on an indication of the at least one instruction set, the order management method provided in this specification. The processor 220 can perform steps included in the order management method. The processor 220 can be in a form of one or more processors. In some embodiments, the processor 220 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.

**[0075]** To merely describe a problem, only one processor 220 is shown in the electronic device 200 in the accompanying drawings. However, it should be noted that the electronic device 200 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. For example, if the processor 220 in the electronic device 200 described 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 220 (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).

**[0076]** FIG. 3 is a flowchart of an order management method P300 according to an embodiment of this specification. The order management method P300 can be jointly performed by a POS device and a service device.

**[0077]** As shown in FIG. 3, the method P300 can include S310 to S340.

**[0078]** S310: The POS device generates an offline order based on an order placing operation performed by an operator on the POS device, and executes an offline order management procedure for the offline order.

**[0079]** In some embodiments, the operator can be a worker (for example, a cashier) of a target merchant. With reference to FIG. 1, a consumer A have a dinner in a store, and the worker of the target merchant selects, on the POS device based on a purchase requirement of a consumer, a product required by the consumer, and performs an order placing operation. The POS device generates an online order in response to the order placing operation.

**[0080]** In some embodiments, the operator can also be a consumer. In this case, the POS device can serve as a self-service ordering device of the target merchant, so that the consumer can perform offline self-service ordering. For example, after the consumer goes to the store, the consumer independently selects a required dish on the POS device, and performs an order placing operation.

**[0081]** The following describes the offline order management procedure with reference to FIG. 4.

**[0082]** FIG. 4 is a schematic diagram of an offline order management procedure P400 according to an embodiment of this specification. As shown in FIG. 4, the offline order management procedure can include at least some steps in S410 to S470.

**[0083]** S410: The POS device generates the offline order based on the order placing operation performed by the operator on the POS device.

**[0084]** In some embodiments, the order management system is further equipped with a printing apparatus that is communicatively connected to the POS device and that is configured to print a receipt and/or a label generated for the offline order, to facilitate order execution and subsequent operation management.

**[0085]** S420: The POS device controls the printing apparatus to print the receipt and/or the label corresponding to the offline order.

**[0086]** In some embodiments, the printing apparatus is built in or externally connected to the POS device. The printing apparatus can be configured to print the receipt and/or the label corresponding to the order.

**[0087]** In some embodiments, the printing apparatus can be located in a reception area, for example, is built in the POS device or near the POS device. The receipt printed by the printing apparatus is provided to the consumer as a voucher of a purchase or a service, so that the consumer checks consumption details. In some embodiments, the printing apparatus can be further located in an operation area, and the receipt or the label printed by the printing apparatus is used to be provided to the worker as a prompt of operation content. For example, the printing apparatus is located in a kitchen area, and the receipt printed by the printing apparatus is used to display ordering content of

the consumer to a cook. The POS device can directly control the printing apparatus, without manually recording an order or additionally entering data. Therefore, offline order information can be automatically generated and printed, to improve operation efficiency of the target merchant. In particular, when there are a large quantity of orders in a peak period, a requirement of the consumer can be quickly responded to.

**[0088]** In some embodiments, a plurality of printing apparatuses can be built in or connected to the POS device, and different printing apparatuses have different division of labor. For example, one printing apparatus is configured to print a receipt, and another printing apparatus is configured to print a label. For another example, one printing apparatus is configured to print a receipt provided to the consumer, another printing apparatus is configured to print a receipt provided to the cook, and still another printing apparatus is configured to print a label.

**[0089]** In some embodiments, after generating the offline order, the POS device can further perform a cash collection process of the offline order. A cash collection manner can be one of payment modes such as card scanning payment, cash payment, or code scanning payment. This is not limited in this specification. In the cash collection process, the POS device can interact with the service device. Card scanning payment is used as an example. The POS device obtains card information by using a card reading apparatus, and sends the card information to the service device. The service device generates a payment request for the offline order based on order information of the offline order and the card information, and sends the payment request to an acquiring institution, so that the acquiring institution executes a payment procedure of the offline order. The cash collection process is not shown in FIG. 4.

