

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

TECHNICAL FIELD

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

BACKGROUND

[0002] In some offline scenarios, a merchant can receive an order by using a point of sale (POS)
terminal when performing service development in a store, and store and manage the order by using
10 a POS device. For example, a catering industry is used as an example. The store of the merchant
can include a front-of-house area, and the front-of-house area is available to a consumer to order
and eat.

[0003] One merchant can be equipped with a plurality of POS devices, to improve order
processing efficiency. Usually, the merchant can allocate a sub-area in the front-of-house area to
15 each POS device, and manage, by using the POS device, orders generated on several dining tables
in the corresponding sub-area. When quantities of diners in different sub-areas are not evenly
distributed, one POS device may be busy, and another POS device may be idle. Alternatively, when
a consumer places an order, the consumer changes to a dining table in another sub-area for dining.
In this case, when the consumer needs to check out, the consumer further needs to return to a first
20 sub-area to check out by using a POS device corresponding to the first sub-area, or a worker of the
merchant needs to bring a POS device corresponding to a first sub-area to a second sub-area for
use by the consumer to check out. In all of the above-mentioned manners, the POS device is not
used flexibly enough, and the plurality of POS devices cannot be used efficiently. Consequently,
order processing efficiency is not clearly improved.

25 [0004] Content of the background part is merely information learned of by the inventor, and
neither means that the information has entered a public domain before an application date of the

present disclosure, nor means that the information can become a conventional technology of the present disclosure.

SUMMARY

[0005] This specification provides an order processing method, an electronic device, an order management system, and a storage medium. When a merchant is equipped with a plurality of POS devices, orders of different POS devices can be actively synchronized by using a service device, thereby further improving order processing efficiency.

[0006] According to a first aspect, this specification provides an order processing method, applied to an order management system of a target merchant. The order management system includes a service device and a plurality of POS devices, and the method includes: The service device receives a target order from a first POS device. The target order is an order generated by the first POS device in response to an order placing operation performed by an operator, and the first POS device is any one of the plurality of POS devices. The service device sends the target order to at least one target POS device. The target order is stored and managed by the at least one target POS device, and the at least one target POS device is some or all of the plurality of POS devices other than the first POS device.

[0007] According to a second aspect, this specification further provides an order processing method, applied to an order management system of a target merchant. The order management system includes a service device and a plurality of POS devices, and the method includes: In response to an order placing operation performed by an operator on a first POS device, the first POS device generates a target order, and stores the target order. The first POS device is any one of the plurality of POS devices. The first POS device sends the target order to the service device. The target order is forwarded by the service device to at least one target POS device, and is stored and managed by the at least one target POS device, and the at least one target POS device is some or all of the plurality of POS devices other than the first POS device.

[0008] According to a third aspect, this specification further provides an order processing method, applied to an order management system of a target merchant. The order management system includes a service device and a plurality of POS devices, and the method includes: A second POS device receives a target order from the service device. The target order is an order generated

by a first POS device in response to an order placing operation performed by an operator and sent to the service device, the first POS device is any one of the plurality of POS devices, and the second POS device is a POS device in the plurality of POS devices other than the first POS device. The second POS device stores the target order, and manages the target order.

5 **[0009]** According to a fourth aspect, this specification further provides an electronic device, serving as a service device, and including: at least one storage medium, storing at least one instruction set, to manage order data; and at least one processor, communicatively connected to the at least one storage medium. When the electronic device runs, the at least one processor reads the at least one instruction set, and performs the order processing method according to the first
10 aspect based on an indication of the at least one instruction set.

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

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

[0012] According to a seventh aspect, this specification further provides an order management system, including: a service device, configured to perform the order processing method according to the first aspect; and a plurality of POS devices, separately communicatively connected to the
25 service device. Each POS device is configured to perform the method according to the second aspect or the third aspect.

[0013] Other functions of the order processing method, the electronic device, the order management system, and the storage medium provided in this specification are partially listed in the following descriptions. Creative aspects of the order processing method, the electronic device,
30 the order management system, 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

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

[0015] FIG. 1 is a schematic diagram of an application scenario 100 of an order management system according to an embodiment of this specification;

10 [0016] FIG. 2 is a schematic diagram of another application scenario of an order processing system according to an embodiment of this specification;

[0017] FIG. 3 is a diagram of a hardware structure of a computing device 200 according to an embodiment of this specification;

15 [0018] FIG. 4 is a flowchart of an order processing method according to an embodiment of this specification;

[0019] FIG. 5 is a schematic diagram of order content of a target order according to an embodiment of this specification;

[0020] FIG. 6A and FIG. 6B are schematic diagrams of interaction interfaces of a second POS device according to an embodiment of this specification;

20 [0021] FIG. 7 is a schematic diagram of executing a payment procedure of a target order by a second POS device according to an embodiment of this specification;

[0022] FIG. 8 is a schematic diagram of updating a target order by a second POS device according to an embodiment of this specification; and

25 [0023] FIG. 9 is a schematic diagram of deleting a target order by a second POS device according to an embodiment of this specification.

DESCRIPTION OF EMBODIMENTS

[0024] 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 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
5 consistent with that of the claims.

[0025] The terms used herein are only intended to describe a particular example embodiment, 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
10 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 another feature, integer, step, operation, element, component, and/or group can be added to the system/method.

[0026] 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
15 combination and manufacturing of components can be significantly improved. With reference to 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
20 understood that the accompanying drawings are not drawn to scale.

