

DESCRIPTION

Title of Invention

SHIPMENT SUPPORT APPARATUS

Technical Field

[0001]

The present invention relates to technology for replenishing a stock of a product from a warehouse, a distribution center, or the like to a store.

Background Art

[0002]

A stock amount of a product sold at a retail store such as a drug store is managed so that a product displayed and sold at a storefront does not run out, and when the stock amount falls below a certain amount, the product is shipped from a manufacturer, a wholesaler, an in-house warehouse, or the like, and replenishment of the storefront product is performed.

[0003]

Under such a background, for example, Patent Literature 1 proposes an order determination apparatus capable of presenting a quantitative criterion for determining the appropriate order quantity at the time of ordering a product and verifying the validity of the order quantity.

Citation List

Patent Literature

[0004]

Patent Literature 1: JP 2024-049832 A

Summary of Invention

Technical Problem

[0005]

However, in the above-described conventional technology, there are many types of products handled in a store, and in a case where products are sequentially shipped from a product having a smaller stock amount, there is a problem that the number of foldable containers and the number of shipments increase, a loading amount of a delivery vehicle is not optimized, and efficiency of product shipment work is reduced.

[0006]

Therefore, in view of the above problems, an object of the present invention is to provide a shipment support apparatus that improves efficiency of a product shipment operation by reducing the number of foldable containers and the number of shipments by matching shipment timing for each product as much as possible, and optimizing a foldable container loading amount and a delivery vehicle loading

amount.

Solution to Problem

[0007]

An aspect of a shipment support apparatus disclosed herein includes: a product information storage unit that stores a store stock amount and a store sales amount trend for each product sold in a store; a shipment threshold storage unit that stores a first threshold related to the store stock amount and a second threshold larger than the first threshold for each product; a stock amount prediction unit that calculates a predicted value of the store stock amount after a predetermined period for each product, based on information stored in the product information storage unit; a first candidate extraction unit that extracts a product of which the store stock amount is less than the first threshold as a first shipment candidate product; a second candidate extraction unit that extracts a product of which a predicted value of the store stock amount is less than the second threshold as a second shipment candidate product; and a shipment unit that performs processing related to shipment of the first shipment candidate product and the second shipment candidate product.

Advantageous Effects of Invention

[0008]

A shipment support apparatus disclosed herein improves efficiency of a product shipment operation by reducing the number of foldable containers and the number of shipments by matching shipment timing for each product as much as possible, and optimizing a foldable container loading amount and a delivery vehicle loading amount.

Brief Description of Drawings

[0009]

Fig. 1 is a diagram illustrating an outline of a shipment support apparatus according to the present embodiment.

Fig. 2 is a functional block diagram of the shipment support apparatus according to the present embodiment.

Fig. 3 is a diagram illustrating a hardware configuration example of the shipment support apparatus according to the present embodiment.

Fig. 4 is a flowchart illustrating a flow of a processing example considering an in-store positional relationship by the shipment support apparatus according to the present embodiment.

Fig. 5 is a flowchart illustrating a flow of a processing example considering an in-warehouse positional relationship by the shipment support apparatus according to

the present embodiment.

Description of Embodiments

[0010]

An embodiment of the present invention will be described with reference to the drawings.

(Operation Principle of Shipment Support Apparatus According to Present Embodiment)

[0011]

An operation principle of a shipment support apparatus (hereinafter, simply referred to as the "present apparatus") 100 according to the present embodiment will be described with reference to Figs. 1 and 2. Fig. 1 is a diagram illustrating a connection relationship between the present apparatus 100 and another apparatus, and Fig. 2 is a functional block diagram of the present apparatus 100.

[0012]

As illustrated in Fig. 1, the present apparatus 100 is connected to a store terminal 340 via a communication network 330. The communication network 330 may be in a wired form or a wireless form. The store terminal 340 is an apparatus that notifies the present apparatus 100 of a sales state and a stock state of a product 220 sold in a store 210, and may be, for example, a point of sales (POS) system.

[0013]

As illustrated in Fig. 2, the present apparatus 100 includes a product information storage unit 110, a shipment threshold storage unit 120, an in-store position storage unit 130, an in-warehouse position storage unit 140, a stock amount prediction unit 150, a first candidate extraction unit 160, a second candidate extraction unit 170, and a shipment unit 180.