**[0090]** When the offline order management procedure is executed, the POS device mainly interacts with a device in an offline store. Consequently, information about the offline order is relatively isolated, and the offline order cannot be linked with an online order. Such isolation makes it difficult for the target merchant to perform unified management of the online order and the offline order, increasing operation complexity and management difficulty caused by data dispersion. Therefore, to resolve the above-mentioned problem, the order management system in this specification can implement unified management of the online order and the offline order by performing steps S430 and S440 to add the offline order to a management system of the service device.

**[0091]** S430: The POS device sends the offline order to the service device.

**[0092]** S440: The service device stores the order information of the offline order.

**[0093]** In some embodiments, content of the order information can include basic information of the offline order such as an order number, a creation time, a source channel (for example, an identifier of the POS device), operator information (the merchant performs an operation or the

consumer performs an operation), consumer information, a product or service list, price details, preferential information, a payment state, and a contract fulfillment state.

**[0094]** In some embodiments, the service device can further record dynamic information of the order such as an order state update record. The order information can be stored in a distributed database, to ensure real-time storage and access efficiency of massive order data. For example, the service device can store orders by a category (for example, an order on a current day or a historical order) based on a time dimension, to perform subsequent query and analysis.

**[0095]** S450: The POS device sends the online order to the display device.

**[0096]** In some embodiments, the display device is located in the operation area of the offline store, and is communicatively connected to the POS device. The operation area has different meanings based on different usage scenarios. A catering scenario is used as an example, and the operation area can be a kitchen. A laundry store scenario is used as an example, and the operation area can be a washing room. A beauty salon scenario is used as an example, and the operation area can be a hair dye preparation area. A flower store scenario is used as an example, and the operation area can be a flower material processing area.

**[0097]** In some embodiments, the display device can include any device with a display function, and is configured to display content of the offline order. A restaurant scenario is used as an example, and the display device can be a KDS. The laundry scenario is used as an example, and the display device can be a laundry management system (LMS).

**[0098]** S460: The display device displays the content of the offline order.

**[0099]** In some embodiments, the display device displays different content of the offline order based on different use scenarios. For example, in the restaurant scenario, the KDS is connected to the POS device, and a conventional paper order is replaced with an electronic screen. The POS device directly pushes dish information of ordering by the consumer to a kitchen display, and provides real-time order display for a kitchen. The laundry scenario is used as an example. The LMS is connected to the POS device, and content displayed by the LMS display device can be content of a laundry order, for example, cleaning or ironing.

**[0100]** S470: The display device sends a processing completion notification corresponding to the offline order to the POS device after completing content processing of the offline order.

**[0101]** In some embodiments, after completing content processing of the offline order, a worker in the operation area can send a processing completion notification corresponding to the order to the POS device by using the display device. Content processing completion has different meanings based on different use scenarios. In the restaurant scenario, content processing completion of an order can mean that a dish is cooked. Therefore, the processing completion notification can represent that a dish is cooked. In the laundry scenario, content processing completion of an order

can mean that a laundry item such as washing, ironing, or drying is completed. Therefore, the processing completion notification can represent that a corresponding laundry item is completed.

**[0102]** In some embodiments, after receiving the processing completion notification corresponding to the order, the POS device can further remind, in a manual prompt manner, the consumer that order processing is completed. The restaurant scenario is used as an example. After receiving a dish cooking completion notification, the POS device can notify, through broadcasting, the consumer to pick up a dish in a pick-up counter, or remind a server in a store to send a dish a corresponding dinner table.

**[0103]** It should be noted that in the conventional technology, the catering scenario is used as an example, and order content is usually transferred to a kitchen based on a printed kitchen ticket. Although this manner is direct, there is a specific limitation. For example, a paper receipt is easy to be lost or damaged, and the paper receipt may be confused or omitted due to a large quantity of orders in a peak period. In another service scenario, a transfer of order information usually more depends on a memory or oral communication of the worker. For example, in a beauty salon, a barber usually remembers a service requirement based on a simple oral statement of a customer or rephrasing of a clerk. In a laundry, a service person may determine a clothing type and a processing requirement by handwriting a record or by depending on a memory. This manner easily leads to information omission or misunderstanding, especially in busy hours. Based on the display device in the order management system in this specification, the target merchant can further improve efficiency and optimize the order management procedure. The display device can display the order information in real time, directly push front-end order content to the operation area, reduce errors caused by a memory or a manual transfer, and effectively improve operation efficiency and quality of service. In addition, purchase and maintenance costs of the printing apparatus in the operation area can be reduced.

