



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/747,550	05/18/2021	11010709	REGIM 3.3F-369	5851

530 7590 04/28/2021

LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
20 COMMERCE DRIVE
CRANFORD, NJ 07016

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 517 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Philippe Bottine, Boulogne-Billancourt, FRANCE;
SES-imagotag, Nanterre, FRANCE;
François Robin, Paris, FRANCE;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

PART B—FEE(S) TRANSMITTAL

Complete and send this form, together with the applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

By fax, send to: (571) 273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP
20 Commerce Dr.
Cranford, New Jersey 07016

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

Alexander D. Ganescu	(Typed or printed name)
/Alexander D. Ganescu/	(Signature)
April 16, 2021	(Date)

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
15/747,550	01/25/2018	Philippe Bottine	REGIM 3.3F-369	5851

TITLE OF INVENTION: Method For Updating Association Data Between Articles And Locations

APPLN: TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1,200.00			\$1,200.00	04/22/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
J. M. Mutschler	3627	705-028000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363) ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.	1. Lerner, David, Littenberg, Krumholz & Mentlik, LLP 2. 3.
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3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE or COUNTRY)

SES-imagotag

France

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees Submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment (Please first reapply any previously paid fee shown above):

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 12-1095

5. Change of Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29.

NOTE: Absent a valid Certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27.

NOTE: If the application was previously under micro entity status, checking this box will be taken as a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken as a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature

/Alexander D. Ganescu/

Date April 16, 2021

Typed or printed name

Alexander D. Ganescu

Registration No.

79,227

Electronic Patent Application Fee Transmittal

Application Number:	15747550			
Filing Date:	25-Jan-2018			
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS			
First Named Inventor/Applicant Name:	Philippe Bottine			
Filer:	Stephen M. Lund/Kathleen Reynolds			
Attorney Docket Number:	REGIM 3.3F-369			
Filed as Large Entity				
Filing Fees for U.S. National Stage under 35 USC 371				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1200

Electronic Acknowledgement Receipt

EFS ID:	42474223
Application Number:	15747550
International Application Number:	
Confirmation Number:	5851
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS
First Named Inventor/Applicant Name:	Philippe Bottine
Customer Number:	530
Filer:	Stephen M. Lund/Kathleen Reynolds
Filer Authorized By:	Stephen M. Lund
Attorney Docket Number:	REGIM 3.3F-369
Receipt Date:	16-APR-2021
Filing Date:	25-JAN-2018
Time Stamp:	13:28:53
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1200
RAM confirmation Number	E20214FD29221050
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.

Ex. 1002 page 5

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Issue_Fee_Transmittal.pdf	36867	no	1
			194a9414ebac14b235e50f1b1cd719f3621f8166		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30695	no	2
			84bc0f6283bede7dc877accd8fc2f587277be8bb		
Warnings:					
Information:					
Total Files Size (in bytes):			67562		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



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www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

530 7590 01/22/2021
LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
20 COMMERCE DRIVE
CRANFORD, NJ 07016

EXAMINER

MUTSCHLER, JOSEPH M

ART UNIT

PAPER NUMBER

3627

DATE MAILED: 01/22/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/747,550	01/25/2018	Philippe Bottine	REGIM 3.3F-369	5851

TITLE OF INVENTION: METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	04/22/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

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CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

530 7590 01/22/2021
LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
20 COMMERCE DRIVE
CRANFORD, NJ 07016

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/747,550	01/25/2018	Philippe Bottine	REGIM 3.3F-369	5851

TITLE OF INVENTION: METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	04/22/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
MUTSCHLER, JOSEPH M	3627	705-028000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

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NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/747,550	01/25/2018	Philippe Bottine	REGIM 3.3F-369	5851
EXAMINER				
MUTSCHLER, JOSEPH M				
ART UNIT			PAPER NUMBER	
3627				

DATE MAILED: 01/22/2021

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/747,550	Applicant(s) Bottine et al.	
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/07/2020.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-20. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☒ All b) ☐ Some *c) ☐ None of the:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892) 2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____. 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material ____. 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.	5. ☐ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____.
---	--

/JOSEPH M MUTSCHLER/ Examiner, Art Unit 3627	/A. Hunter Wilder/ Primary Examiner, Art Unit 3627
---	---

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Reasons for Allowance

Claims **1-20** are allowed as amended/presented/added in Amendment Pursuant to 37 CFR 1.111 ("Response") filed 7 October 2020. The following is an examiner's statement of reasons for allowance:

Applicant's remarks filed in the Response are compelling and commensurate with both the original disclosure and the claims as amended. The claims are no longer under the realm of certain methods of organizing human activity and provide for a practical application of the before identified abstract idea according to the 2019 PEG. Further, the prior art of record neither anticipates nor supports a conclusion of obviousness with respect to the allowable subject matter which is present in independent claims 1, 10 and 11:

Claim 1 (and similarly claims 10 and 11) discloses:

A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area, wherein the planogram comprises association data between articles of a-the retail area and locations of the retail area, the method comprising:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of

Art Unit: 3627

the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

the retail area having a plurality of shelf labels distributed in the retail area, each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article, each of the shelf labels being associated with a label identifier of its own, wherein the adjacent shelf labels is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,

wherein a location of the adjacent shelf label is preliminarily known in the planogram;

identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:

*transmitting, by the reading device, the sequence of label identifiers to a-
the computer system,*

*updating, by the computer system, the planogram on the basis of the
sequence of label identifiers, by determining:*

*articles associated with the labels of the sequence of label
identifiers, and*

*locations of the articles, on the basis of an obtained location of the
added shelf label, wherein the obtained location is a location in the
planogram which is adjacent to the preliminarily known location of the
adjacent shelf label.*

The examiner notes the cited, italicized limitations above **in combination** with the other limitations found within the independent claims are found to be allowable over the prior art of record. Claims 2-9 and 12-20 each depend from one of allowable claims 1, 10 and 11, and therefore claims 2-9 and 12-20 are allowable for reasons consistent with those identified with respect to claims 1, 10 and 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH M MUTSCHLER whose telephone number is (313)446-6603. The examiner can normally be reached on 0600-1430.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Florian Zeender can be reached on (571)272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 3627

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <https://ppair->

[my.uspto.gov/pair/PrivatePair](https://ppair-my.uspto.gov/pair/PrivatePair). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. Hunter Wilder/
Primary Examiner, Art Unit 3627