[0014]

The product information storage unit 110 stores a store stock amount 230 and a store sales amount trend 240 for each product 220 sold in the store 210. The store sales amount trend 240 is, for example, the latest sales, the seasonal characteristics of the sales amount, and the characteristics of the sales amount depending on the weather for each product 220, and is information necessary for predicting a future store stock amount 270 of the product 220.

[0015]

The shipment threshold storage unit 120 stores a first threshold 250 related to the store stock amount 230 and a second threshold 260 larger than the first threshold 250 for each product 220 sold in the store 210.

[0016]

The in-store position storage unit 130 stores a

display position 300 in the store 210 for each product 220 sold in the store 210. The display position 300 is, for example, the XY coordinates in a case where the inside of the store 210 is regarded as a plane, or the height of a display shelf.

[0017]

The in-warehouse position storage unit 140 stores an arrangement position 320 in a warehouse 310 for each product 220 sold in the store 210. The warehouse 310 is a warehouse in which a stock for replenishing the product 220 to the store 210 is stored, and is a concept including a distribution center. The arrangement position 320 is, for example, the XY coordinates in a case where the inside of the warehouse 310 is regarded as a plane, or the height of a shelf on which the product 220 is stored.

[0018]

The stock amount prediction unit 150 calculates a predicted value 270 of a future store stock amount 230 (after a predetermined period) for each product 220, based on information 230 and 240 stored in the product information storage unit 110. The predicted value 270 is, for example, the store stock amount 230 after 3 days or 1 week. Further, the predicted value 270 is calculated based on a general prediction method, and the prediction method is not particularly limited.

[0019]

The first candidate extraction unit 160 extracts the product 220 of which the store stock amount 230 is less than the first threshold 250 as a first shipment candidate product 280. This is general processing of selecting a product to be shipped.

[0020]

The second candidate extraction unit 170 extracts the product 220 of which the predicted value 270 of the store stock amount is less than the second threshold 260 as a second shipment candidate product 290. Note that the product 220 extracted as the first shipment candidate product 280 by the first candidate extraction unit 160 is excluded from the second shipment candidate product 290. This is processing of selecting a product for which there is still room for the store stock amount 230 as compared with the first shipment candidate product 280 but a product replenishment time is close (the product will be shipped soon).

[0021]

As described above, if shipment timing for each product 220 is matched as much as possible, the number of products 220 to be placed in one folding container (hereinafter, referred to as a "foldable container") increases, and as a result, the number of foldable

containers can be reduced. In addition, if the number of products 220 packed in one foldable container increases, the number of shipments can also be reduced. As a result, a foldable container loading amount and a delivery vehicle loading amount can be optimized, and efficiency of the product shipment operation can be improved.

[0022]

The second candidate extraction unit 170 may extract, as the second shipment candidate product 290, a product which is in a predetermined positional relationship with the first shipment candidate product 280 in the store 210 and of which the predicted value 270 of the store stock amount is less than the second threshold 260, based on information 300 stored in the in-store position storage unit 130.

[0023]

At this time, the predetermined positional relationship with the first shipment candidate product 280 in the store 210 may be a relationship in which the product and the first shipment candidate product 280 are within a predetermined distance in the store 210. Further, the predetermined positional relationship with the first shipment candidate product 280 in the store 210 may be a relationship in which heights of the display shelf in the store 210 for the product and the first shipment candidate

product 280 are the same or within a predetermined difference. Further, the predetermined positional relationship with the first shipment candidate product 280 in the store 210 may be a relationship in which the product and the first shipment candidate product 280 are within the predetermined distance in the store 210, and the heights of the display shelf in the store 210 for the product and the first shipment candidate product 280 are the same or within the predetermined difference.

The display work of the second shipment candidate product 290 described above is efficient when performed together with the display work of the first shipment candidate product 280.

[0024]

The second candidate extraction unit 170 may extract, as the second shipment candidate product 290, a product which is in a predetermined positional relationship with the first shipment candidate product 280 in the warehouse 310 and of which the predicted value 270 of the store stock amount is less than the second threshold 260, based on information 320 stored in the in-warehouse position storage unit 140.

[0025]

At this time, the predetermined positional relationship with the first shipment candidate product 280

in the warehouse 310 may be a relationship in which the product and the first shipment candidate product 280 are within a predetermined distance in the warehouse 310. Further, the predetermined positional relationship with the first shipment candidate product 280 in the warehouse 310 may be a relationship in which heights of a storage shelf in the warehouse 310 for the product and the first shipment candidate product 280 are the same or within a predetermined difference. Further, the predetermined positional relationship with the first shipment candidate product 280 in the warehouse 310 may be a relationship in which the product and the first shipment candidate product 280 are within the predetermined distance in the warehouse 310, and the heights of the storage shelf in the warehouse 310 for the product and the first shipment candidate product 280 are the same or within the predetermined difference.