**[0104]** It should be noted that an execution sequence of steps in FIG. 4 is not limited in this specification. For example, S430 and S440 and S450 can be performed interchangeably or in parallel.

**[0105]** In addition, in addition to the offline order, the order management system in this specification can process the online order received from the online channel, to help the merchant implement one-stop order management. For a process in which the order management system processes the online order, refer to S320 to S340. A person skilled in the art can understand that a sequence between S310 and S320 to S340 is not limited in this specification.

**[0106]** S320: The service device receives online orders of the target merchant from a plurality of online channels.

[0107] It should be noted that this specification sets no limitation on a type of the online order received by the target merchant. For example, the online order received by the target merchant can be a dine in order, a takeaway order, or a delivery order, etc. based on a category of a dining manner. Based on a category of a source channel of the online order, the online order received by the target merchant can be an order from a network platform, or can be an order from a terminal device.

[0108] S330: The service device sends the online order to the POS device.

[0109] S340: The POS device executes an online order management procedure for the online order.

[0110] The online order is a product or service purchase request submitted by the consumer on an online channel (for example, a website or an application). The online order management procedure is a specific process of managing the online order. The following describes the online order management procedure with reference to FIG. 5.

[0111] FIG. 5 is a schematic diagram of an online order management procedure P500 according to an embodiment of this specification. As shown in FIG. 5, the online order management procedure can include at least some steps in S510 to S620.

[0112] S510: A service device receives an online order from a network platform or a terminal device.

[0113] In some embodiments, a target merchant launches a first online store on N network platforms, the service device is further communicatively connected to the N network platforms, and N is an integer greater than or equal to 1. The online order received by the service device includes orders that are received from the N network platforms and that are generated by the first online store.

[0114] The network platform can include but is not limited to a delivery platform, a life service platform, a wallet platform, a social media platform, etc. The delivery platform can be a platform that provides a delivery service to a consumer. The life service platform can be a platform that provides a life service to a consumer. The wallet platform can be a financial service platform that provides an electronic wallet service or an electronic payment service to a consumer. The social media platform can be an online service platform that provides, by using an Internet technology, a user with content such as creating, sharing, or exchanging information, viewpoints, pictures, and videos. A person skilled in the art can understand that the network platform is not limited to the above-mentioned embodiments, and any platform that can support online order placement can serve as a network platform in this specification.

[0115] In some embodiments, the target merchant can launch an online store on one or more network platforms. To distinguish from an online store deployed on the service device in the

following descriptions, a store opened on the network platform by the target merchant is referred to as a first online store in this specification.

[0116] The delivery platform is used as an example. With reference to FIG. 1, the first online store of the target merchant is opened on the delivery platform. A consumer D can access the first online store on the delivery platform by using a terminal device, select a required product from the first online store, and place and pay an order. In this case, the delivery platform generates an online order, and sends the online order to the service device. Therefore, the service device receives the online order from the delivery platform.

[0117] The wallet platform is used as an example. With reference to FIG. 1, the first online store of the target merchant is opened on the wallet platform. A consumer C can access the first online store on the wallet platform by using a terminal device, select a required product from the first online store, and place and pay an order. In this case, the wallet platform generates an online order, and sends the online order to the service device. Therefore, the service device receives the online order from the wallet platform.

[0118] It should be noted that a manner in which a corresponding merchant opens a store on each network platform is not limited in this specification. Different network platforms may require different store opening manners.

[0119] In some embodiments, the service device is deployed with a second online store for access by a terminal device. The online order received by the service device further includes an order that is received from the terminal device and that is generated by the second online store.

[0120] The second online store can be a store accessed by using a mini program. The service device is deployed with a store mini program. The consumer can access the store mini program by using a terminal device, to view a page of the second online store, select a required product from the second online store, and place an order. A catering store is used as an example. An access entry of the store mini program, for example, a two-dimensional code, can be disposed inside or outside an offline store. With reference to FIG. 1, the two-dimensional code can be pasted at a dining table or another possible location. After entering the offline store, a consumer B can directly scan the two-dimensional code on the dining table by using a terminal device, to enter the page of the mini program of the second online store, select a required product from the page of the mini program, and place and pay an order. In this case, the service device receives the online order from the terminal device.