/JOSEPH M MUTSCHLER/
Examiner, Art Unit 3627

<i>Notice of References Cited</i>	Application/Control No. 15/747,550		Applicant(s)/Patent Under Reexamination Bottine et al.	
	Examiner JOSEPH M MUTSCHLER		Art Unit 3627	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20110102144-A1	05-2011	Okina; Shigetaka	G06Q30/02	340/5.91
*	B	US-20080198001-A1	08-2008	Sarma; Sanjay	G06Q10/087	340/539.1
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
*	N	JP-2011096038-A	10- 201	JP	UCHIYAMA, TAKESHI	
*	O	JP-2014199645-A	10-2014	JP	SAITO HIROKI	
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Search Notes</i> 	Application/Control No. 15/747,550	Applicant(s)/Patent Under Reexamination Bottine et al.
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627

CPC - Searched*		
Symbol	Date	Examiner
G06Q10/087.cpc.G06F16/2379.cpc.G06K19/0723.cpc.G06Q10/08.cpc.	06/02/2020	JMM
G06Q10/087.cpc.G06F16/2379.cpc.G06K19/0723.cpc.G06Q10/08.cpc.	12/19/2020	JMM

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Performed Assignee/Inventor search	06/02/2020	JMM
Performed Classification search	06/02/2020	JMM
Performed Google/IP search	06/02/2020	JMM
Performed search in EAST	06/02/2020	JMM
Performed Assignee/Inventor search	12/19/2020	JMM
Performed Classification search	12/19/2020	JMM
Performed Google/IP search	12/19/2020	JMM
Performed search in EAST	12/19/2020	JMM

/JOSEPH M MUTSCHLER/ Examiner, Art Unit 3627	
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<i>Search Notes</i> 	Application/Control No. 15/747,550	Applicant(s)/Patent Under Reexamination Bottine et al.
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
G06Q10/087. cpc.G06F16/ 2379. cpc.G06K19/ 0723. cpc.G06Q10/ 08.cpc.		12/19/2020	JMM

/JOSEPH M MUTSCHLER/ Examiner, Art Unit 3627	
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Issue Classification 	Application/Control No. 15/747,550	Applicant(s)/Patent Under Reexamination Bottine et al.
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627

CPC						
Symbol					Type	Version
G06Q	/	10	/	087	F	2013-01-01
G06F	/	16	/	2379	I	2019-01-01
G06Q	/	10	/	08	I	2013-01-01
G06K	/	19	/	0723	I	2013-01-01

CPC Combination Sets					
Symbol				Type	Set
	/		/		

/JOSEPH M MUTSCHLER/ Examiner, Art Unit 3627 (Assistant Examiner)	19 December 2020 (Date)	Total Claims Allowed: 20	
/A. Hunter Wilder/ Primary Examiner, Art Unit 3627 (Primary Examiner)	19 December 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15/747,550	Applicant(s)/Patent Under Reexamination Bottine et al.
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627

INTERNATIONAL CLASSIFICATION			
CLAIMED			
G06Q10/08	/	10	/ 08
G06F16/23	/	16	/ 23
G06K19/07	/	19	/ 07
NON-CLAIMED			
	/		/

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

/JOSEPH M MUTSCHLER/ Examiner, Art Unit 3627 (Assistant Examiner)	19 December 2020 (Date)	Total Claims Allowed: 20	
/A. Hunter Wilder/ Primary Examiner, Art Unit 3627 (Primary Examiner)	19 December 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15/747,550	Applicant(s)/Patent Under Reexamination Bottine et al.
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	10	19	19										
2	2	11	11	20	20										
3	3	12	12												
4	4	13	13												
5	5	14	14												
6	6	15	15												
7	7	16	16												
8	8	17	17												
9	9	18	18												

/JOSEPH M MUTSCHLER/ Examiner, Art Unit 3627 (Assistant Examiner)	19 December 2020 (Date)	Total Claims Allowed: 20	
/A. Hunter Wilder/ Primary Examiner, Art Unit 3627 (Primary Examiner)	19 December 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Bibliographic Data

Application No: 15/747,550

Foreign Priority claimed: ☒ Yes ☐ No

35 USC 119 (a-d) conditions met: ☒ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged: /JOSEPH M MUTSCHLER/

Examiner's Signature

Initials

Title:

METHOD FOR UPDATING ASSOCIATION DATA BETWEEN
ARTICLES AND LOCATIONS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
01/25/2018	705	3627	REGIM 3.3F-369
RULE			

APPLICANTS

SES-imagotag, Nanterre, FRANCE

INVENTORS

Philippe Bottine, Boulogne-Billancourt, FRANCE

François Robin, Paris, FRANCE

CONTINUING DATA

This application is a 371 of PCT/FR2016/051930 07/25/2016

FOREIGN APPLICATIONS

FRANCE FR1557153 07/27/2015

IF REQUIRED, FOREIGN LICENSE GRANTED**

04/23/2018

STATE OR COUNTRY

FRANCE

ADDRESS

LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
20 COMMERCE DRIVE
CRANFORD, NJ 07016
UNITED STATES

FILING FEE RECEIVED

\$1,720

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	4	"2015178767".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 12:51
S2	2	"20150178767".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 12:51
S3	1	("2015/0178767").URPN.	USPAT	OR	OFF	2020/03/26 13:22
S4	94,297	ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 13:23
S5	2,504,339	Reader ((mobile handheld) near2 (device))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 13:25
S6	109,509	G06Q10/087.cpc. G06F16/2379.cpc. G06K19/0723.cpc. G06Q10/08.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 13:25
S7	2,363	S6 and S5 and S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2020/03/26 13:25

			DERWENT; IBM_TDB			
S8	1,991	S7 and (location position placement situated orientation)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 13:27
S9	101	S8 and (sequence same (identifier attribute modifier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 13:28
S10	18	S8 and (sequence near5 (identifier attribute modifier))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 13:33
S11	95,694	ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/05/26 09:47
S12	2,545,143	Reader ((mobile handheld) near2 (device))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/05/26 09:47
S13	112,203	G06Q10/087.cpc. G06F16/2379.cpc. G06K19/0723.cpc. G06Q10/08.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/05/26 09:47
S14	2,420	S13 and S12 and S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2020/05/26 09:47