The selection and extraction (pickup) work of the second shipment candidate product 290 described above is efficient when performed together with the same work of the first shipment candidate product 280.

[0026]

The shipment unit 180 performs processing related to shipment of the first shipment candidate product 280 and the second shipment candidate product 290. For example,

the shipment unit 180 may instruct an employee to perform the shipment work of the first shipment candidate product 280 and the second shipment candidate product 290 or support the shipment.

[0027]

The shipment unit 180 may perform processing related to shipment such that the first shipment candidate product 280 and the second shipment candidate product 290 are shipped with the same foldable container. In this way, the number of products 220 to be placed in one foldable container increases, and as a result, the number of foldable containers to be used can be reduced. In addition, if the number of products 220 packed in one foldable container increases, the number of shipments can also be reduced.

[0028]

Based on the above operation principle, the present apparatus 100 improves efficiency of a product shipment operation by reducing the number of foldable containers and the number of shipments by matching the shipment timing for each product 220 as much as possible, and optimizing a foldable container loading amount and a delivery vehicle loading amount.

(Hardware Configuration of Shipment Support Apparatus According to Present Embodiment)

[0029]

A hardware configuration example of the present apparatus 100 will be described with reference to Fig. 3. Fig. 3 is a diagram illustrating an example of a hardware configuration of the present apparatus 100. As illustrated in Fig. 3, the present apparatus 100 includes a central processing unit (CPU) 510, a read-only memory (ROM) 520, a random access memory (RAM) 530, an auxiliary storage device 540, a communication I/F 550, an input device 560, a display device 570, and a storage medium I/F 580.

[0030]

The CPU 510 is a device that executes a program stored in the ROM 520, and performs arithmetic operation processing on data developed (loaded) in the RAM 530 according to a command of the program to control the entire present apparatus 100. The ROM 520 stores programs and data executed by the CPU 510. When the CPU 510 executes the program stored in the ROM 520, the program to be executed and data are developed (loaded) in the RAM 530, and the RAM 530 temporarily holds arithmetic operation data during arithmetic operation.

[0031]

The auxiliary storage device 540 is a device that stores an operating system (OS) that is basic software, an application program according to the present embodiment,

and the like together with related data. The auxiliary storage device 540 is, for example, a hard disk drive (HDD) or a flash memory.

[0032]

The communication I/F 550 is an interface that is connected to a communication network 310 such as a wired or wireless local area network (LAN) or the Internet and exchanges data with another apparatus (POS system or the like) 340 that provides a communication function.

[0033]

The input device 560 is a device such as a keyboard for inputting data to the present apparatus 100. The display device (output device) 570 is a device including a liquid crystal display (LCD) or the like, and is a device that functions as a user interface when a user uses the functions of the present apparatus 100 or performs various settings. The storage medium I/F 580 is an interface for transmitting and receiving data to and from a storage medium 590 such as a CD-ROM, a DVD-ROM, or a USB memory.

[0034]

Each unit included in the present apparatus 100 may be realized by the CPU 510 executing a program corresponding to each unit stored in the ROM 520 or the auxiliary storage device 540. In addition, each unit included in the present apparatus 100 may have a form in

which processing related to each unit is realized as hardware. In addition, a program according to the present invention may be read from an external server device via the communication I/F 550, or the program according to the present invention may be read from the storage medium 590 via the storage medium I/F 580 to cause the present apparatus 100 to execute the program.

(Processing Example by Shipment Support Apparatus According to Present Embodiment)

(1) Processing example considering in-store positional relationship

[0035]

A processing example considering the in-store positional relationship by the present apparatus 100 will be described with reference to Fig. 4. Fig. 4 is a flowchart illustrating a flow of the processing example considering the in-store positional relationship by the present apparatus 100.

[0036]

In S10, the stock amount prediction unit 150 calculates a predicted value 270 of a future store stock amount 230 (after a predetermined period) for each product 220, based on the information 230 and 240 stored in the product information storage unit 110. The predicted value 270 is, for example, the store stock amount 230 after 3

days or 1 week. Further, the predicted value 270 is calculated based on a general prediction method, and the prediction method is not particularly limited.