[0027] The flowchart used in this specification illustrates operations implemented by a system 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
25 flowchart. One or more operations can be removed from the flowchart.

[0028] 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
30 merchant can be a small/micro merchant, a large merchant, a chain store, etc. This is not limited in this specification.

[0029] 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.

[0030] 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 and a cashier in a face-to-face manner.

[0031] When the merchant needs to perform service development on the offline channel, the merchant needs to purchase a point of sale (POS) device, to manage the offline order. The POS 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 POS device and submit an order based on a purchase requirement of the consumer. The order is an offline order.

[0032] 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.

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

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

[0035] A POS 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.

[0036] Further, when the merchant cooperates with the plurality of network platforms, the merchant has a relatively large quantity of order sources. Orders generated on different network platforms are stored in servers corresponding to the network platforms. When the merchant manages the online order, the merchant needs to visit 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.

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

5 **[0038]** 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-
10 end device).

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

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

[0041] The POS device 110 is an electronic device with a specific computing capability. In some embodiments, the POS device 110 can include a hardware device with a data processing function and a necessary program needed for driving the hardware device to work. The POS device 110 can manage an order by driving the hardware device to execute the program. For example, the
25 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
30 device 110 (for example, software built in the POS device 110 when the POS device 110 is delivered from a factory), or can be software that is later installed in the POS device 110 by the

worker of the merchant. This is not limited in this specification.

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

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

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

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

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

[0047] In some embodiments, a code scanning apparatus 112 can be built in or externally

connected to the POS device 110 when the POS device 110 supports code scanning payment. When a built-in manner is used, the code scanning apparatus 112 can be disposed at any possible location of the POS device 110. This is not limited in this specification. When an externally 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.

[0048] 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 externally connected manner is used, the POS device 110 can be connected to the photographing apparatus in a wired or wireless manner. This is not limited in this specification. 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.

[0049] In some embodiments, a near field communication apparatus (not shown in FIG. 1) can be built in or externally connected to the POS device 110 when the POS device 110 supports near field communication based payment. The near field communication apparatus can be disposed at any possible location of the POS device 110. This is not limited in this specification. When the consumer selects near field communication based payment, the POS device 110 can control the near field communication apparatus to enter a communication mode. When the consumer places a terminal device with a near field communication component close to the near field communication apparatus, the near field communication apparatus communicates with the near field communication component in the terminal, to obtain payment information of the order.

[0050] In some embodiments, a printing apparatus 113 can be built in or externally connected

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

[0051] 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.

[0052] 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.

[0053] 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.

[0054] 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.

[0055] The following describes a working process of the order management system by using a catering scenario as an example.

[0056] With reference to FIG. 1, a catering store can include a front-of-house area and a back-of-house area. The front-of-house area is used to receive a consumer and is used by the consumer for dining. The front-of-house area can also be referred to as a reception area. The back-of-house area is an area in which a cook cooks dishes. The back-of-house area can also be referred to as a preparation area. The POS device 110 is usually located in the front-of-house area. The service device 120 can be located in the dining area, or can be in a cloud.

[0057] A process in which the order management system processes the offline order is follows: As shown in FIG. 1, a consumer A goes to a store to have a dinner. The consumer A notifies a cashier of a required dish. The cashier selects a corresponding dish on the POS device 110, and places an order. The POS device 110 generates an offline order in response to an order placing operation of the cashier. The POS device 110 sends the offline order to the service device 120, so that the service device 120 stores the offline order. The POS device 110 can perform cash collection processing for the offline order based on a payment manner selected by the consumer.

[0058] The order management system can receive online orders from a plurality of online channels. The following provides descriptions by using three cases as examples.

[0059] 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.

[0060] 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.

[0061] 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.

[0062] It can be learned from the above-mentioned descriptions that an offline order received by the merchant and online orders from all channels are stored in the service device 120. Therefore, the merchant can implement unified management of all orders on the service device 120. Compared with a manner in which the merchant respectively manages orders on different channels, the order management system provided in this specification can improve convenience of order management of the merchant and improve order management efficiency.

[0063] The catering scenario continues to be taken as an example. After receiving an order, the merchant needs to process and cook a dish in the order. In an actual application, after the POS device 110 receives an order (including an offline order and an online order), the POS device 110 can control the printing apparatus to print a kitchen order ticket that includes food content of the order, and the kitchen order ticket is manually delivered to a back-of-house area. The cook cooks a dish based on the dish content in the kitchen order ticket. In such a manner of manually delivering the kitchen order ticket, a dish is easily cooked wrongly in a peak period of dining, and efficiency is relatively low. Consequently, dining duration of the consumer increases.

[0064] Therefore, in some embodiments of this specification, as shown in FIG. 1, the order management system can further include one or more display devices 130. For example, in the catering scenario, the display device 130 can also be referred to as a kitchen display system (KDS). The display device 130 is disposed in the back-of-house area, and is communicatively connected to the POS device 110. The display device 130 can receive an order from the POS device 110, and display a to-be-cooked dish to the cook, to improve cooking efficiency of the cook and reduce a probability that the cook wrongly cooks. In some embodiments, after a dish is cooked, the cook can further send a dish cooking completion notification to the POS device 110 by using the display device 130, so that the POS device 110 knows an order processing progress.