[0121] In some embodiments, the consumer can further access the second online store by scanning a code in an area outside the offline store. In some possible embodiments, an order management system in this specification can further support the terminal device to scan a code in another form other than the two-dimensional code. In some embodiments, the order management

system in this specification can further support the terminal device to access the second online store in another manner other than code scanning. For example, the consumer can access the system by tapping, on the terminal device, an access link provided by the target merchant or the service device.

**[0122]** In this specification, the first online store is a store launched on another network platform, and the second online store is a store deployed on the service device. For the target merchant, both an order generated by the first online store and an order generated by the second online store are online orders, but have different source channels. The order generated by the first online store is from the network platform, and the order generated by the second online store is from the terminal device.

**[0123]** Based on the above-mentioned embodiments, a source of the online order is further detailed in this specification. The target merchant can manage, by using the service device, the order that is received from the network platform and that is generated by the first online store, and can further receive the order generated by the second online store. That is, the service device integrates different online channels, so that the merchant can receive the online orders from the plurality of different online channels by using one POS device. The above-mentioned solution can meet a demand of the target merchant for performing service development on the plurality of online channels, and can further simplify order management on the plurality of online channels; and avoid purchase costs caused by purchasing order acceptance devices by the target merchant from the plurality of network platforms.

**[0124]** The order management system in this specification can further synchronize an order state to an order source in real time at different processing stages. In some embodiments, a synchronization procedure can start from an order creation stage. When the service device receives the online order from the network platform or the terminal device, the system can automatically trigger the synchronization procedure.

**[0125]** S520: The service device stores order information of the online order.

**[0126]** In some embodiments, order information of online and offline orders can be stored in a distributed database, to ensure real-time storage and access efficiency of massive order data. For example, the service device can store orders by a category (for example, an order on a current day or a historical order) based on a time dimension. Alternatively, the online and offline orders are stored separately, and are further managed separately based on an order source dimension (for example, an offline order, an order from the network platform, and self-created mini program order), to perform subsequent query and analysis.

**[0127]** According to the above-mentioned embodiments, the service device can simultaneously store the order information of the online and offline orders. For example, in a catering scenario, information about the dine in order (the offline order) and the delivery order (the online order) can

be stored in the service device in a unified manner. The merchant can view state of all orders in real time on one management platform, to avoid a hassle of separately operating different systems.

**[0128]** S530: The service device sends the online order to the POS device.

**[0129]** In some embodiments, the service device can send basic information of the online order to the POS device. The basic information can include an order number, product details, an order source, etc. The target merchant can first obtain and view the order information by using the POS device. In a subsequent processing process, the order management system further continues to track a change in the order state.

**[0130]** S540: The POS device outputs prompt information, to notify the worker of the target merchant that the order is received.

**[0131]** In some embodiments, the prompt information can be a screen pop-up window, sound broadcasting, or a light alert of the POS device, or pushed by using a mobile device. The prompt information can include an order number, a source channel (for example, the delivery platform or the mini program), a product or service list (for example, a dish name, a quantity, or a remark), a payment mode, a delivery or pickup time, etc., to ensure that the worker of the target merchant quickly understands the order details. Based on a real-time prompt, the merchant can process order demands from the plurality of channels more efficiently. This can be flexibly applied to all of catering, retailing, and beauty salon industries based on scenario features, to improve order management accuracy and service timeliness.

**[0132]** In some embodiments, an order acceptance decision can be made by the target merchant. The worker of the target merchant determines, based on the prompt information, whether to accept an order. The target merchant can select "Accept" or "Reject" after performing evaluation based on order content (for example, a quantity of dishes, a special requirement, or a time limit) on the POS device. Further, whether to accept an order is manually determined on an interaction interface of the POS device, to determine whether to trigger a subsequent step. If the target merchant chooses to reject an order, the target merchant can further send, on the interaction interface of the POS device, an instruction indicating not to perform processing, to indicate the service device not to continue to process the order. Such a manual order acceptance mode is applicable to a scenario in which an order condition needs to be manually determined or resource allocation is flexible. For example, a restaurant needs to determine, based on current kitchen pressure, seat idleness, or a delivery capability, whether to receive a new online order.

**[0133]** If it is determined to accept an order, step S550 is performed, so that the POS device sends an order acceptance determining notification to the service device, and step S560 is performed, so that the service device synchronizes and updates the order acceptance determining notification to an order source platform.

