

CLAIMS

1. A method for processing an order of goods, the method comprising:
 - detecting, by a client based on an image recognition method, whether a change of the goods occurs in a storage container;
 - in response to determining that the change of the goods is detected, sending, by the client, an associated image of the change of the goods in the storage container to a server;
 - identifying, by the server, information about a goods difference in the storage container based on the associated image;
 - generating, by the server, corresponding goods order change information by using the difference information;
 - updating, by the server, user order information corresponding to the client based on the goods order change information;
 - sending, by the server, updated user order information to the client; and
 - displaying, by the client, the updated user order information.
2. A method for processing an order of goods, the method comprising:
 - receiving an associated image uploaded by a client, wherein the associated image comprises an image obtained in response to determining that the client detects that a change of the goods occurs in a storage container, based on an image recognition method;
 - identifying information about a goods difference in the storage container based on the associated image;
 - generating corresponding goods order change information by using the difference information;
 - updating user order information corresponding to the client based on the goods order change information; and
 - sending updated user order information to the client.
3. The method according to claim 2, further comprising:

receiving a user input defining boundaries for capturing goods images within the storage container;

capturing the goods images of the storage container by using a client photographing device;
detecting difference data between the goods images based on a chronological sequence; and
in response to determining that the difference data is greater than a predetermined change threshold, determining that a change of the goods occurs in the storage container.

4. The method according to claim 3, wherein the associated image comprises at least one of the following images:

a goods image corresponding to difference data that is greater than the change threshold;

a goods image in a goods image predetermined window range corresponding to a change of a goods moment in response to determining that a change of the goods occurs in the storage container; and

a goods image in a goods image predetermined time range corresponding to a change of the goods moment in response to determining that it is determined that a change of the goods occurs in the storage container.

5. The method according to claim 2, wherein identifying the information about the goods difference in the storage container based on the associated image comprises:

detecting goods information in the associated image by using a goods detection model obtained through a machine learning algorithm, to determine the goods difference information.

6. The method according to claim 2, wherein identifying the information about the goods difference in the storage container based on the associated image comprises:

detecting a goods identifier in the associated image, to use the detected goods identifier as the goods difference information;

determining that the goods in the associated image fails to be identified; and

in response to determining that the goods identifier in the associated image fails to be identified, detecting goods information in the associated image by using a goods detection model obtained through a machine learning algorithm, to determine the goods difference information.

7. The method according to claim 6, further comprising:

in response to determining that a goods in the associated image fails to be identified, generating an operation task for detection failure of the associated image, and placing the operation task in a task scheduling queue; and

pushing, based on an obtained network cashier list, the operation task in the task scheduling queue to cashier nodes that satisfy an operation condition, wherein the network cashier list records processing task operation statuses of cashier nodes.

8. The method according to claim 7, further comprising:

querying whether a network cashier in the network cashier list is bound to the operation task; and

in response to determining that a network cashier in the network cashier list is bound to the operation task, sending the corresponding operation task to a cashier node of the corresponding bound network cashier for processing.

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

after determining the network cashier bound to the operation task, querying an operation status of the bound cashier node; and

in response to determining that the operation status indicates a saturated operation amount, sending the operation task to a cashier node of a network cashier with an unsaturated operation amount in the network cashier list for processing.

10. The method according to claim 7, wherein pushing, based on the network cashier list, the operation task in the task scheduling queue to cashier nodes that satisfy an operation condition comprises:

pushing the operation task to at least two cashier nodes; and

identifying information about the goods difference in the storage container based on the associated image comprises: determining the information about the goods difference in the storage container based on goods identification results of the at least two cashier nodes.

11. The method according to claim 7, further comprising:

in response to determining that a goods identification result of the cashier node comprises a goods identification failure, performing at least one of the following:

returning a prompt message to the client, wherein the prompt message comprises information content of at least one of a goods order generation failure and a goods re-arrangement; and

generating an unidentified-goods order corresponding to an associated image for the goods identification failure, and setting, based on information about the unidentified-goods order, an identity verification result of a storage container corresponding to the unidentified-goods order to "failed".

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

receiving positioning information of the storage container uploaded by the client, and determining a goods interval for the change of the goods in the storage container based on the positioning information; and

identifying information about the goods difference in the storage container based on the associated image comprises: identifying goods information in the associated image in a range of the goods interval, and determining the difference information for the change of the goods in the storage container based on the identified goods information.