[0037]

In S20, the first candidate extraction unit 160 extracts the product 220 of which the store stock amount 230 is less than the first threshold 250 as the first shipment candidate product 280. This is general processing of selecting a product to be shipped.

[0038]

In S30, the second candidate extraction unit 170 extracts the product 220 of which the predicted value 270 of the store stock amount is less than the second threshold 260 as the second shipment candidate product 290. Note that the product 220 extracted as the first shipment candidate product 280 by the first candidate extraction unit 160 is excluded from the second shipment candidate product 290. This is processing of selecting a product for which there is still room for the store stock amount 230 as compared with the first shipment candidate product 280 but a product replenishment time is close (the product will be shipped soon).

[0039]

In S30, the second candidate extraction unit 170 may extract, as the second shipment candidate product 290, a

product which is in a predetermined positional relationship with the first shipment candidate product 280 in the store 210 and of which the predicted value 270 of the store stock amount is less than the second threshold 260, based on the information 300 stored in the in-store position storage unit 130.

[0040]

At this time, the predetermined positional relationship with the first shipment candidate product 280 in the store 210 may be a relationship in which the product and the first shipment candidate product 280 are within a predetermined distance in the store 210. Further, the predetermined positional relationship with the first shipment candidate product 280 in the store 210 may be a relationship in which heights of the display shelf in the store 210 for the product and the first shipment candidate product 280 are the same or within a predetermined difference. Further, the predetermined positional relationship with the first shipment candidate product 280 in the store 210 may be a relationship in which the product and the first shipment candidate product 280 are within the predetermined distance in the store 210, and the heights of the display shelf in the store 210 for the product and the first shipment candidate product 280 are the same or within the predetermined difference.

[0041]

As described above, if shipment timing for each product 220 is matched as much as possible, the number of products 220 to be placed in one foldable container increases, and as a result, the number of foldable containers can be reduced. In addition, if the number of products 220 packed in one foldable container increases, the number of shipments can also be reduced. As a result, a foldable container loading amount and a delivery vehicle loading amount can be optimized, and efficiency of the product shipment operation can be improved.

In addition, the display work of the second shipment candidate product 290 described above is efficient when performed together with the display work of the first shipment candidate product 280.

[0042]

In S40, the shipment unit 180 performs processing related to shipment of the first shipment candidate product 280 and the second shipment candidate product 290. For example, the shipment unit 180 may instruct an employee to perform the shipment work of the first shipment candidate product 280 and the second shipment candidate product 290 or support the shipment.

[0043]

In S40, the shipment unit 180 may perform processing

related to shipment such that the first shipment candidate product 280 and the second shipment candidate product 290 are shipped with the same foldable container. In this way, the number of products 220 to be placed in one foldable container increases, and as a result, the number of foldable containers to be used can be reduced. In addition, if the number of products 220 packed in one foldable container increases, the number of shipments can also be reduced.

[0044]

By performing the processing described above, the present apparatus 100 improves efficiency of a product shipment operation by reducing the number of foldable containers and the number of shipments by matching the shipment timing for each product 220 as much as possible, and optimizing a foldable container loading amount and a delivery vehicle loading amount.

(2) Processing example considering in-warehouse positional relationship

[0045]

A processing example considering the in-warehouse positional relationship by the present apparatus 100 will be described with reference to Fig. 5. Fig. 5 is a flowchart illustrating a flow of the processing example considering the in-warehouse positional relationship by the

present apparatus 100.

[0046]

In S110, the stock amount prediction unit 150 calculates a predicted value 270 of a future store stock amount 230 (after a predetermined period) for each product 220, based on the information 230 and 240 stored in the product information storage unit 110. The predicted value 270 is, for example, the store stock amount 230 after 3 days or 1 week. Further, the predicted value 270 is calculated based on a general prediction method, and the prediction method is not particularly limited.

[0047]

In S120, the first candidate extraction unit 160 extracts the product 220 of which the store stock amount 230 is less than the first threshold 250 as the first shipment candidate product 280. This is general processing of selecting a product to be shipped.

[0048]

In S130, the second candidate extraction unit 170 extracts the product 220 of which the predicted value 270 of the store stock amount is less than the second threshold 260 as the second shipment candidate product 290. Note that the product 220 extracted as the first shipment candidate product 280 by the first candidate extraction unit 160 is excluded from the second shipment candidate

product 290. This is processing of selecting a product for which there is still room for the store stock amount 230 as compared with the first shipment candidate product 280 but a product replenishment time is close (the product will be shipped soon).