**[0134]** S550: The POS device sends the order acceptance determining notification to the service device.

**[0135]** In some embodiments, the target merchant does not need to make the order acceptance decision. The POS device can be set to automatically accept an order. After the service device sends the online order to the POS device, the POS device directly sends the order acceptance determining notification to the service device in step S540, without manual intervention. Such an automatic order acceptance mode can greatly improve order processing efficiency, shorten an order response time, and avoid a delay or omission due to a manual operation. For example, in a delivery scenario, after receiving an order, the POS device automatically triggers order acceptance determining, and then the service device notifies the order source platform, to ensure that the consumer receives, in a timely manner, updated information indicating that the order is received, to improve overall service experience.

**[0136]** If the target merchant chooses to accept an order or the POS device automatically accepts an order, the order management system further continues to synchronize the order state to the order source in real time in a subsequent processing phase. For example, step S560 is performed to notify the order source that the target merchant determines to accept an order.

**[0137]** S560: The service device forwards the order acceptance determining notification to the network platform or the terminal device.

**[0138]** After receiving the order acceptance determining notification, the order source (the network platform or the terminal device) can update the order state based on the order acceptance determining notification, to display a latest order state to the consumer. For example, the consumer places an order on an online channel, and the POS device receives the order, and sends an order acceptance determining notification to the order source by using the service device. The order source can update the order state to "Accepted" or "Processing" based on the order acceptance determining notification.

**[0139]** Further, in an order processing stage, the POS device can send an order processing state to the order source by using the service device, and the order source can update the order state to "In service" or "In progress". For example, in a restaurant scenario, the order source can display that the order is being made; and in a service-type store scenario, the order source can record a service progress. After the order content is completed, the POS device sends a completed state to the order source by using the service device. The order source can update the order state to "Completed" or "To-be-picked-up", and notify the consumer or a delivery person to pick up the product in a timely manner. After the order is delivered, the order source is synchronized to "Picked up" or "Delivered", to close a loop. If the order is abnormal, the POS device can send an abnormality to the order source by using the service device. The order source can update the order state to

"Canceled" or "To be processed", with a reason. The order state can be updated and transferred, to ensure that steps of the order are transparent and traceable. The customer can clearly understand the order progress. The target merchant can further improve processing efficiency, reduce misunderstandings, and optimize overall service experience.

5   **[0140]**     S570: The POS device controls the printing apparatus to print a receipt and/or a label corresponding to the online order.

**[0141]**     For an implementation of S570, refer to detailed descriptions of S420. Details are not described herein again. Different from S420, for the online order, the POS device does not need to print a receipt to be provided to the consumer.

10   **[0142]**     S580: The POS device sends the online order to the display device.

**[0143]**     In some embodiments, the display device is located in an operation area of the offline store, and is communicatively connected to the POS device, to display content of the online order. The display device can be any device with a display function, and is configured to display order content to the worker. The display device can be the same as the display device in the above-mentioned offline order management procedure. The worker can view both the online order and the  
15   offline order by using the same display device, to improve working efficiency. As shown in FIG. 1, a plurality of independent display devices can also be disposed in the same area, to separately display the online order and the offline order, so as to facilitate classified management and avoid confusion. In addition, for some stores in which an online order operation area and an offline order  
20   operation area are separated, independent display devices can be further configured in different areas, to separately display orders from different sources, and flexibly adapt to a demand.

**[0144]**     S590: The display device displays the content of the online order.

**[0145]**     In some embodiments, the display device displays different content of the online order based on different use scenarios. The content is similar to content displayed by the display device  
25   in the above-mentioned content. Details are not described herein again. It should be noted that, compared with the content displayed by the display device in the offline order management procedure, an amount of information of content that needs to be displayed by the online order may be greater. The content of the online order can further include a source of the online order, for example, a specific delivery platform; and can further include a platform requirement, for example,  
30   a dining time.

**[0146]**     S600: The display device sends a processing completion notification corresponding to the online order to the POS device after completing content processing of the online order.

**[0147]**     In some embodiments, after completing content processing of the online order, a worker in the operation area can send a processing completion notification corresponding to the order to

the POS device by using the display device. Content processing completion has different meanings based on different use scenarios. For details, refer to the above-mentioned related descriptions.

**[0148]** S610: The POS device sends, to the service device, the processing completion notification corresponding to the online order.