			DERWENT; IBM_TDB			
S15	959	S14 and (location position placement situated orientation) and (planogram planogram POG schematic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/05/26 09:47
S16	9	"2008198001".pn. "2011080264".pn. "2007272746".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/05/26 10:01
S17	7	"20080198001".pn. "20110080264".pn. "20070272746".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/05/26 10:01
S18	3	"20110102144".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/05/27 15:49
S19	11	((("SES-IMAGOTAG"))).AS,AANM.	USPAT	OR	OFF	2020/06/02 15:15
S20	10	((("BOTTINE") near3 ("Philippe")) OR (("ROBIN") near3 ("François"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2020/06/02 15:15
S21	3	(US-20080198001-\$ or US- 20160027022-\$ or US-20110102144- \$).did.	US-PGPUB	OR	OFF	2020/12/17 18:18
S22	1	S21 and (planogram layout)	US-PGPUB	OR	OFF	2020/12/17 18:18
S23	100,495	ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:22

S24	2,688,259	Reader ((mobile handheld) near2 (device))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:22
S25	121,053	G06Q10/087.cpc. G06F16/2379.cpc. G06K19/0723.cpc. G06Q10/08.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:22
S26	2,560	S25 and S24 and S23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:22
S27	88	S26 and (location position placement situated orientation) and ((planogram plan?o?gram plano?gram POG schematic) same (updat\$4 revis\$4 amend\$4 refresh))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:22
S28	46,248	(ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label)) same (reference source))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:27
S29	211	(ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label)) same (reference source)) and (location position placement situated orientation) and ((planogram plan?o?gram plano?gram POG schematic) same (updat\$4 revis\$4 amend\$4 refresh))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:27
S30	145	(ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label)) same (reference source)) and (location position placement situated orientation) and ((planogram plan?o?gram plano?gram POG schematic) same (updat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/12/17 18:30

		revis\$4 amend\$4 refresh)) and ((sequence string series chain progression order number) same (ID or identification credentials))				
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EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	42,453	G06Q10/087.cpc. G06F16/2379.cpc. G06K19/0723.cpc. G06Q10/08.cpc.	US-PGPUB; USPAT	OR	OFF	2020/12/19 12:10
L2	63	(ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label)) same (reference source)) and (location position placement situated orientation) and ((planogram plan?o?gram plano?gram POG schematic) same (updat\$4 revis\$4 amend\$4 refresh)) and ((sequence string series chain progression order number) same (ID or identification credentials))	USPAT	OR	OFF	2020/12/19 12:10
L3	28	((("SES-IMAGOTAG"))).AS,AANM.	US-PGPUB; USPAT	OR	OFF	2020/12/19 12:11
L4	9	((("BOTTINE") near3 ("Philippe")) OR ((("ROBIN") near3 ("François"))).INV.	US-PGPUB; USPAT	OR	OFF	2020/12/19 12:11

12/19/2020 12:14:34 PM

C:\Users\jmutschler\Documents\EAST\Workspaces\15747550.wsp

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/747,550	Filing Date 01/25/2018	☐ To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$460 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED - PART II

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	10/07/2020		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	x \$100 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$480 = 0
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						0
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						SLIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/TIMOTHY COLE/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".						
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

AMENDMENT TRANSMITTAL LETTER			Docket No. REGIM 3.3F-369
Application No. 15/747,550-Conf. #5851	Filing Date January 25, 2018	Examiner J. M. Mutschler	Art Unit 3627

Applicant(s): SES-imagotag

Invention: Method For Updating Association Data Between Articles And Locations

TO THE COMMISSIONER FOR PATENTS

Transmitted herewith is an amendment in the above-identified application.
The fee has been calculated and is transmitted as shown below.

CLAIMS AS AMENDED					
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
Total Claims	20	- 20 =	0	x	
Independent Claims	3	- 3 =	0	x	
Multiple Dependent Claims (check if applicable) ☐					
Other fee (please specify):					
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:					0.00

☒ Large Entity
 ☐ Small Entity

☒ No additional fee is required for this amendment.

☐ Please charge Deposit Account No. _____ in the amount of \$ _____.

☐ A check in the amount of \$ _____ to cover the filing fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The Director is hereby authorized to charge and credit Deposit Account No. 12-1095 as described below. A duplicate copy of this sheet is enclosed.

☒ Credit any overpayment.

☒ Charge any additional filing or application processing fees required under 37 C.F.R. § 1.16 and 1.17.

/Orville R. Cockings/
Dated: October 7, 2020
 Orville R. Cockings (Atty/Agent Reg. No.: 42,424)
 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP
 20 Commerce Dr.
 Cranford, New Jersey 07016
 (908) 654-5000

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).	
Dated: October 7, 2020	Electronic Signature for Orville R. Cockings: /Orville R. Cockings/

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) REGIM 3.3F-369	
Application Number 15/747,550-Conf. #5851		Filed January 25, 2018	
For Method For Updating Association Data Between Articles And Locations			
Art Unit 3627		Examiner J. M. Mutschler	
This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application. The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):			
	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>
☒ One month (37 CFR 1.17(a)(1))	\$220	\$110	\$55
☐ Two months (37 CFR 1.17(a)(2))	\$640	\$320	\$160
☐ Three months (37 CFR 1.17(a)(3))	\$1,480	\$740	\$370
☐ Four months (37 CFR 1.17(a)(4))	\$2,320	\$1,160	\$580
☐ Five months (37 CFR 1.17(a)(5))	\$3,160	\$1,580	\$790
☐ Applicant asserts small entity status. See 37 CFR 1.27. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously. ☐ A check in the amount of the fee is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Director has already been authorized to charge fees in this application to a Deposit Account. ☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 12-1095 . ☒ Payment made via EFS-Web.			
WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.			
I am the			
☐ applicant.			
☒ attorney or agent of record. Registration number 42,424 .			
☐ attorney or agent acting under 37 CFR 1.34. Registration number .			
_____ /Orville R. Cockings/ Signature		_____ October 7, 2020 Date	
_____ Orville R. Cockings Typed or printed name		_____ (908) 654-5000 Telephone Number	
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.			

☐ * Total of 1 forms are submitted.

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Dated: October 7, 2020

Electronic Signature for Orville R. Cockings: /Orville R. Cockings/

Electronic Patent Application Fee Transmittal

Application Number:	15747550			
Filing Date:	25-Jan-2018			
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS			
First Named Inventor/Applicant Name:	Philippe Bottine			
Filer:	James A. Vezeris/Traci Krauss			
Attorney Docket Number:	REGIM 3.3F-369			
Filed as Large Entity				
Filing Fees for U.S. National Stage under 35 USC 371				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 1 month with \$0 paid	1251	1	220	220
Miscellaneous:				
Total in USD (\$)				220

Electronic Acknowledgement Receipt

EFS ID:	40783649
Application Number:	15747550
International Application Number:	
Confirmation Number:	5851
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS
First Named Inventor/Applicant Name:	Philippe Bottine
Customer Number:	530
Filer:	James A. Vezeris/Traci Krauss
Filer Authorized By:	James A. Vezeris
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Receipt Date:	07-OCT-2020
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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.