[0065] In stores of some merchants, the back-of-house area include a plurality of ports. Different ports are equipped with different cooks who are responsible for cooking different types of dishes. With reference to FIG. 1, an example in which the back-of-house area includes a cold dish port and a hot dish port is used. A cook X1 is responsible for cooking a cold dish and a cook X2 is responsible for cooking a hot dish. In this case, one display device 130 can be disposed in the cold dish port, and is configured to display, to the cook X1, a cold dish that needs to be cooked. One display device 130 can be disposed in the hot dish port, and is configured to display, to the cook X2, a hot dish that needs to be cooked. In this way, dish cooking in different ports does not interfere with each other, to further improve cooking efficiency.

[0066] 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.

[0067] 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, and details are not described for another scenario in this specification.

[0068] 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 offline order or implement processing of the online orders from the plurality of online channels. The merchant does not need to be interconnected to each of the plurality of online channels, thereby avoiding energy and time costs required for work docking. In addition, the merchant does not need to purchase an order acceptance device from each of the plurality of online channels, to reduce purchase costs of the merchant. (2) All orders received by the POS device 110 are sent to the display device 130 in the back-of-house area in real time, without a need to manually deliver the kitchen order 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.

[0069] In some cases, one merchant can be equipped with a plurality of POS devices 110. FIG. 2 is a schematic diagram of another application scenario of an order processing system according to an embodiment of this specification. As shown in FIG. 2, a catering scenario is used as an example. The merchant is configured with six POS devices in the front-of-house area, and the six POS devices are denoted as a POS device 110-1, a POS device 110-2, a POS device 110-3, a POS device 110-4, a POS device 110-5, and a POS device 110-6. All the six POS devices are communicatively connected to the service device 120.

[0070] Usually, a manner in which the merchant uses the plurality of POS devices 110 is as follows: The front-of-house area is further divided into a plurality of sub-areas. For example, several adjacent dining tables correspond to one sub-area. Each POS device 110 corresponds to one sub-area, and is responsible for managing orders generated on a plurality of dining tables in the sub-area corresponding to the POS device 110. For example, with reference to FIG. 2, the POS device 110-1 is responsible for managing orders generated on a dining table 1 and a dining table

2; the POS device 110-2 is responsible for managing orders generated on a dining table 3 and a dining table 4; the POS device 110-3 is responsible for managing orders generated on a dining table 5 and a dining table 6; and so on.

[0071] Usually, the merchant is equipped with a plurality of POS devices to improve order processing efficiency. However, flexibility of the above-mentioned manner is not good. Consequently, order processing efficiency is not clearly improved. For example, when quantities of diners in different sub-areas are not evenly distributed, one POS device may be busy, and another POS device may be idle. This affects order processing efficiency to some extent. For another example, it is assumed that after a consumer places an order by using a POS device corresponding to a first sub-area, the consumer changes to a dining table in a second sub-area for dining. In this case, when the consumer needs to check out, the consumer further needs to return to the first sub-area to check out by using the POS device corresponding to the first sub-area, or the worker of the merchant needs to bring the POS device corresponding to the first sub-area to the second sub-area for use by the consumer to check out. In all of the above-mentioned manners, order processing efficiency is reduced. Consequently, the order processing efficiency of the plurality of POS devices cannot be improved to the optimal.

[0072] In view of this, an embodiment of this specification provides an order processing method. In this method, a POS device uploads a target order to a service device after generating the target order. The service device can synchronize the target order to one or more other POS devices. In this way, orders of a plurality of POS devices can be synchronized. Further, because the orders of the plurality of POS devices are synchronized, even an order is placed by a first POS device, management can be performed (for example, order payment, order deletion, order updating, or order querying) by using a POS device other than the first POS. That is, the consumer can place an order on any POS device and manage the order on any POS device, thereby greatly improving order processing efficiency.

[0073] FIG. 3 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 service device 120 in FIG. 1 or as the POS device 110, to perform the order processing method described in this specification.

[0074] As shown in FIG. 3, 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.

[0075] 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.

[0076] The I/O component 260 supports an input/output between the electronic device 200 and another component.

[0077] 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. The communication port 250 can be a wired communication port, or can be a wireless communication port.

[0078] 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.

[0079] 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 processing method provided in this specification. The processor 220 can perform steps included in the order processing 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.

[0080] 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).

[0081] FIG. 4 is a flowchart of an order processing method according to an embodiment of this specification. The order processing method shown in FIG. 4 is applied to an order management system and is jointly performed by a service device and a plurality of POS devices.

[0082] As shown in FIG. 4, the order processing method can include the following steps.

[0083] S310: A first POS device generates a target order in response to an order placing operation performed by an operator on the first POS device, and stores the target order.

[0084] The first POS device can be any one of a plurality of POS devices equipped for a merchant.

[0085] For example, when a consumer orders on the first POS device, the consumer or a cashier selects a required product on an order page of the first POS device, and performs an order placing operation. The first POS device generates the target order in response to the order placing operation, and stores the target order locally. For ease of understanding, FIG. 5 is a schematic diagram of order content of a target order according to an embodiment of this specification. As shown in FIG. 5, a catering scenario is used as an example. The target order can include names of a plurality of products such as a product 1, a product 2, a product 3, and a product 4. For example, the product 1 can be "scrambled eggs with tomatoes", the product 2 can be "steamed fish", product 3 can be "Asian cucumber salad", and the product 4 can be "rice". In some embodiments, the target order can further include a personalized demand of a consumer for each product, for example, "no green onion", "less salt", "less oil", or "no spicy". In some embodiments, the target order can further include a delivery location corresponding to the order, for example, a table number, to guide a worker to deliver a processed product to an accurate location.