13. A method for processing an order of goods, wherein the method comprises:

detecting, based on an image recognition method, whether a change of the goods occurs in a storage container;

in response to determining that a change of the goods is detected, sending an associated image of the change of the goods in the storage container to a server;

receiving updated user order information returned by the server; and

displaying the updated user order information.

14. The method according to claim 13, wherein detecting, based on the image recognition method, whether the change of the goods occurs in the storage container comprises:

capturing goods images of the storage container by using a photographing device;

detecting difference data between the goods images based on a chronological sequence; and

in response to determining that the difference data is greater than a predetermined change threshold, determining that a change of the goods occurs in the storage container.

15. The method according to claim 13, wherein the associated image comprises at least one of the following images:

a goods image corresponding to difference data that is greater than the change threshold;

a goods image in a goods image predetermined window range corresponding to a change of a goods moment in response to determining that it is determined that a change of the goods occurs in the storage container; and

a goods image in a goods image predetermined time range corresponding to a change of the goods moment in response to determining that it is determined that a change of the goods occurs in the storage container.

16. The method according to claim 13, further comprising:

identifying goods boundaries for a change of the goods in the associated image; and

sending the associated image to the server comprises: sending an image within the identified goods boundaries to the server.

17. The method according to claim 13, further comprising:

obtaining positioning information of the storage container, and sending the positioning information to the server, so that the server determines a goods interval for a goods in the storage container based on the positioning information.

18. An apparatus for processing an order of goods, wherein the apparatus comprises:

an image receiving module, configured to receive an associated image uploaded by a client, wherein the associated image comprises an image obtained in response to determining that the client detects, based on an image recognition method, that a change of the goods occurs in a storage container;

an image recognition module, configured to identify information about the goods difference in the storage container based on the associated image;

an order generation module, configured to generate corresponding goods order change

information by using the difference information;

an order update module, configured to update user order information corresponding to the client based on the goods order change information; and

an information feedback module, configured to send updated user order information to the client.

19. The apparatus according to claim 18, wherein the image recognition module is configured to perform operations comprising:

receiving goods images of the storage container by using a client photographing device;

detecting difference data between the goods images based on a chronological sequence; and

in response to determining that the difference data is greater than a predetermined change threshold, determining that a change of the goods occurs in the storage container.

20. The apparatus according to claim 19, wherein the associated image comprises at least one of the following images:

a goods image corresponding to difference data that is greater than the change threshold;

a goods image in a goods image predetermined window range corresponding to a change of a goods moment in response to determining that it is determined that a change of the goods occurs in the storage container; and

a goods image in a goods image predetermined time range corresponding to a change of the goods moment in response to determining that it is determined that a change of the goods occurs in the storage container.

21. The apparatus according to claim 18, wherein the image recognition module comprises:

an identification code detection module, configured to detect a goods identifier in the associated image, to use the detected goods identifier as the goods difference information.

22. The apparatus according to claim 18, wherein the image recognition module comprises:

a goods detection module, wherein the goods detection module comprises a goods detection model obtained after sample training performed based on a selected machine learning algorithm, configured to detect goods information in the associated image after the associated image is

obtained, to determine the goods difference information; or configured to detect goods information in the associated image in response to determining that the goods identifier in the associated image fails to be identified, to determine the goods difference information.

23. The apparatus according to claim 22, wherein the apparatus further comprises:

a manual scheduling module, configured to, in response to determining that a goods in the associated image fails to be detected, generate an operation task for detection failure of the associated image, and place the operation task in a task scheduling queue; and

push, based on an obtained network cashier list, the operation task in the task scheduling queue to cashier nodes that satisfy an operation condition, wherein the network cashier list records processing task operation statuses of cashier nodes.

24. The apparatus according to claim 23, further comprising:

a cashier control module, configured to query whether a network cashier in the network cashier list is bound to the operation task; and

in response to determining that a network cashier in the network cashier list is bound to the operation task, send the corresponding operation task to a cashier node of the corresponding bound network cashier for processing.

25. The apparatus according to claim 24, wherein the cashier control module is further configured to query an operation status of the bound cashier node and in response to determining that the operation status indicates a saturated operation amount, send the operation task to a cashier node of a network cashier with an unsaturated operation amount in the network cashier list for processing.