Ex. 1002 page 33

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Arguments/Remarks Made in an Amendment	Amendment.pdf	143751	no	18
			ec1931b2b0ad532a14024eae84a1871bd86098a		
Warnings:					
Information:					
2	Miscellaneous Incoming Letter	Amendment_Transmittal.pdf	23152	no	1
			b2f6a2c73f187e16ec1c520228faf89dd428459a		
Warnings:					
Information:					
3	Extension of Time	One_Month_Request_for_Extension_of_Time_Under_37_CFR_1136a.pdf	24216	no	1
			9614be0e09900413e2072b7bb2756339c8475bd9		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31295	no	2
			592d2f1224b14dfd76b3374dc98bc5666c126358		
Warnings:					
Information:					
Total Files Size (in bytes):			222414		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: October 7, 2020
Electronic Signature for Orville R. Cockings: /Orville R. Cockings/

Docket No. REGIM 3.3F-369
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Bottine et al.

Application No.: 15/747,550

Confirmation No.: 5851

Filed: January 25, 2018

Art Unit: 3627

For: Method For Updating Association Data Between
Articles And Locations

Examiner: J. M. Mutschler

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT PURSUANT TO 37 C.F.R. § 1.111

Dear Sir:

In response to the official action mailed June 8, 2020, Applicant submits the following amendments and remarks.

IN THE SPECIFICATION

Please replace the paragraph beginning on page 1, line 8 of the specification that begins with “Information relative to articles” with the following amended paragraph:

Information relative to articles presented for sale in a retail area is generally displayed by means of labels especially displaying the price of the article with which a label is associated, as well as other information such as the price by weight, etc. ~~etc.~~

Please replace the paragraph beginning on page 1, line 11 of the specification that begins with “The need for displaying updated information” with the following amended paragraph:

The need for displaying updated information has justified the ~~implantation~~ implementation in many retail areas of electronic shelf labels, more commonly known by their acronym ESL, having a screen on which the display of information is remote-controlled.

Please replace the paragraph beginning on page 1, line 19 of the specification that begins with “Another advantage of these known systems” with the following amended paragraph:

Another advantage of these known systems is to make automated price changes in much shorter times than with a manual display, whether for specific promotional periods on the site, for all or some of the articles presented for sale, to recover tariff changes, for dealing with situations of inflation where prices must be increased very frequently, etc. ~~etc.~~

Please replace the paragraphs beginning on page 5, line 9 of the specification that starts with “figure 1 illustrates is a diagram” with the following amended paragraph:

figure 1 ~~illustrates~~ is a diagram showing a system according to a possible embodiment of the invention.

IN THE CLAIMS

1. (Currently Amended) A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area, wherein the planogram comprises association data between articles of a-the retail area and locations of said-the retail area, the method comprising:

_____ acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

_____ said-the retail area having a plurality of shelf labels distributed in said-the retail area, each of said-the shelf labels being associated with an-a respective article and being disposed near a respective location associated with said-the article, each of said-the shelf labels being fitted associated with a label identifier of its own, said method comprising the steps according to which, to locate at least one shelf label to be located,

_____ a reading device acquires a sequence of label identifiers comprising at least two label identifiers whereof the electronic shelf labels are adjacent in a scrolling direction of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said wherein the adjacent electronic shelf labels being is an electronic shelf label whereof the location is known, either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,

_____ wherein a location of the adjacent shelf label is preliminarily known in the planogram;

_____ identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:

[[-]] _____ transmitting, by the reading device, transmits the sequence of label identifiers to a-the computer system,

[[-]] _____ updating, by the computer system, updates the association data planogram from on the basis of the sequence of label identifiers, by determining:

_____ the articles associated with the labels of the sequence of label identifiers, and the respective locations of said-the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which

is adjacent to the preliminarily known location of the adjacent shelf label ~~from the order of the labels in the sequence of labels.~~

2. (Currently Amended) The method according to claim 1, wherein acquiring ~~the acquisition of the~~ sequence of label identifiers comprises ~~the provision~~ receiving, by the reading device, by an operator of the reading device, of an indication of relative positioning, relative to the location of the added shelf label to be located, ~~of and~~ the adjacent label whereof the location is known to the computer system, ~~said the~~ indication of relative positioning being transmitted by the reading device to the computer system.

3. (Currently Amended) The method according to claim 1, ~~wherein the scrolling direction of the locations of the retail area is known, and~~ wherein receiving the indication of relative positioning comprises:

identifying, from the acquisition order of the label identifiers of the sequence of label identifiers, an the indication of relative positioning of the added shelf label, relative to the location of the located adjacent label, ~~of the adjacent label whereof the location is known to the computer system, is deduced from the acquisition order of the label identifiers of the sequence of label identifiers.~~

4. (Currently Amended) The method according to claim 1, further comprising:

transmitting, by wherein the reading device and transmits to the computer system, data ~~relative corresponding to the an~~ association between the label identifier of the electronic label to be located added shelf label and ~~the a~~ reference of an article with which ~~said the~~ added shelf label ~~electronic label~~ is associated with.

5. (Currently Amended) The method according to claim 1,

wherein the added shelf label is one of a plurality of several ~~electronic shelf labels are to be~~ located, ~~said the~~ electronic shelf labels to be located being adjacent to each other in a the scrolling direction of the locations of the retail area, and

wherein the acquiring comprises acquiring ~~the acquisition of the sequence of label identifiers~~

~~by the reading device comprises the acquisition of the label identifiers of said the plurality of~~
electronic shelf labels to be located in the order of their arrangement, ~~relative to the electronic shelf~~
~~label whereof the location is known.~~

6. (Currently Amended) The method according to claim ~~4~~5,

wherein each electronic shelf label of ~~said the~~ sequence is fitted with a radiofrequency peripheral, and

wherein the acquiring comprises acquiring, by the reading device, ~~acquires the the label~~
identifiers of ~~said the~~ electronic shelf labels by setting up communication via radiofrequency with
~~said the~~ electronic shelf labels and the reading device.