[0086] It should be noted that FIG. 5 is only an example of order content of the target order. This specification sets no limitation on a data form of the target order. For example, the target

order can be a file in a JavaScript object notation (json) format.

[0087] S320: The first POS device sends the target order to the service device.

[0088] As shown in FIG. 2, each POS device is communicatively connected with the service device. For example, when the POS device and the service device are communicatively connected, the POS device and the service device can be connected over the Internet, or can be connected over a local area network. A specific connection manner of the POS device and the service device can be determined based on an actual application situation. This not limited in this specification.

[0089] In some embodiments, a communication connection between the POS device and the service device may be interrupted. When the first POS device detects that communication is interrupted, if a target order is not sent, a sending task corresponding to the target order can be suspended, and sending is suspended. When detecting that communication is restored, the first POS device can restore the sending task corresponding to the target order, and send the target order to the service device. In this manner, a sending failure caused by a network fluctuation can be effectively avoided, and stability of the order management system is improved.

[0090] S330: The service device sends the target order to at least one target POS device.

[0091] The target POS device is a POS device that needs to perform order synchronization with the first POS device and that is in the plurality of POS devices equipped for the merchant. The at least one target POS device in S330 can be some or all of the plurality of POS devices equipped for the merchant other than the first POS device. For example, with reference to the scenario shown in FIG. 2, when a POS device 110-1 serves as a first POS device, the at least one target POS device can include some or all of a POS device 110-2, a POS device 110-3, a POS device 110-4, a POS device 110-5, and a POS device 110-6. That is, the service device can send the target order to some or all of the POS device 110-2, the POS device 110-3, the POS device 110-4, the POS device 110-5, and the POS device 110-6.

[0092] In some embodiments, when receiving the target order from the first POS device, the service device can further record a source of each target order. For example, the source of the target order can be an identifier of the first POS device that sends the target order, for example, can be a name, a device number, a physical address, etc. of the first POS device.

[0093] Correspondingly, when sending the target order to the at least one target POS device, the service device can further send the identifier of the first POS device to the at least one target POS device. In this way, when receiving the target order, the target POS device can not only know

content of the target order, but also know a specific POS device from which the target order comes.

[0094] In some embodiments, that the service device sends the target order to at least one target POS device includes: The service device determines a candidate device set from the plurality of POS devices based on an online status of the plurality of POS devices. The candidate device set includes a POS device in an online state other than the first POS device. The service device determines at least some POS devices in the candidate device set as the at least one target POS device, and sends the target order to the at least one target POS device.

[0095] In some embodiments, when the POS device and the service device are communicatively connected, the service device performs at least one time of handshake communication with the POS device at an interval of preset duration, to determine whether a communication connection with the POS device is normal. When detecting that communication with a specific POS device meets an online condition, the service device can mark an online status of the POS device as online. The online condition can include: The service device receives a message fed back by the POS device for handshake communication, the service device receives, within preset duration, the target order sent by the POS device, etc.

[0096] In some embodiments, POS devices may be unable to communicate with the service device due to various factors such as a network, a fault, a power failure, etc. When detecting that communication with a specific POS device meets an offline condition, the service device can mark an online status of the POS device as offline. The offline condition can include that the serving device does not receive, for a plurality of consecutive times, a message fed back by the POS device for handshake communication.

[0097] With reference to the above-mentioned example, the service device records an online status of each POS device. When receiving the target order from the first POS device, the service device can use, as a candidate device set based on the online status of each POS device, a POS device in an online state other than the first POS device, and determine the at least one target POS device from the candidate device set. Then, the service device sends the target order to the at least one target POS device.

[0098] As shown in FIG. 3, the service device can record an online status of the POS device 110-1 to the POS device 110-6. It is assumed that the POS device 110-5 is offline, and the other POS devices are online. When the POS device 110-1 serves as the first POS device, the candidate device set includes the POS device 110-2, the POS device 110-3, the POS device 110-4, and the

POS device 110-6. The at least one target POS device can include some or all of the POS device 110-2, the POS device 110-3, the POS device 110-4, and the POS device 110-6.

[0099] In this embodiment, the service device obtains an online status of a POS device, and uses an online POS device as the candidate device set. Then, the service device determines the at least one target POS device from the candidate device set, and sends the target order to the target POS device. In this way, the target order can be prevented from being sent to an offline POS device, communication resources can be saved, and efficiency and stability of the order management system can be improved.

[0100] In some embodiments, the plurality of POS devices are located in a store of the target merchant, the store includes a plurality of areas, the plurality of POS devices are grouped into a plurality of groups, POS devices in the same group are located in the same area of the store, and POS devices in different groups are located in different areas of the store. That the service device determines at least some POS devices in the candidate device set as the at least one target POS device includes: The service device uses, as the target POS device, a POS device that is in a same group as the first POS device and that is in the candidate device set.

[0101] As shown in FIG. 2, in a catering scenario shown in FIG. 2, the store of the target merchant includes a front-of-house area 1 and a front-of-house area 2. For example, the front-of-house area 1 and the front-of-house area 2 can be different areas in the same room, or can be different floors of the same building, or can be adjacent or similar rooms. This is not limited in this specification. In this scenario, a plurality of POS devices are disposed in each front-of-house area, and POS devices in the same front-of-house area are grouped into one group.