5 **[0149]** As one of core devices of order management, the POS device in this specification notifies the service device of a state in a timely manner after the order is completed, to ensure that an order procedure is in real time and accurate. The service device further performs step S620, to deliver the completion notification to the order source platform.

**[0150]** S620: The service device sends the processing completion notification corresponding to  
10 the online order to the network platform or the terminal device.

**[0151]** For the target merchant, the POS device, the service device, and the order source perform automatic interaction, to avoid a system in which the target merchant is interconnected to all channels one by one. The order state can be automatically synchronized to the online channels without a need to perform a repeated operation by the merchant, to reduce manpower and time costs,  
15 improve order management efficiency, and reduce an error risk. For the order source platform, the above-mentioned embodiments can ensure that procedure support continues to be provided after order completion is received. For example, the consumer is notified of order completion, the delivery person is notified to arrange delivery, and settlement is triggered. For the consumer, the customer can also learn of the order completion state from the order source platform in a timely  
20 manner, and optimize experience of the order source platform, the target merchant, and the consumer.

**[0152]** In conclusion, according to the order management system and method, the device, and the storage medium provided in this specification, an offline order and an online order are integrated for the target merchant, so that the merchant can process the orders quickly, to improve order  
25 management efficiency, and improve satisfaction of the merchant and a consumer. The POS device not only supports offline order management, but also can receive and process the online orders from the plurality of online channels through the communicatively connected service device. Instead of relying on different devices to process orders from different sources, the target merchant uses the same POS device to perform unified management of the orders from the plurality of channels. This  
30 simplifies the management procedure, reduces an error rate caused by device or platform switching, and reduces device costs. In addition, centrally processing orders from different sources by the target merchant can reduce management costs of the store.

**[0153]** Another aspect of this specification provides a computer-readable non-transitory storage medium, storing at least one instruction set, to perform order management. When the at least one  
35 instruction set is executed by a processor, the at least one instruction set instructs the processor to

implement the steps of the order management method P300 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 200, the program code is used to enable the electronic device 200 to perform the steps of the order management method P300 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 200. 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 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: a portable disk, a hard disk, a random access memory (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 any proper combination thereof. The computer-readable storage medium can include a data signal propagated in a baseband as part of a carrier, and carries readable program code. The propagated data signal can be in a plurality of 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 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, "C" language, or a similar program design language. The program code can be completely executed on the electronic device 200, partially executed on the electronic device 200, executed as an independent software package, partially executed on the electronic device 200 and partially executed on a remote electronic device, or completely executed on a remote electronic device.

[0154] 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.

[0155] 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.

[0156] 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.

[0157] 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.

[0158] Each patent, patent application, publication of a patent application, and other materials, for example, articles, books, instructions, publications, documents, and products, that are cited in this specification and that are other than any document that is inconsistent or conflict with this document or that imposes limiting impact on the widest scope of the claims can be incorporated herein by reference and used for all purposes now or later associated with this document. In addition,

the term in this document shall prevail when there is any inconsistency or conflict between the description, definition and/or use of a related term in any material and the description, definition and/or use of a related term in this document.

**[0159]** 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 management method, applied to an order management system of a target merchant, wherein the order management system comprises a POS device and a service device, the POS device  
5 is located in an offline store of the target merchant, and the method is performed by the POS device and comprises:

generating an offline order based on an order placing operation performed by an operator on the POS device, and executing an offline order management procedure for the offline order; and

receiving an online order of the target merchant from the service device, and executing an  
10 online order management procedure for the online order, wherein the online order comprises orders from a plurality of online channels.

2. The method according to claim 1, wherein the target merchant launches a first online store on N network platforms, and N is an integer greater than or equal to 1; and

the online order comprises orders generated by the first online store on the N network platforms.

3. The method according to claim 2, wherein the service device is deployed with a second  
15 online store for access by a terminal device; and

the online order further comprises an order generated by the second online store.

4. The method according to claim 1, wherein the offline store comprises a reception area and an operation area, the POS device is located in the reception area, the order management system  
20 further comprises a display device, and the display device is located in the operation area and is communicatively connected to the POS device;

the offline order management procedure comprises: sending the offline order to the display device, so that the display device displays content of the offline order, and receiving, from the display device, a processing completion notification corresponding to the offline order after  
25 processing of the content of the offline order is completed; and

the online order management procedure comprises: sending the online order to the display device, so that the display device displays content of the online order, and receiving, from the display device, a processing completion notification corresponding to the online order after processing of the content of the online order is completed.