7. (Currently Amended) The method according to claim 1, wherein the reading device comprises a displacement measuring member, and the method further comprises:

determining, by ~~determination of the displacement of the~~ reading device, the displacement
between ~~the acquisition of the label~~ identifier of the electronic-adjacent shelf label whereof the
location is preliminarily known and ~~the acquisition of the label~~ identifier of the added shelf
label~~electronic shelf label to be located.~~

8. (Currently Amended) The method according to claim 7, further comprising:

determining, by the reading device, wherein a the distance between the electronic-adjacent
shelf label whereof the location is known and the electronic-added shelf label to be located ~~is~~
~~determined~~ from the displacement of the reading device between ~~the acquisition of the~~ identifier of
the electronic-adjacent shelf label whereof the location is known and ~~the acquisition of the~~ identifier
of the electronic-added shelf label ~~to be located~~, and

wherein the identifying further comprises obtaining the location of the added shelf label, by
the computer ~~processing system, and using~~ ~~uses said the~~ distance to update ~~a the~~ planogram.

9. (Currently Amended) The method according to claim 1, further comprising ~~the steps according to~~
~~which:~~

~~[[—]]acquiring, by the reading device, acquires a label identifier of an electronic the adjacent shelf label,~~

~~[[—]]acquiring, by the reading device, a characteristic dimension characteristic of the location associated with the electronic shelf label is entered inacquired the reading device,~~

~~[[—]]transmitting, by the reading device, said the characteristic dimension characteristic of the location is transmitted with the label identifier to the computer ~~processing~~ system.~~

10. (Currently Amended) A non-transitory computer program product comprising program code instructions for updating a planogram registered in a computer system to reflect an addition of a shelf label in a shelf of a retail area, comprising:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

the retail area having a plurality of shelf labels distributed in the retail area, each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article, each of the shelf labels being associated with a label identifier of its own,

wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,

wherein a location of the adjacent shelf label is preliminarily known in the planogram;

identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:

transmitting, by the reading device, the sequence of label identifiers to the computer system,

updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:

the articles associated with the labels of the sequence of label identifiers, and

the respective locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

~~executing the method according to claim 1, when said the program is executed on a computer.~~

11. (Currently Amended) A system for managing a planogram, the planogram comprising association data between articles of a retail area and locations of ~~said the retail area, the system~~ comprising:

——— a plurality of electronic shelf labels, each of ~~said the~~ shelf labels being associated with a label identifier of its own,

——— a reading device adapted to acquire the label identifiers of ~~said the~~ plurality of electronic shelf labels and to acquire the references of the articles associated with ~~said the~~ electronic shelf labels, _____

— a computer system in which the planogram is registered, the computer system being configured to receive, from the reading device, a transmitted sequence of label identifiers, and being further configured to update the planogram by determining an obtained location of an added shelf label reflecting an addition of a shelf label of the retail area, wherein the obtained location is a location in the planogram which is immediately adjacent to the known location of the adjacent shelf label,

the reading device being configured to:

acquire a sequence of label identifiers comprising the label identifier of the added shelf label, and further comprising the label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,

wherein a location of the adjacent shelf label is preliminarily known in the planogram, and

transmit the sequence of label identifiers to the computer system.

~~——— a computer system storing association data between articles of a retail area and locations of said retail area, configured to receive from the reading device the label identifiers acquired by said reading device,~~

~~said management system being adapted to implement the method according to one of claims 1 to 8, and wherein~~

12. (New) The system of claim 11, wherein the reading device is further configured to:

acquire an indication of relative positioning, relative to the location of the added shelf label and the adjacent label; and

transmit the indication to the computer system.

13. (New) The system of claim 12, wherein the reading device is further configured to:

identify, from the acquisition order of the label identifiers of the sequence of label identifiers, the indication of relative positioning of the added shelf label, relative to the location of the adjacent label.

14. (New) The system of claim 11, wherein the reading device is further configured to:

transmit to the computer system data corresponding to an association between the label identifier of the electronic and a reference of an article with which the added shelf label is associated with.

15. (New) The system of claim 11,

wherein the added shelf label is one of a plurality of electronic shelf labels to be located, the electronic shelf labels to be located being adjacent to each other in the scrolling direction of the locations of the retail area, and

wherein the reading device is further configured to: acquire the label identifiers of the plurality of electronic shelf labels to be located in the order of their arrangement.

16. (New) The system of claim 15,

wherein each electronic shelf label identified in the sequence is fitted with a radiofrequency peripheral, and

wherein the reading device is further configured to acquire the label identifiers of the electronic shelf labels by setting up communication via radiofrequency with the electronic shelf labels and the reading device.

17. (New) The system of claim 11,

wherein the reading device comprises a displacement measurement member, and
wherein the reading device is further configured to:

Determine the displacement between the label identifier of the adjacent shelf label
whereof the location is preliminarily known and the label identified of the added shelf label.

18. (New) The system of claim 17,

wherein the reading device is further configured to determine the distance between the
adjacent shelf label and the added shelf label from the displacement of the reading device between
the label identifier of the adjacent shelf label whereof the location is known, and the added shelf
label.

19. (New) The system of claim 18, wherein the computer system is configured to obtain the location
of the added shelf label as a function of the preliminarily known location of the adjacent shelf label
and as a function of the determined distance.

20. (New) The system of claim 11, wherein the computer system is further configured to:

update the planogram on the basis of the sequence of label identifiers, by determining:
articles associated with the labels of the sequence of label identifiers, and
locations of the articles, on the basis of the obtained location of the added shelf label.

REMARKS

This communication is responsive to the Office Action dated June 8, 2020. Claims 1-11 have been amended. New claims 12-20 are being submitted. Claim 10 has been amended to appear in independent form. Support for the amendments and new claims may be found, for example and not by way of limitation, in the claims, and on page 6, lines 30-36; page 8, lines 3-9, 24-27; and page 9, lines 21-30 of the specification.

Applicant respectfully requests reconsideration of the rejections to the claims in light of the amendments and following remarks.

Claim Rejections - 35 U.S.C. § 101

Claims 1-11 were rejected under 35 U.S.C § 101 as allegedly directed to an abstract idea without significantly more.

Specifically, the Action states:

The claims recite the steps of acquiring a sequence of label identifiers transmitting the sequence of label identifiers and updating association data from the sequence of label identifiers, which is considered to be certain methods of organizing human activity. This judicial exception is not integrated into a practical application because the additional elements in the form of generic computing elements do not add a meaningful limitation to the abstract idea because they amount to simply implementing the abstract idea on a computer.

[Action, p. 2]

Applicant respectfully disagrees at least for the following reasons.

