DESCRIPTION

Title of Invention

PRODUCT INFORMATION MANAGEMENT DEVICE

Technical Field

[0001]

The present invention relates to a technique for a product master database.

Background Art

[0002]

A product master database is a database in which basic information and attributes related to products are registered, and is useful for improving operational efficiency in inventory management, sales management, and the like by centrally managing information such as, for example, product names, raw materials, use-by dates, net contents, storage methods, reviews, order units, and weights.

[0003]

Against such a background, technical proposals related to product master databases have been made. For example, Patent Literature 1 proposes a product information providing system that, while achieving confidentiality and flexibility, improves convenience by commonization of the system as a whole.

Citation List

Patent Literature

[0004]

Patent Literature 1: JP 2020-004308 A

Summary of Invention

Technical Problem

[0005]

However, in the conventional technique described above, there have been problems that a plurality of product master databases exist and which database includes correct information is not known, and that, because registration and management of data are left to personnel, accuracy of the data is not guaranteed.

Accordingly, in view of the problem described above, an object of the present invention is to provide a product information management device that generates a product master database updated to the latest information.

Solution to Problem

[0006]

One form of a product information management device disclosed herein includes: product information storage means that stores, for each product, product identification

information, first item identification information and an item value thereof, and second item identification information and an item value thereof in association with each other; image information extraction means that extracts, from an image medium, one piece of the product identification information related to one of the products and a combination of the first item identification information and the item value thereof by image recognition processing; DB information extraction means that accesses a database stored in an external device and extracts, from the database, the one piece of product identification information and a combination of the second item identification information and the item value thereof; first determination means that determines whether the combination of the first item identification information and the item value thereof associated with the one piece of product identification information acquired by the image information extraction means matches a combination of the first item identification information and the item value thereof associated with the one piece of product identification information stored in the product information storage means; second determination means that determines whether the combination of the second item identification information and the item value thereof associated with the one piece of product identification

information acquired by the DB information extraction means matches a combination of the second item identification information and the item value thereof associated with the one piece of product identification information stored in the product information storage means; first product information correction means that, in a case where the first determination means determines that the combinations do not match, issues a notification to that effect and replaces the item value pertaining to the first item identification information associated with the one piece of product identification information stored in the product information storage means with the item value pertaining to the first item identification information associated with the one piece of product identification information acquired by the image information extraction means; and second product information correction means that, in a case where the second determination means determines that the combinations do not match, issues a notification to that effect and replaces the item value pertaining to the second item identification information associated with the one piece of product identification information stored in the product information storage means with the item value pertaining to the second item identification information associated with the one piece of product identification information acquired by the DB information extraction

means.

Advantageous Effects of Invention

[0007]

The disclosed product information management device generates a product master database updated to the latest information.

Brief Description of Drawings

[0008]

Fig. 1 is a diagram illustrating an overview of the product information management device according to the present embodiment.

Fig. 2 is a functional block diagram of the product information management device according to the present embodiment.

Fig. 3 is a diagram illustrating an example hardware configuration of the product information management device according to the present embodiment.

Fig. 4 is a flowchart illustrating a flow of a processing example by the product information management device according to the present embodiment.

Description of Embodiments

[0009]

An embodiment for carrying out the present invention will be described with reference to the drawings.

(Operation Principle of Product Information Management Device According to Present Embodiment)

[0010]

The operation principle of a product information management device (hereinafter simply referred to as the "present device") 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 device 100 and other devices, and Fig. 2 is a functional block diagram of the present device 100.

[0011]

As illustrated in Fig. 1, the present device 100 is connected to one or more external devices 280 via a communication network 300. The communication network 300 may be a wired communication network or may be a wireless communication network. The external device 280 may be, for example, a device managed by a manufacturer of a product 210, or may be a point of sales (POS) system. Each external device 280 includes a database 290 related to the product 210. In addition, the present device 100 includes product information storage means 110, which is a master database related to the product 210.