[0102] With reference to FIG. 2, it is assumed that all POS devices are online. The POS device 110-1, the POS device 110-2, and the POS device 110-3 are all disposed in the front-of-house area 1; and the POS device 110-1, the POS device 110-2, and the POS device 110-3 can be grouped into a first group. The POS device 110-4, the POS device 110-5, and the POS device 110-6 are all disposed in the front-of-house area 2; and the POS device 110-4, the POS device 110-5, and the POS device 110-6 can be grouped into a second group. When the POS device 110-1 serves as the first POS device, the at least one target POS device includes the POS device 110-2 and the POS device 110-3. When the POS device 110-4 serves as the first POS device, the at least one target POS device includes the POS device 110-5 and the POS device 110-6.

[0103] In this embodiment, the service device groups the plurality of POS devices based on

an area distribution of the store, and uses a POS device in the same group as the first POS device as the target POS device. Because there is a greater probability that POS devices located in the same group perform order management through coordination, there is a lower probability that POS devices located in different groups perform order management through coordination. Therefore, the service device synchronizes the target order to the POS device in the same group as the first POS device, so that storage space of a POS device in another group can be saved, and efficiency and effect of performing order management by the POS device in the order management system through coordination can be optimized.

[0104] S340: The at least one target POS device stores the target order, and manages the target order.

[0105] In some implementations, that the at least one target POS device stores the target order includes: The at least one target POS device stores the target order and the identifier of the first POS device in association. The identifier of the first POS device is used in a process in which the at least one target POS device manages the target order. For example, each target device can store the received target order and the identifier of the first POS device in a local storage.

[0106] In some implementations, in response to that the at least one target POS device receives the target order, the at least one target POS device separately outputs prompt information. The prompt information is used to notify that an order from another POS device is received. In some embodiments, the prompt information further includes the identifier of the first POS device.

[0107] For example, when receiving the target order from the first POS device, the target POS device can output the prompt information through voice broadcast, by displaying a notification on a display, etc. For example, as shown in FIG. 2, when the first POS device is the POS device 110-1, and the target POS device receives the target order from the POS device 110-1, the prompt information output by the target POS device can be "An order from a POS device 110-1 is received, please check in a timely manner". For example, the target POS device can play the voice prompt "An order from a POS device 110-1 is received, please check in a timely manner" by using a speaker connected to the target POS device; or can display a text prompt "An order from a POS device 110-1 is received, please check in a timely manner" on the display of the target POS device.

[0108] In some implementations, after receiving the target order, the at least one target POS device can manage the received target order. For example, that the at least one target POS device manages the target order includes at least one of the following: executing a payment procedure of

the target order; updating the target order; querying content of the target order; or deleting the target order.

[0109] It should be noted that a manner in which each target POS device manages the target order is similar. For ease of description, the following provides descriptions by using a process in which one target POS device (referred to as a second POS device) manages the target order.

[0110] That the second POS device manages the target order includes: The second POS device determines an allowed management type of the second POS device for the target order based on the identifier of the first POS device in response to that the operator requests to manage the target order on the second POS device. The second POS device renders a management page of the target order based on the allowed management type, and manages the target order based on an operation performed by the operator on the management page.

[0111] In some implementations, as shown in FIG. 2, when the first POS device is the POS device 110-1, the POS device 110-2, the POS device 110-3, the POS device 110-4, the POS device 110-5, or the POS device 110-6 can serve as the second POS device.

[0112] In some embodiments, different POS devices have different management rights, so that different POS devices have different allowed management types for orders from the first POS device. For example, when the second POS device is the POS device 110-3, the allowed management type of the second POS device for the target order includes: executing the payment procedure of the target order; updating the target order; querying content of the target order; or deleting the target order. When the second POS device is the POS device 110-4, the allowed management type of the second POS device for the target order includes: updating the target order, and querying the content of the target order.

[0113] FIG. 6A and FIG. 6B are schematic diagrams of interaction interfaces of a second POS device according to an embodiment of this specification.

[0114] As shown in FIG. 6A, it is assumed that the second POS device is the POS device 110-3. When the second POS device needs to manage the target order, an interface shown in FIG. 6A can be rendered and displayed. In this case, the second POS device can perform management "Pay", "Display details", "Adjust dishes", and "Delete" on the target order.

[0115] As shown in FIG. 6B, it is assumed that the second POS device is the POS device 110-4. When the second POS device needs to manage the target order, an interface shown in FIG. 6B can be rendered and displayed. In this case, the second POS device can perform management

"Display details" and "Adjust dishes" on the target order, but cannot perform management "Pay" or "Delete".

[0116] Still as shown in FIG. 6A or FIG. 6B, the second POS device displays the target order, the source of the target order, and a key that allows management of the target order in the interaction interface. When receiving a tap operation on a key, the second POS device can further display, based on a management type corresponding to the key, an interface used for management.

[0117] For example, in response to a tap operation on a "Pay" key, a display of the second POS device can display an interface used to execute the payment procedure of the target order, and notify a user to complete a payment operation. In response to a tap operation on a "Display details" key, the display of the second POS device can display a content interface for querying the target order, for example, can display a name, an operation requirement, a target location, and a quantity of each product in the target order. In response to a tap operation on a "Adjust dishes" key, the display of the second POS device can display a product name included in the target order, a key used to add a product, and a key used to reduce a product, and the product in the target order is updated based on an operation performed by the operator on the above-mentioned keys. In response to a tap operation on a "Delete" key, the display of the second POS device can display a confirmation box used to confirm deletion of the target order, and whether to delete the target order is confirmed based on a further operation on the confirmation box.