The claims are not directed to an abstract idea, and further are not directed to certain methods of organizing human activity

Under step 2A of the analysis for determining subject matter eligibility under the MPEP, the claims are examined to determine whether the claims as a whole are directed to a judicial exception, including a law of nature, a natural phenomenon, or an abstract idea. MPEP § 2106.04(II).

Regarding abstract ideas, the Office “has set forth an approach to identifying abstract ideas that

distills the relevant case law into enumerated groupings of abstract ideas.” *Id.* § 2106.04(II). The enumerated groupings include Mathematical concepts, certain methods of organizing human activity, and Mental processes. *Id.*

The claims as amended recite that they are directed to “updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area.” A planogram is a digital representation of the layout of a retail area. Application, p. 2, lines 11-15. The problem of updating the planogram to accurately relate to the retail area is a technical one, at least because the inaccuracy of the planogram can result in inaccuracies when using the planogram to “estimate the numbers of articles on the shelves, based on theoretical extent of their presence, which wrongly can lead to unanticipated disruptions in stock.” *Id.* at 24-30.

The claims include the following features:

- acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area;
- determining locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminary known location of the adjacent shelf label; and
- The claims also recite that the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label.

In other words, the claims recite how the planogram can be updated to accurately reflect the location of the added shelf label, by determining locations of the articles on the basis of an obtained location of the added shelf label, relative to the known location of an adjacent shelf label either preceding or following the shelf label. In this way, the claims recite a solution to the problem of a planogram that “never complies with reality, and the location calling on this planogram suffers from incapacity of the planogram to reflect reality.” *Id.* As was the case in *Enfish*, the claims here “are not simply the addition of general purpose computers added post-hoc to an abstract idea, but a

specific implementation of a solution in the software arts.” MPEP § 2106.05(a)(I) *citing Enfish, LLC, v. Microsoft Corp.*, 822 F.3d 1327, 1339.

Applicant respectfully submits that because the amended claims are not directed to an abstract idea, at least for the reasons given above, the amended claims are not directed to certain methods of organizing human activity, as alleged by the Action. Action, p. 2. For similar reasons, Applicant respectfully submits that the amended claims are also not directed to the other enumerated groupings.

The claims, even if directed to an abstract idea, integrates the exception into a practical application and amount to significantly more than a judicial exception

Even if the claims were directed to an abstract idea, which is not conceded, Applicant respectfully submits that the claims recite technical improvements, and are therefore patent eligible. “Limitations that the courts have found indicative that an additional element or (combination of elements) may have integrated the exception into a practical application include: An improvement in the functioning of a computer, or an improvement to another technology or technical field.” MPEP § 2105.04(d)(I).

Applicant respectfully submits that the claims recite a specific solution for solving of accurately updating a planogram corresponding to a retail area. The claims include the following features, which are not routine, conventional, or well-understood:

- acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area;
- determining locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminary known location of the adjacent shelf label; and

- The claims also recite that the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label.

At least the features of the amended claims, above, alone or in combination, recite techniques amounting to significantly more than an abstract idea. In particular, the features of the amended claims, above, can allow for at least a solution to the technical problem described above, and can provide for the following technical improvements:

- More accurate organization of stock, at least because the planogram can be updated in time with the addition of new shelf labels corresponding to different articles available in the retail area; and
- More reliable data which can improve processing by other systems that rely on an accurate planogram of the retail area. Application, p. 12 lines 26-35; p. 13 lines 1-3.

For the foregoing reasons, Applicant respectfully submits that the §101 rejections to the claims should be withdrawn.

Claim Rejections - 35 U.S.C. § 102

Claims 1-5 and 10-11 were rejected under 35 U.S.C. § 102(a)(1) as allegedly anticipated by U.S. Pub. No. 2011/0102144 A1 (“Okina”).

Claim 1:

Amended claim 1 recites: “A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area.” Applicant respectfully submits that the cited portions of Okina do not teach this feature of amended claim 1.

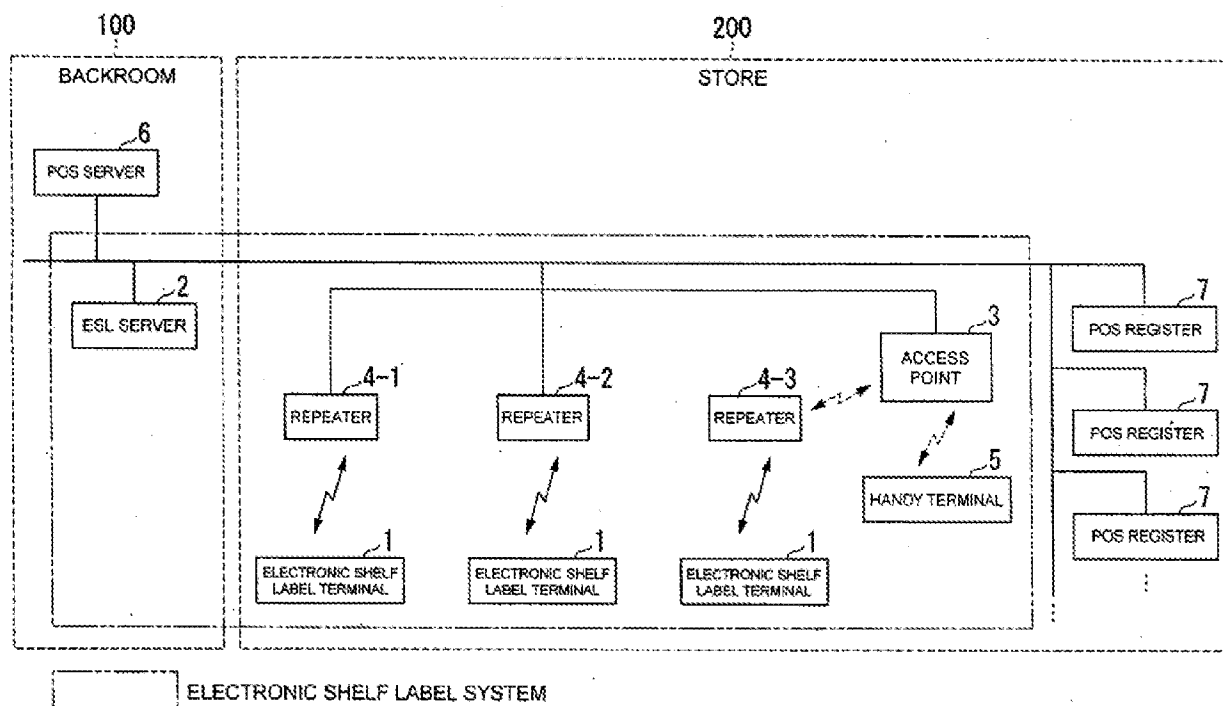
A cited portion of Okina reads as follows:

[0115] (Step S301) The operator causes the barcode reader included in the input unit 56 of the handy terminal 5 to read the barcode 17 of the electronic shelf label terminal 1. The control unit 51 of the handy terminal 5 acquires the ESL code of the electronic shelf label terminal 1 from the read barcode 17. The wireless communication unit 54 of the handy terminal 5 transmits the acquired ESL code to the ESL server 2. The management-device communication unit 24 of the ESL server

2 receives the ESL code transmitted from the handy terminal 5. After that, the ESL server 2 proceeds to processing of Step S302.