[0012]

As illustrated in Fig. 2, the present device 100 includes product information storage means 110, image information extraction means 120, DB information extraction means 130, first determination means 140, second determination means 150, first product information correction means 160, and second product information correction means 170.

[0013]

The product information storage means 110 stores, for each product 210, product identification information 220, first item identification information 230 and an item value 240 thereof, and second item identification information 250 and an item value 260 thereof in association with each other. The product identification information 220 is, for example, a JAN code.

[0014]

The first item identification information 230 and the second item identification information 250 are, for example, information such as a product name, raw materials, a use-by date, net contents, a storage method, a review, an ordering method, a weight, and a use-by date, but may be information other than the information listed here.

[0015]

The image information extraction means 120 extracts, from an image medium 270, one piece of product

identification information 220 related to one product 210 and a combination of first item identification information 230 and an item value 240 thereof by image recognition processing. The image medium 270 is, for example, an advertising flyer. In addition, a method of image recognition processing employed by the image information extraction means 120 is not particularly limited.

[0016]

The DB information extraction means 130 accesses a database 290 stored in an external device 280 and extracts, from the database 290, one piece of product identification information 220 related to one product 210 and a combination of second item identification information 250 and an item value 260 thereof. One or more external devices 280 are present, and each external device 280 is installed by a separate management means and for a separate purpose.

[0017]

The DB information extraction means 130 has significance in collecting information from various databases from 290 and integrating the information using the product identification information 220 as a key.

[0018]

The first determination means 140 determines whether, for a combination of one piece of first item

identification information 230 and an item value 240 thereof, a combination acquired (extracted) by the image information extraction means 120 matches a combination stored in the product information storage means 110. The first determination means 140 verifies whether a combination of one piece of first item identification information 230 and an item value 240 thereof is the latest information, valid information, or the like.

[0019]

The second determination means 150 determines whether, for a combination of one piece of second item identification information 250 and an item value 260 thereof, a combination acquired (extracted) by the DB information extraction means 130 matches a combination stored in the product information storage means 110. The second determination means 150 verifies whether a combination of one piece of second item identification information 250 and an item value 260 thereof is the latest information, valid information, or the like.

[0020]

The first product information correction means 160, in a case where the first determination means 140 determines that the combinations do not match, issues a notification to that effect. Then, regarding the item value 240 pertaining to the first item identification

information 230 associated with one piece of the product identification information 220, the first product information correction means 160 replaces a value stored in the product information storage means 11 with (by) a value acquired (extracted) by the image information extraction means 120. The first product information correction means 160 updates the item value 240 pertaining to the first item identification information 230 to the latest information.

[0021]

The second product information correction means 170, in a case where the second determination means 150 determines that the combinations do not match, issues a notification to that effect. Then, regarding the item value 260 pertaining to the second item identification information 250 associated with one piece of the product identification information 220, the second product information correction means 170 replaces a value stored in the product information storage means 110 with (by) a value acquired (extracted) by the DB information extraction means 130. The second product information correction means 170 updates the item value 260 pertaining to the second item identification information 250 to the latest information.

Based on the operation principle described above, the present device 100 generates a product master database 110 updated to the latest information.

(Hardware Configuration of Product Information Management Device According to Present Embodiment)

[0022]

An example hardware configuration of the present device 100 will be described with reference to Fig. 3. Fig. 3 is a diagram illustrating an example of a hardware configuration of the present device 100. As illustrated in Fig. 3, the present device 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.

[0023]

The CPU 510 is a device that executes a program stored in the ROM 520, performs arithmetic processing on data loaded in the RAM 530 in accordance with instructions of the program, and controls the present device 100 as a whole. The ROM 520 stores programs and data to be executed by the CPU 510. In the RAM 530, when the CPU 510 executes a program stored in the ROM 520, a program to be executed and data are loaded, and the RAM 530 temporarily holds calculation data during calculation.