[0118] The following further describes a case in which the second POS device manages the target order.

[0119] In some implementations, that the second POS device queries the content of the target order includes: In response to that the operator performs a query operation on the target order on the second POS device, the second POS device obtains the stored target order, and displays the content of the target order.

[0120] For example, after detecting that the query operation is performed on the target order, the second POS device can retrieve the target order from the local storage of the second POS device, and display the content of the target order on the display.

[0121] FIG. 7 is a schematic diagram of executing a payment procedure of a target order by a second POS device according to an embodiment of this specification.

[0122] In some implementations, as shown in FIG. 7, the payment procedure that is of the target order and that is executed by the second POS device includes the following steps.

[0123] S710: The second POS device obtains a payment result corresponding to the target order after the user (consumer) performs the payment operation on the target order on the second POS device.

[0124] In some implementations, the display of the second POS device can display an interface used to execute the payment procedure of the target order, and notify the user to complete the payment operation. For example, the display of the second POS device can display a consumption amount corresponding to the target order and at least one payment manner. The payment manner can include code scanning payment, card scanning payment, cash payment, near field communication based payment, etc. The second POS device can receive the payment result after completing the payment operation. The payment result can represent that payment succeeds or payment fails.

[0125] When the payment manner is a manner such as code scanning payment, card scanning payment, near field communication based payment, etc., the payment result can be receipt information from a financial institution. When the payment manner is cash payment, the payment result can be a confirmation operation performed by the worker of the merchant on the second POS device after the worker verifies that cash is correct.

[0126] S720: The second POS device stores a payment state of the target order based on the payment result.

[0127] In some implementations, when the payment result represents that payment succeeds, the second POS device can determine that the payment state corresponding to the target order is "paid"; or when the payment result represents that payment fails, the second POS device can determine that the payment state corresponding to the target order is "unpaid". The second POS device can write the payment state of the target order into the local storage.

[0128] S730: The second POS device sends the payment state of the target order to the service device.

[0129] S740: The service device sends the payment state of the target order to the first POS device and another POS device.

[0130] In some embodiments, the another POS device can be a device in the at least one target POS device other than a second POS device. For example, as shown in FIG. 2, when the first POS device is the POS device 110-1 and the second POS device is the POS device 110-3, another POS device can be at least one of the POS device 110-2, the POS device 110-4, the POS device 110-5,

or the POS device 110-6.

[0131] It should be noted that an implementation in which the second POS device sends the payment state of the target order to the service device and the service device sends the payment state of the target order to the first POS device and the another POS device is similar to an implementation in which the service device sends the target order to the at least one target POS device in S330, and details are not described herein again.

[0132] S750: The first POS device and the another POS device store the payment state of the target order.

[0133] For example, the first POS device and the another POS device can separately write the payment state of the target order into the local storage.

[0134] FIG. 8 is a schematic diagram of updating a target order by a second POS device according to an embodiment of this specification.

[0135] In some implementations, as shown in FIG. 8, a procedure in which the second POS device updates the target order includes the following steps.

[0136] S810: The second POS device determines updated content of the target order in response to that the operator performs an order update operation on the target order on the second POS device.

[0137] In some implementations, as shown in FIG. 6A, in response to a tap operation on a "Adjust dishes" key, the second POS device can display, on the display, an interface for updating the target order. For example, the operator can perform at least one of the following order update operations based on the interface for updating the target order: adding a new product to the target order, removing a product in the target order, modifying a quantity of the product in the target order, modifying an operation requirement of the product in the target order, modifying a target location of a product in the target order, etc. After receiving the order update operation, the second POS device can determine the updated content of the target order based on the received order update operation. For example, the updated content of the target order can include one of the following: deleting the product 1, and adding "less salt" to a personalized requirement of the product 2.

[0138] S820: The second POS device updates the stored target order based on the updated content.

[0139] For example, the second POS device updates the locally stored target order based on

the updated content.

[0140] S830: The second POS device sends the updated content to the service device.

[0141] S840: The service device sends the updated content to the first POS device and the another POS device.

5 **[0142]** In some embodiments, the another POS device in S840 is similar to that in S740. A method used when the second POS device sends the updated content to the service device and the service device sends the updated content to the first POS device and the another POS device is similar to a manner in which the service device sends the target order to the at least one target POS device in S330, and details are not described herein again.

10 **[0143]** S850: The first POS device and the another POS device update the stored target order based on the updated content.

[0144] In some embodiments, the first POS device and the another POS device can separately update the locally stored target order based on the updated content.

[0145] FIG. 9 is a schematic diagram of deleting a target order by a second POS device
15 according to an embodiment of this specification.

[0146] In some implementations, as shown in FIG. 9, a procedure in which the second POS device deletes the target order includes the following steps.

[0147] S910: The second POS device deletes the stored target order in response to that the operator performs the deletion operation on the target order on the second POS device.

20 **[0148]** In some implementations, as shown in FIG. 6A, the second POS device can display, on the display, the confirmation box used to confirm deletion of the target order in response to the tap operation on the "Delete" key. For example, the confirmation box can include prompt information "Are you sure you want to delete the target order", an "OK" key, and a "Cancel" key. After displaying the confirmation box on the display, the second POS device generates the deletion
25 instruction corresponding to the target order if a tap operation on the "OK" key is received; or confirms the deletion operation if a tap operation on the "Cancel" key is received.