[0049]

In S130, the second candidate extraction unit 170 may extract, as the second shipment candidate product 290, a product which is in a predetermined positional relationship with the first shipment candidate product 280 in the warehouse 310 and of which the predicted value 270 of the store stock amount is less than the second threshold 260, based on the information 320 stored in the in-warehouse position storage unit 140.

[0050]

At this time, the predetermined positional relationship with the first shipment candidate product 280 in the warehouse 310 may be a relationship in which the product and the first shipment candidate product 280 are within a predetermined distance in the warehouse 310. Further, the predetermined positional relationship with the first shipment candidate product 280 in the warehouse 310 may be a relationship in which heights of a storage shelf in the warehouse 310 for the product and the first shipment candidate product 280 are the same or within a

predetermined difference. Further, the predetermined positional relationship with the first shipment candidate product 280 in the warehouse 310 may be a relationship in which the product and the first shipment candidate product 280 are within the predetermined distance in the warehouse 310, and the heights of the storage shelf in the warehouse 310 for the product and the first shipment candidate product 280 are the same or within the predetermined difference.

[0051]

As described above, if shipment timing for each product 220 is matched as much as possible, the number of products 220 to be placed in one folding container (hereinafter, referred to as a "foldable container") increases, and as a result, the number of foldable containers can be reduced. In addition, if the number of products 220 packed in one foldable container increases, the number of shipments can also be reduced. As a result, a foldable container loading amount and a delivery vehicle loading amount can be optimized, and efficiency of the product shipment operation can be improved.

The selection and extraction (pickup) work of the second shipment candidate product 290 described above is efficient when performed together with the same work of the first shipment candidate product 280.

[0052]

The shipment unit 180 performs processing related to shipment of the first shipment candidate product 280 and the second shipment candidate product 290. For example, the shipment unit 180 may instruct an employee to perform the shipment work of the first shipment candidate product 280 and the second shipment candidate product 290 or support the shipment.

[0053]

The shipment unit 180 may perform processing related to shipment such that the first shipment candidate product 280 and the second shipment candidate product 290 are shipped with the same foldable container. In this way, the number of products 220 to be placed in one foldable container increases, and as a result, the number of foldable containers to be used can be reduced. In addition, if the number of products 220 packed in one foldable container increases, the number of shipments can also be reduced.

[0054]

By performing the processing described above, the present apparatus 100 improves efficiency of a product shipment operation by reducing the number of foldable containers and the number of shipments by matching the shipment timing for each product 220 as much as possible,

and optimizing a foldable container loading amount and a delivery vehicle loading amount.

[0055]

Although the embodiments of the present invention have been described in detail above, the present invention is not limited to the specific embodiments, and various modifications and changes can be made within the scope of the gist of the present invention described in the claims.

Reference Signs List

[0056]

- 100 shipment support apparatus
- 110 product information storage unit
- 120 shipment threshold storage unit
- 130 in-store position storage unit
- 140 in-warehouse position storage unit
- 150 stock amount prediction unit
- 160 first candidate extraction unit
- 170 second candidate extraction unit
- 180 shipment unit
- 210 store
- 220 product sold in store
- 230 store stock amount
- 240 store sales amount trend
- 250 first threshold

260 second threshold

270 predicted value of store stock amount after
predetermined period

280 first shipment candidate product

290 second shipment candidate product

300 display position in store

310 warehouse

320 arrangement position in warehouse

330 communication network

340 store terminal (point of sales (POS) system)

510 CPU

520 ROM

530 RAM

540 auxiliary storage device

550 communication interface

560 input device

570 output device

580 storage medium interface

590 storage medium

CLAIMS

[Claim 1]

A shipment support apparatus comprising:

a product information storage unit that stores a store stock amount and a store sales amount trend for each product sold in a store;

a shipment threshold storage unit that stores a first threshold related to the store stock amount and a second threshold larger than the first threshold for each product;

a stock amount prediction unit that calculates a predicted value of the store stock amount after a predetermined period for each product, based on information stored in the product information storage unit;

a first candidate extraction unit that extracts a product of which the store stock amount is less than the first threshold as a first shipment candidate product;

a second candidate extraction unit that extracts a product of which a predicted value of the store stock amount is less than the second threshold as a second shipment candidate product; and

a shipment unit that performs processing related to shipment of the first shipment candidate product and the second shipment candidate product.