5. The method according to claim 4, wherein the online order management procedure further  
30 comprises:

sending, to the service device, the processing completion notification corresponding to the online order.

6. The method according to claim 4, wherein a printing apparatus is built in or is externally connected to the POS device;

the offline order management procedure further comprises: controlling the printing apparatus to print a receipt and/or a label corresponding to the offline order; and

5 the online order management procedure further comprises: controlling the printing apparatus to print a receipt and/or a label corresponding to the online order.

7. The method according to claim 4, wherein the online order management procedure further comprises:

sending an order acceptance determining notification to the service device.

10 8. The method according to claim 4, wherein the online order management procedure further comprises:

outputting prompt information, to notify that a worker of the target merchant has received an order.

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

15 sending the offline order to the service device.

10. An order management method, applied to an order management system of a target merchant, wherein the order management system comprises a POS device and a service device, the POS device is located in an offline store of the target merchant, and is at least configured to: generate an offline order based on an order placing operation performed by an operator on the POS device, and execute  
20 an offline order management procedure for the offline order, and the method is performed by the service device and comprises:

receiving an online order of the target merchant from a plurality of online channels, and

sending the online order to the POS device, so that the POS device executes an online order management procedure for the online order.

25 11. The method according to claim 10, wherein the target merchant launches a first online store on N network platforms, the service device further communicates with the N network platforms, and N is an integer greater than or equal to 1; and

the online order comprises orders that are received from the N network platforms and that are generated by the first online store.

30 12. The method according to claim 11, wherein the service device is deployed with a second online store for scanning and access by a terminal device; and

the online order further comprises an order that is received from the terminal device and that is generated by the second online store.

13. The method according to claim 11, wherein the method further comprises:

receiving a processing completion notification that corresponds to the online order and that is sent by the POS device; and

sending the processing completion notification corresponding to the online order to a source of the online order.

5        14. The method according to claim 11, wherein the method further comprises:

receiving, from the POS device, an order acceptance determining notification corresponding to the online order; and

sending the order acceptance determining notification to a source of the online order.

15. The method according to claim 11, wherein the method further comprises:

10        receiving the offline order from the POS device; and

storing order information of the online order and order information of the offline order.

16. A POS device, comprising:

at least one storage medium, storing at least one instruction set, to perform order management; and

15        at least one processor, communicatively connected to the at least one storage medium, wherein when the POS device runs, the at least one processor reads the at least one instruction set, and performs the order management method according to any one of claims 1 to 9 based on an indication of the at least one instruction set.

17. A service device, comprising:

20        at least one storage medium, storing at least one instruction set, to perform order management; and

at least one processor, communicatively connected to the at least one storage medium, wherein when the service device runs, the at least one processor reads the at least one instruction set, and performs the order management method according to any one of claims 10 to 15 based on an indication of the at least one instruction set.

25        18. A computer-readable nonvolatile storage medium, wherein the computer-readable nonvolatile storage medium stores at least one instruction set, and when the at least one instruction set is executed by at least one processor, the order management method according to any one of claims 1 to 9 is implemented, or the order management method according to any one of claims 10 to 15 is implemented.

30        19. An order management system, comprising:

a POS device, located in an offline store of a target merchant, configured to: generate an offline order based on an order placing operation performed by an operator on the POS device, and execute an offline order management procedure for the offline order; and

a service device, communicatively connected to the POS device, and configured to: receive an online order of the target merchant from a plurality of online channels, and send the online order to the POS device, wherein

the POS device is further configured to: receive the online order from the service device, and  
5 perform an online order management procedure for the online order.

20. The system according to claim 19, wherein the offline store comprises a reception area and an operation area, the POS device is located in the reception area, and the system further comprises a display device, located in the operation area and communicatively connected to the POS device;

the offline order management procedure comprises: sending the offline order to the display  
10 device, so that the display device displays content of the offline order, and receiving, from the display device, a processing completion notification corresponding to the offline order after processing of the content of the offline order is completed; and

the online order management procedure comprises: sending the online order to the display device, so that the display device displays content of the online order, and receiving, from the  
15 display device, a processing completion notification corresponding to the online order after processing of the content of the online order is completed.