[0149] In some implementations, the second POS device executes the deletion instruction corresponding to the target order, removes the target order from the display, and deletes the target order from the local storage. Alternatively, when executing the deletion instruction corresponding
30 to the target order, the second POS device can remove the target order from the display, and then delete the target order in the local storage if a restoring operation for the target order is not received

after preset duration.

[0150] S920: The second POS device sends the deletion instruction corresponding to the target order to the service device.

5 [0151] S930: The service device sends the deletion instruction corresponding to the target order to the first POS device and the another POS device.

[0152] In some embodiments, the another POS device in S1030 is similar to that in S740. A method used when the second POS device sends the deletion instruction corresponding to the target order to the service device and the service device sends the deletion instruction corresponding to the target order to the first POS device and the another POS device is similar to
10 a method in which the service device sends the target order to the at least one target POS device in S330, and details are not described herein again.

[0153] S940: The first POS device and the another POS device delete the stored target order based on the deletion instruction.

[0154] For example, after receiving the deletion instruction, the first POS device and the
15 another POS device separately delete the target order from the local storage.

[0155] In conclusion, according to the order processing method, the electronic device, the order management system, and the storage medium that are provided in this specification, the POS device uploads the target order to the service device after generating the target order. The service device can synchronize the target order to one or more other POS devices. In this way, orders of a
20 plurality of POS devices can be synchronized. Further, because the orders of the plurality of POS devices are synchronized, even an order is placed by a first POS device, management can be performed (for example, order payment, order deletion, order updating, or order querying) by using a POS device other than the first POS. That is, the consumer can place an order on any POS device and manage the order on any POS device, thereby greatly improving order processing
25 efficiency.

[0156] 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 instruction set is executed by a processor, the at least one instruction set instructs the processor to implement the steps the order processing method in this specification. In some
30 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 the order processing method 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
5 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,
10 apparatus, or device, a magnetic system, apparatus, or device, an optical system, apparatus, or device, an electromagnetic system, apparatus, or device, an infrared system, apparatus, or device, or a semiconductor system, apparatus, or device, or any combination thereof. More specific examples of the readable storage medium include: an electrical connection including one or more conducting wires, a portable disk, a hard disk, a random access memory (RAM), a read-only
15 memory (ROM), an erasable programmable read-only memory (EPROM or flash memory), an optical fiber, a portable compact disc read-only memory (CD-ROM), an optical storage component, a magnetic storage component, or any proper combination thereof. The computer-readable storage medium can include a data signal propagated in a baseband or as part of a carrier, and carries readable program code. The propagated data signal can be in a plurality of forms, and includes but
20 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
25 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
30 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 computing device, or completely executed on a remote computing device.

[0157] 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.

[0158] 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.

[0159] 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.

[0160] 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.

- 5 [0161] 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.
- 10 [0162] 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
15 this specification to implement the application in this specification. Therefore, the embodiments of this specification are not limited to the embodiments accurately described in the application.

CLAIMS

What is claimed is:

1. An order processing method, applied to an order management system of a target merchant, wherein the order management system comprises a service device and a plurality of POS devices,

5 and the method comprises:

receiving, by the service device, a target order from a first POS device, wherein the target order is an order generated by the first POS device in response to an order placing operation performed by an operator, and the first POS device is any one of the plurality of POS devices; and

10 sending, by the service device, the target order to at least one target POS device, wherein the target order is stored and managed by the at least one target POS device, and the at least one target POS device is some or all of the plurality of POS devices other than the first POS device.

2. The method according to claim 1, wherein the sending, by the service device, the target order to at least one target POS device comprises: sending, by the service device, the target order to the at least one target POS device and an identifier of the first POS device.

15 3. The method according to claim 1, wherein the at least one target POS device comprises a second POS device, the target order is an unpaid order, and the method further comprises:

receiving, by the service device, a payment state of the target order, wherein the payment state of the target order is obtained by the second POS device based on a payment result corresponding to the target order after a user performs a payment operation on the target order on
20 the second POS device and sent to the service device; and

sending, by the service device, the payment state of the target order to the first POS device and another POS device different from the at least one target POS device.

4. The method according to claim 1, wherein the at least one target POS device comprises a second POS device, and the method further comprises:

25 receiving, by the service device, updated content of the target order, wherein the updated content of the target order is obtained by the second POS device after the operator performs an order update operation on the target order on the second POS device and sent to the service device; and

sending, by the service device, the updated content to the first POS device and another POS
30 device different from the at least one target POS device.

5. The method according to claim 1, wherein the at least one target POS device comprises a second POS device, and the method further comprises:

receiving, by the service device, a deletion instruction corresponding to the target order, wherein the deletion instruction is generated by the second POS device after the operator performs a deletion operation on the target order on the second POS device and sent to the service device; and

sending, by the service device, the deletion instruction to the first POS device and another POS device different from the at least one target POS device.

6. The method according to claim 1, wherein the sending, by the service device, the target order to at least one target POS device comprises:

determining, by the service device, a candidate device set from the plurality of POS devices based on an online status of the plurality of POS devices, wherein the candidate device set comprises a POS device in an online state other than the first POS device; and

determining, by the service device, at least some POS devices in the candidate device set as the at least one target POS device, and sending the target order to the at least one target POS device.