[Okina, ¶¶ 115]

Applicant submits that the cited portions of Okina do not disclose “reflect an addition of a shelf label in a shelf of a retail area,” as recited by amended claim 1. Rather, the cited portions of Okina disclose “The operator causes the barcode reader included in the input unit 56 of the handy terminal 5 to read the barcode 17 of the electronic shelf label terminal 1.” *Id.* The electronic shelf label terminal 1 does not teach the added shelf label in a shelf of a retail area. To see this, FIG. 1 of Okina is reproduced below:



As can be seen from above, the electronic label terminal 1 is not “an addition of a shelf label in a shelf of a retail area,” but rather one of a plurality of terminals implemented as part of the electronic shelf label system.

Amended claim 1 recites:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf

of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area.

Applicant respectfully submits that the cited portions of Okina do not teach this feature of amended claim 1. A portion of Okina reads, in relevant part, as follows:

[0113] Next, description is given of procedures by which the ESL server 2 sets the position information of the reference shelf label that is to serve as the reference for setting the position information of the electronic shelf label terminal 1. The procedures for setting the position information of the reference shelf label according to this embodiment are similar to the procedures for setting the position information of the reference shelf label according to the first embodiment. It should be noted that, in this embodiment, the electronic shelf label terminals 1-1, 1-4, 1-8, 1-11, 1-13, 1-16, 1-20, and 1-23 installed at the left end of the self boards 111 to 118 included in the shelves 101 and 102 are set as the reference shelf labels.

[Okina, ¶¶ 113]

The cited portions of Okina do not teach acquiring “an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,” as recited in amended claim 1. First, the “reference shelf label” of Okina does not teach an “adjacent shelf label which is adjacent to the added shelf label.”

Instead, in a different portion, Okina describes the reference shelf label as:

(Step S101) An operator uses the input button included in the input unit 56 of the handy terminal 5 to input the position information (information indicating an installation position) regarding a position at which the electronic shelf label terminal 1 that is to serve as the reference shelf label is installed. In the example illustrated in FIG. 5, the electronic shelf label terminal 1-1 is set as the reference shelf label in the shelf 101, and hence the product shelf number “101, the row “1”, and the column “1” are input as the position information.

[Okina, ¶ 83]

Specifically, “the shelf label terminal 1-1 is set as the reference shelf label in the shelf 101,” therefore it does not follow that the shelf label terminal 1 would be an adjacent shelf label adjacent to the added shelf label.

Also, the “reference shelf label” of Okina does not teach a “scrolling direction of the locations of the retail area.” This is at least because the “reference shelf label” of Okina does not teach an “adjacent shelf label,” and accordingly does not teach “an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction,” as recited by amended claim 1.

Amended claim 1 recites: “wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label.” Applicant respectfully submits that the cited portions of Okina do not teach this feature of amended claim 1. Referring back to paragraph 83 of Okina, above, “the shelf label terminal 1-1 is set as the reference shelf label in the shelf 101,” which does not teach the adjacent shelf label as “either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction.”

Accordingly, Applicant respectfully requests that the §102 rejections to claim 1 be withdrawn. Claims 10 and 11 have been similarly amended and are allowable for corresponding reasons. Further, since dependent claims incorporate all the features of their respective base claims, Applicant respectfully submits that claims 2-5 are patentable for at least the reasons discussed above, as well as on their own merits

35 U.S.C. § 103 Rejections

Claim 6 was rejected under 35 U.S.C. § 103 as allegedly being obvious over Okina in view of U.S. Pub. No. 2008/0198001 (“Sarma”). In addition, claims 7-8 were rejected under 35 U.S.C. § 103 as allegedly being obvious over Okina in view of JP 2011-96038A (“Mitsuoka”). Claim 9 was rejected under 35 U.S.C. § 103 as allegedly being obvious over Okina, in view of JP 2014-199645A (“Saito”).

Claims 6, 7-8, and 9 depend on amended claim 1, which now recites:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label

which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area.

At least for the reasons discussed above with reference to the §102 rejections, Applicant respectfully submits that the cited portions of Okina do not disclose or suggest the above-quoted feature of amended claim 1. The cited portions of Sarma, Mitsuoka, Saito, alone or in combination, fail to teach or suggest the above-quoted features of amended claim 1.

With reference to claim 6, the Action stated: “Sarma teaches a similar system of a mobile RFID reader and RFID tags to locate items on a shelf and create a planogram of a store.” Action, p. 9. A portion of Sarma reads, in relevant part, as follows:

Referring again to FIG. 1, the retail floor is divided into a number of sections or regions such as, for example, a checkout section 132, a produce section 142, a dairy section 152, a freezer section 162 and shelving 172-174. The first plurality of RFID beacon location tags 102 are strategically placed throughout the retail floor space 100, attached to shelving and other structures at pre-determined fixed positions. Each RFID beacon location tag 102 is associated with a unique RF tag identifier (“Tag ID”). The second plurality of The RFID asset identification tags 104 are placed on various assets to be tracked and/or located throughout the retail floor space 100. For example, RFID asset identification tags 104 may be used to attach to retail floor space items including, for example, dairy items, produce, breads and cereals. Each RFID asset identification tag 104 is associated with a unique RF tag identifier (“Tag ID”).

[Sarma, ¶ 36]

The RFID tags of Sarma do not teach or suggest “a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area.” Rather, the RFID tags of Sarma are “strategically placed throughout the retail floor space 100, attached to shelving and other structures at pre-determined fixed positions.” *Id.* (emphasis added).

Further, since dependent claims incorporate all the features of their respective base claims, Applicant respectfully submits that claims 6, 7, 8, and 9 are patentable for at least the reasons

discussed above, as well as on their own merits. Accordingly, Applicant requests that the rejection of the claims under §103 be withdrawn.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that the Examiner telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which the Examiner might have. All required fees are being paid via credit card. However, please charge any additional fees not already paid via credit card, and credit any overpayments to our Deposit Account No. 12-1095.