26. The apparatus according to claim 23, wherein the manual scheduling module performs operations comprising:

pushing, based on the obtained network cashier list, the operation task in the task scheduling queue to the cashier nodes that satisfy the operation condition, comprising:

pushing the operation task to at least two cashier nodes; and

the image recognition module identifies the information about the goods difference in the

storage container based on the associated image, comprising: determining the information about the goods difference in the storage container based on goods identification results of the at least two cashier nodes.

27. The apparatus according to claim 23, wherein the information feedback module in response to determining that a goods identification result of the cashier node comprises a goods identification failure, performs operations comprising:

returning a prompt message to the client, wherein the prompt message comprises information content of at least one of a goods order generation failure and a goods re-arrangement; and

generating an unidentified-goods order corresponding to an associated image for the goods identification failure, and setting, based on information about the unidentified-goods order, an identity verification result of a storage container corresponding to the unidentified-goods order to "failed".

28. The apparatus according to claim 18, wherein the apparatus further comprises:

a positioning processing module, configured to receive positioning information of the storage container uploaded by the client, and determining a goods interval for the change of the goods in the storage container based on the positioning information; and

the image recognition module identifies the information about the goods difference in the storage container based on the associated image, comprising: identifying goods information in the associated image in a range of the goods interval, and determining the difference information for the change of the goods in the storage container based on the identified goods information.

29. A apparatus, wherein the apparatus comprises:

a change of the goods detection module, configured to detect, based on an image recognition method, whether a change of the goods occurs in a storage container;

an image sending module, configured to send an associated image of the change of the goods in the storage container to a server in response to determining that a change is detected ;

an information receiving module, configured to receive updated user order information returned by the server; and

a display module, configured to display the updated user order information.

30. The apparatus according to claim 29, wherein the change of the goods detection module comprises:

a photographing unit, configured to capture goods images of the storage container;

an image difference processing unit, configured to detect difference data between the goods images based on a chronological sequence; and

a change of the goods determining module, configured to, in response to determining that the difference data is greater than a predetermined change threshold, determine that a change of the goods occurs in the storage container.

31. The apparatus according to claim 30, wherein the associated image in the image sending module comprises at least one of the following images:

a goods image corresponding to difference data that is greater than the change threshold;

a goods image in a goods image predetermined window range corresponding to a change of a goods moment in response to determining that it is determined that a change of the goods occurs in the storage container; and

a goods image in a goods image predetermined time range corresponding to a change of the goods moment in response to determining that it is determined that a change of the goods occurs in the storage container.

32. The apparatus according to claim 29, wherein the change of the goods detection module comprises:

a change boundary identification module, configured to identify goods boundaries for a change of the goods in the associated image; and

the image sending module sends the associated image to the server, comprising: sending an image within the identified goods boundaries to the server.

33. The apparatus according to claim 29, wherein the apparatus further comprises:

a location positioning module, configured to obtain positioning information of the storage container, and send the positioning information to the server, so that the server determines a

goods interval of a goods in the storage container based on the positioning information.

34. A server, comprising at least one processor and a memory configured to store an instruction executable by the processor, wherein in response to determining that executing the instruction, the processor implements the following:

- receiving an associated image uploaded by a client, wherein the associated image comprises an image obtained in response to determining that the client detects, based on an image recognition method, that a change of the goods occurs in a storage container;

- identifying information about the goods difference in the storage container based on the associated image;

- generating corresponding goods order change information by using the difference information;

- updating user order information corresponding to the client based on the goods order change information; and

- sending updated user order information to the client.

35. A shopping terminal, comprising at least one processor and a memory configured to store an instruction executable by the processor, wherein in response to determining that executing the instruction, the processor implements the following:

- detecting, based on an image recognition method, whether a change of the goods occurs in a storage container;

- in response to determining that a change of the goods is detected, sending an associated image of the change of the goods in the storage container to a server;

- receiving updated user order information returned by the server; and

- displaying the updated user order information.

36. A system for processing an order of goods, comprising a shopping terminal and a server, wherein

- the server comprises the apparatus according to any one of claims 18 to 28; and

- the shopping terminal comprises the shopping terminal according to any one of claims 29 to 33;

or
the server implements steps of the method according to any one of claims 2 to 12; and
the shopping terminal implements steps of the method according to any one of claims 13 to
17.