7. The method according to claim 6, wherein the plurality of POS devices are located in a store of the target merchant, the store comprises a plurality of areas, the plurality of POS devices are grouped into a plurality of groups, POS devices in a same group are located in a same area of the store, and POS devices in different groups are located in different areas of the store; and

the determining, by the service device, at least some POS devices in the candidate device set as the at least one target POS device comprises:

using, by the service device as the target POS device, a POS device that is in a same group as the first POS device and that is in the candidate device set.

8. An order processing method, applied to an order management system of a target merchant, wherein the order management system comprises a service device and a plurality of POS devices, and the method comprises:

in response to an order placing operation performed by an operator on a first POS device, generating, by the first POS device, a target order, and storing the target order, wherein the first POS device is any one of the plurality of POS devices; and

sending, by the first POS device, the target order to the service device, wherein the target order is forwarded by the service device to at least one target POS device, and is stored and

managed by the at least one target POS device, and the at least one target POS device is some or all of the plurality of POS devices other than the first POS device.

9. The method according to claim 8, wherein the method further comprises:

receiving and storing, by the first POS device, a payment state that is of the target order and
5 that is sent by the service device.

10. The method according to claim 8, wherein the method further comprises:

receiving, by the first POS device, updated content that is of the target order and that is sent
by the service device; and

updating, by the first POS device, the stored target order based on the updated content.

11. The method according to claim 8, wherein the method further comprises:

receiving, by the first POS device, a deletion instruction that corresponds to the target order
and that is sent by the service device; and

deleting, by the first POS device, the stored target order based on the deletion instruction.

12. An order processing method, applied to an order management system of a target merchant,
15 wherein the order management system comprises a service device and a plurality of POS devices,
and the method comprises:

receiving, by a second POS device, a target order from the service device, wherein the target
order is an order generated by a first POS device in response to an order placing operation
performed by an operator and sent to the service device, the first POS device is any one of the
20 plurality of POS devices, and the second POS device is a POS device in the plurality of POS
devices other than the first POS device; and

storing, by the second POS device, the target order, and managing the target order.

13. The method according to claim 12, wherein the managing, by the second POS device, the
target order comprises at least one of the following:

25 executing a payment procedure of the target order;

updating the target order;

querying content of the target order; or

deleting the target order.

14. The method according to claim 12, wherein the storing, by the second POS device, the
30 target order comprises: storing, by the second POS device, the target order and an identifier of the
first POS device in association, wherein

the identifier of the first POS device is used in a process in which the second POS device manages the target order.

15. The method according to claim 14, wherein the managing, by the second POS device, the target order comprises:

5 determining, by the second POS device, an allowed management type of the second POS device for the target order based on the identifier of the first POS device in response to that the operator requests to manage the target order on the second POS device; and

 rendering, by the second POS device, a management page of the target order based on the allowed management type, and managing the target order based on an operation performed by the
10 operator on the management page.

16. The method according to claim 12, wherein the target order is an unpaid order, and the managing, by the second POS device, the target order comprises:

 obtaining, by the second POS device, a payment result corresponding to the target order after a user performs a payment operation on the target order on the second POS device; and

15 storing, by the second POS device, a payment state of the target order based on the payment result, and sending the payment state of the target order to the service device.

17. The method according to claim 12, wherein the managing, by the second POS device, the target order comprises:

 determining, by the second POS device, updated content of the target order in response to
20 that the operator performs an order update operation on the target order on the second POS device;
and

 updating, by the second POS device, the stored target order based on the updated content, and sending the updated content to the service device.

18. The method according to claim 12, wherein the managing, by the second POS device, the
25 target order comprises:

 in response to that the operator performs a query operation on the target order on the second POS device, obtaining, by the second POS device, the stored target order, and displaying content of the target order.

19. The method according to claim 12, wherein the managing, by the second POS device, the
30 target order comprises:

 in response to that the operator performs a deletion operation on the target order on the second

POS device, deleting, by the second POS device, the stored target order, and sending a deletion instruction corresponding to the target order to the service device.

20. The method according to claim 12, wherein the method further comprises:

outputting, by the second POS device, prompt information in response to that the second POS device receives the target order, wherein the prompt information is used to notify that an order from another POS device is received.

21. The method according to claim 20, wherein the prompt information further comprises an identifier of the first POS device.

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

at least one storage medium, storing at least one instruction set, to manage order data; and
at least one processor, communicatively connected to the at least one storage medium, wherein when the electronic device runs, the at least one processor reads the at least one instruction set, and performs the method according to any one of claims 1 to 7 based on an indication of the at least one instruction set.

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

at least one storage medium, storing at least one instruction set, to manage order data; and
at least one processor, communicatively connected to the at least one storage medium, wherein when the electronic device runs, the at least one processor reads the at least one instruction set, and performs the method according to any one of claims 8 to 11 or the method according to any one of claims 12 to 21 based on an indication of the at least one instruction set.

24. A computer-readable non-transitory storage medium, wherein the computer-readable non-transitory storage medium stores at least one instruction set, and when the at least one instruction set is executed by at least one processor, the method according to any one of claims 1 to 7, or the method according to any one of claims 8 to 11, or the method according to any one of claims 12 to 21 is implemented.

25. An order management system, comprising:

a service device, configured to perform the order processing method according to any one of claims 1 to 7; and

a plurality of POS devices, separately communicatively connected to the service device, wherein each POS device is configured to perform the method according to any one of claims 8 to 11, or perform the method according to any one of claims 12 to 21.