[Claim 2]

The shipment support apparatus according to claim 1, comprising:

an in-store position storage unit that stores a display position in the store for each product, wherein

the second candidate extraction unit extracts, as the second shipment candidate product, a product which is in a predetermined positional relationship with the first shipment candidate product in the store and of which a predicted value of the store stock amount is less than the second threshold, based on information stored in the in-store position storage unit.

[Claim 3]

The shipment support apparatus according to claim 2, wherein the predetermined positional relationship is a relationship in which the product and the first shipment candidate product are within a predetermined distance in the store.

[Claim 4]

The shipment support apparatus according to claim 2 or 3, wherein the predetermined positional relationship is a relationship in which heights of a display shelf in the store for the product and the first shipment candidate product are the same or within a predetermined difference.

[Claim 5]

The shipment support apparatus according to claim 1,

comprising:

an in-warehouse position storage unit that stores an arrangement position in a warehouse for each product, wherein

the second candidate extraction unit extracts, as the second shipment candidate product, a product which is in a predetermined positional relationship with the first shipment candidate product in the warehouse and of which a predicted value of the store stock amount is less than the second threshold, based on information stored in the in-warehouse position storage unit.

[Claim 6]

The shipment support apparatus according to claim 5, wherein the predetermined positional relationship is a relationship in which the product and the first shipment candidate product are within a predetermined distance in the warehouse.

[Claim 7]

The shipment support apparatus according to claim 5 or 6, wherein the predetermined positional relationship is a relationship in which heights of a shelf in the warehouse for the product and the first shipment candidate product are the same or within a predetermined difference.

[Claim 8]

The shipment support apparatus according to any one

of claims 2 to 4, wherein the first shipment candidate product and the second shipment candidate product are shipped with the same folding container.

[Claim 9]

A shipment support method in a shipment support apparatus which includes a product information storage unit that stores a store stock amount and a store sales amount trend for each product sold in a store, and a shipment threshold storage unit that stores a first threshold related to the store stock amount and a second threshold larger than the first threshold for each product, the shipment support method comprising:

- a step of causing a stock amount prediction unit to calculate a predicted value of the store stock amount after a predetermined period for each product, based on information stored in the product information storage unit;

- a step of causing a first candidate extraction unit to extract a product of which the store stock amount is less than the first threshold as a first shipment candidate product;

- a step of causing a second candidate extraction unit to extract a product of which a predicted value of the store stock amount is less than the second threshold as a second shipment candidate product; and

- a step of causing a shipment unit to perform

processing related to shipment of the first shipment candidate product and the second shipment candidate product.

[Claim 10]

The shipment support method according to claim 9, wherein

the shipment support apparatus includes an in-store position storage unit that stores a display position in the store for each product, and

the second candidate extraction unit extracts, as the second shipment candidate product, a product which is in a predetermined positional relationship with the first shipment candidate product in the store and of which a predicted value of the store stock amount is less than the second threshold, based on information stored in the in-store position storage unit.

[Claim 11]

The shipment support method according to claim 10, wherein the predetermined positional relationship is a relationship in which the product and the first shipment candidate product are within a predetermined distance in the store.

[Claim 12]

The shipment support method according to claim 10 or 11, wherein the predetermined positional relationship is a

relationship in which heights of a display shelf in the store for the product and the first shipment candidate product are the same or within a predetermined difference.

[Claim 13]

The shipment support method according to claim 9, wherein

the shipment support apparatus includes an in-warehouse position storage unit that stores an arrangement position in a warehouse for each product, and

the second candidate extraction unit extracts, as the second shipment candidate product, a product which is in a predetermined positional relationship with the first shipment candidate product in the warehouse and of which a predicted value of the store stock amount is less than the second threshold, based on information stored in the in-warehouse position storage unit.

[Claim 14]

The shipment support method according to claim 13, wherein the predetermined positional relationship is a relationship in which the product and the first shipment candidate product are within a predetermined distance in the warehouse.

[Claim 15]

The shipment support method according to claim 13 or 14, wherein the predetermined positional relationship is a

relationship in which heights of a shelf in the warehouse for the product and the first shipment candidate product are the same or within a predetermined difference.

[Claim 16]

The shipment support method according to any one of claims 10 to 12, wherein the first shipment candidate product and the second shipment candidate product are shipped with the same folding container.

[Claim 17]

A shipment support program according to any one of claims 9 to 16 to a computer.