[0024]

The auxiliary storage device 540 is a device that stores an operating system (OS), which is basic software,

an application program according to the present embodiment, and the like together with related data, and may be in a form including, for example, the product information storage means 110. The auxiliary storage device 540 is, for example, a hard disk drive (HDD), flash memory, or the like.

[0025]

The communication I/F 550 is an interface for connecting to the communication network 300, such as a wired/wireless local area network (LAN) or the Internet, and exchanging data with another device (a POS system or the like) 280 that provides a communication function.

[0026]

The input device 560 is a device, such as a keyboard, for inputting data to the present device 100. The display device (output device) 570 is a device configured with a liquid crystal display (LCD) or the like and is a device that functions as a user interface when a user uses a function included in the present device 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 flash drive.

[0027]

Each means included in the present device 100 may be

implemented by the CPU 510 executing a program corresponding to each means, the program being stored in the ROM 520 or the auxiliary storage device 540. In addition, each means included in the present device 100 may be in a form in which processing related to each means is implemented as hardware. In addition, the present device 100 may be in a form in which a program according to the present invention is read from an external server device via the communication I/F 550, or the program according to the present invention is read from the storage medium 590 via the storage medium I/F 580, and the present device 100 executes the program.

(Processing Example by Product Information Management Device According to Present Embodiment)

A flow of a processing example by the present device 100 will be described with reference to Fig. 4. Fig. 4 is a flowchart illustrating a flow of a processing example by the present device 100.

[0028]

In S10, the image information extraction means 120 extracts, from the image medium 270, one piece of the product identification information 220 related to one product 210 and a combination of the first item identification information 230 and the item value 240 thereof by image recognition processing. The image medium

270 is, for example, an advertising flyer. In addition, a method of image recognition processing employed by the image information extraction means 120 is not particularly limited.

[0029]

In addition, in S10, the DB information extraction means 130 accesses the database 290 stored in the external device 280 and extracts, from the database 290, one piece of the product identification information 220 related to one product 210 and a combination of the second item identification information 250 and the item value 260 thereof. There are one or more external devices 280, and each external device 280 is installed by a separate management means and for a separate purpose.

[0030]

The DB information extraction means 130 has significance in collecting information from various databases from 290 and integrating the information using the product identification information 220 as a key.

[0031]

In S20, the first determination means 140 determines whether, for a combination of one piece of the first item identification information 230 and the item value 240 thereof, a combination acquired (extracted) in S10 matches a combination stored in the product information storage

means 110. The first determination means 140 verifies whether a combination of one piece of the first item identification information 230 and the item value 240 thereof is the latest information, valid information, or the like.

[0032]

In addition, in S20, the second determination means 150 determines whether, for a combination of one piece of the second item identification information 250 and the item value 260 thereof, a combination acquired (extracted) in S10 matches a combination stored in the product information storage means 110. The second determination means 150 verifies whether a combination of one piece of the second item identification information 250 and the item value 260 thereof is the latest information, valid information, or the like.

[0033]

In S30, in a case where the first determination means 140 determines in S20 that the combinations do not match, the first product information correction means 160 issues a notification to that effect. In addition, in S30, regarding the item value 240 pertaining to the first item identification information 230 associated with one piece of the product identification information 220, the first product information correction means 160 replaces a value

stored in the product information storage means 11 with (by) a value acquired (extracted) by the image information extraction means 120. The first product information correction means 160 updates the item value 240 pertaining to the first item identification information 230 to the latest information.

[0034]

In addition, in S30, in a case where the second determination means 150 determines in S20 that the combinations do not match, the second product information correction means 170 issues a notification to that effect. In addition, in S30, regarding the item value 260 pertaining to the second item identification information 250 associated with one piece of the product identification information 220, the second product information correction means 170 replaces a value stored in the product information storage means 110 with (by) a value acquired (extracted) by the DB information extraction means 130. The second product information correction means 170 updates the item value 260 pertaining to the second item identification information 250 to the latest information.

By performing the processing described above, the present device 100 generates a product master database 110 updated to the latest information.

[0035]

Although an embodiment of the present invention has been described in detail above, the present invention is not limited to the specific embodiment, 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

[0036]

100 Product information management device

110 Product information storage means

120 Image information extraction means

130 DB information extraction means

140 First determination means

150 Second determination means

160 First product information correction means

170 Second product information correction means

210 Product

220 Product identification information

230 First item identification information

240 Item value of first item identification information

250 Second item identification information

260 Item value of second item identification information

270 Image medium

280 External device

290 Database stored in external device

300 Communication network

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 product information management device comprising:

product information storage means that stores, for each product, product identification information, first item identification information and an item value thereof, and second item identification information and an item value thereof in association with each other;

image information extraction means that extracts, from an image medium, one piece of the product identification information related to one of the products and a combination of the first item identification information and the item value thereof by image recognition processing;

DB information extraction means that accesses a database stored in an external device and extracts, from the database, the one piece of product identification information and a combination of the second item identification information and the item value thereof;

first determination means that determines whether the combination of the first item identification information and the item value thereof associated with the one piece of product identification information acquired by the image information extraction means matches a combination of the first item identification information

and the item value thereof associated with the one piece of product identification information stored in the product information storage means;

second determination means that determines whether the combination of the second item identification information and the item value thereof associated with the one piece of product identification information acquired by the DB information extraction means matches a combination of the second item identification information and the item value thereof associated with the one piece of product identification information stored in the product information storage means;

first product information correction means that, in a case where the first determination means determines that the combinations do not match, issues a notification to that effect and replaces the item value pertaining to the first item identification information associated with the one piece of product identification information stored in the product information storage means with the item value pertaining to the first item identification information associated with the one piece of product identification information acquired by the image information extraction means; and

second product information correction means that, in a case where the second determination means determines that

the combinations do not match, issues a notification to that effect and replaces the item value pertaining to the second item identification information associated with the one piece of product identification information stored in the product information storage means with the item value pertaining to the second item identification information associated with the one piece of product identification information acquired by the DB information extraction means.

[Claim 2]

A product information management method performed by a computer comprising product information storage means that stores, for each product, product identification information, first item identification information and an item value thereof, and second item identification information and an item value thereof in association with each other, the product information management method comprising:

a step in which image information extraction means extracts, from an image medium, one piece of the product identification information related to one of the products and a combination of the first item identification information and the item value thereof by image recognition processing;

a step in which DB information extraction means

accesses a database stored in an external device and extracts, from the database, the one piece of product identification information and a combination of the second item identification information and the item value thereof;

a step in which first determination means determines whether the combination of the first item identification information and the item value thereof associated with the one piece of product identification information acquired by the image information extraction means matches a combination of the first item identification information and the item value thereof associated with the one piece of product identification information stored in the product information storage means;

a step in which second determination means determines whether the combination of the second item identification information and the item value thereof associated with the one piece of product identification information acquired by the DB information extraction means matches a combination of the second item identification information and the item value thereof associated with the one piece of product identification information stored in the product information storage means;

a step in which first product information correction means, in a case where the first determination means determines that the combinations do not match, issues a

notification to that effect and replaces the item value pertaining to the first item identification information associated with the one piece of product identification information stored in the product information storage means with the item value pertaining to the first item identification information associated with the one piece of product identification information acquired by the image information extraction means; and

a step in which second product information correction means, in a case where the second determination means determines that the combinations do not match, issues a notification to that effect and replaces the item value pertaining to the second item identification information associated with the one piece of product identification information stored in the product information storage means with the item value pertaining to the second item identification information associated with the one piece of product identification information acquired by the DB information extraction means.

[Claim 3]

A product information management program for causing a computer to execute the method according to claim 2.