Dated: October 7, 2020

Respectfully submitted,

Electronic signature:
/ Orville R. Cockings /
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/747,550	01/25/2018	Philippe Bottine	REGIM 3.3F-369	5851
530	7590	06/08/2020	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 20 Commerce Drive Cranford, NJ 07016			MUTSCHLER, JOSEPH M	
			ART UNIT	PAPER NUMBER
			3627	
			NOTIFICATION DATE	DELIVERY MODE
			06/08/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eOfficeAction@lernerdavid.com

Office Action Summary	Application No. 15/747,550	Applicant(s) Bottine et al.	
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/25/2018.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-11 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-11 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 1/25/2018 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☒ All b) ☐ Some** c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date 1/25/2018, 6/5/2018.
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 4) ☐ Other: ____.

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Status of the Claims

This Action is in response to initially filed application dated 1/25/2018, claims 1-11 are currently pending and being examined in this reply.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11 are rejected under 35 USC 101 because the claimed invention is directed to an abstract idea without significantly more. The claims recite the steps of acquiring a sequence of label identifiers....transmitting the sequence of label identifiers....and updating association data from the sequence of label identifiers, which is considered to be certain methods of organizing human activity. This judicial exception is not integrated into a practical application because the additional elements in the form of generic computing elements do not add a meaningful limitation to the abstract idea because they amount to simply implementing the abstract idea on a computer. The claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the generically recited computer elements, the

shelf label, reading device, and computer system, when considered separately and in combination do not add significantly more to the exception.

In accordance with this guidance, the examiner refers to the following exemplary generically-recited computer elements with their associated functions (and associated factual finding(s)), which are considered to be routine, conventional, and well-understood:

Reading device – for sending/receiving data- Receiving or transmitting data over a network, e.g., using the Internet to gather data, *Symantec*, 838 F.3d at 1321, 120 USPQ2d at 1362 (utilizing an intermediary computer to forward information); *TLI Communications LLC v. AV Auto. LLC*, 823 F.3d 607, 610, 118 USPQ2d 1744, 1745 (Fed. Cir. 2016) (using a telephone for image transmission); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363, 115 USPQ2d 1090, 1093 (Fed. Cir. 2015) (sending messages over a network); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355, 112 USPQ2d 1093, 1096 (Fed. Cir. 2014) (computer receives and sends information over a network); but see *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1258, 113 USPQ2d 1097, 1106 (Fed. Cir. 2014) ("Unlike the claims in *Ultramercial*, the claims at issue here specify *how* interactions with the Internet are manipulated to yield a desired result—a result that overrides the *routine* and conventional sequence of events ordinarily triggered by the click of a hyperlink." (emphasis added))

Reading device - For acquiring a label identifier - The Examiner takes Official Notice that it is old and well known in the art to use a reading device to read an shelf label

Computer System – For storing/retrieving/processing information - Storing and retrieving information in memory, *Versata Dev. Group, Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1334, 115 USPQ2d 1681, 1701 (Fed. Cir. 2015); *OIP Techs.*, 788 F.3d at 1363, 115 USPQ2d at 1092-93; Performing repetitive calculations, *Flook*, 437 U.S. at 594, 198 USPQ2d at 199 (recomputing or readjusting alarm limit values); *Bancorp Services v. Sun Life*, 687 F.3d 1266, 1278, 103 USPQ2d 1425, 1433 (Fed. Cir. 2012) ("The computer required by some of *Bancorp's* claims is employed only for its most basic function, the performance of repetitive calculations, and as such does not impose meaningful limits on the scope of those claims.");

In sum, the examiner finds that the claims "are directed to the use of conventional or generic technology in a nascent but well-known environment, without any claim that the invention reflects an inventive solution to any problem presented by combining the two." In re TLI Communications LLC, No. 2015-1372 (May 17, 2016). Similar to the claims in SAP v. InvestPic, "[t]he claims here are ineligible because their innovation is an innovation in ineligible subject matter." Appeal No. 2017-2081 (Fed. Cir. 2018). In other words, "the advance lies entirely in the realm of abstract ideas, with no plausibly alleged innovation in the non-abstract application realm." Id. Accordingly, when considered individually and in ordered combination, the examiner finds the claims to be directed to in-eligible subject matter.

Claim Rejections - 35 USC § 102

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

Claims 1-5 and 10-11 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by United States Patent Application Publication No. 2011/0102144 A1 to Okina *et al.* ("Okina").

In regards to claims 1, 10, and 11, Okina teaches the following limitations:

A method for updating association data between articles of a retail area and locations of said retail area, said retail area having a plurality of shelf labels distributed in said retail area, each of said shelf labels being associated with an article and being disposed near a location associated with said article, each of said shelf labels being fitted with a label identifier of its own, said method comprising the steps according to which, to locate at least one shelf label to be located, (*Okina Abstract "An ESL server (3) includes a management-device storage unit for storing information indicating a position at which a second electronic shelf label terminal (1) is installed, a management-device reception unit for receiving information transmitted from a transmission unit of a handy terminal (5), and a management-device control unit for identifying a position at which a first electronic shelf label terminal (1) is installed based on information for uniquely identifying the first electronic shelf label terminal (1), information for uniquely identifying the second electronic shelf label terminal (1), information indicating relative position between the position at which the second electronic shelf label terminal (1) is installed and the position at which the first electronic shelf label terminal (1) is installed, and the information indicating the position at which the second electronic shelf label terminal (1) is installed."*)

- a reading device acquires a sequence of label identifiers comprising at least two label identifiers whereof the electronic shelf labels are adjacent in a scrolling direction of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said adjacent electronic shelf labels being an electronic shelf label whereof the location is known,
- the reading device transmits the sequence of identifiers to a computer system,
- the computer system updates the association data from the sequence of label identifiers, by determining
 - * the articles associated with the labels of the sequence of labels,
 - * the respective locations of said articles from the order of the labels in the sequence of labels.

(Okina reading device (handy terminal Figure 4); ¶¶ 0050-0051 describe the handy terminal in communication with the ESL server; Figures 5 and 15, and ¶¶ 0114-0125, Okina teaches reading/transmitting and setting a reference tag (known location) and then reading/transmitting another tag (unknown location) in sequence from the first and determining and setting the location and association data in the ESL server based on the received sequence of ESL tag labels and known position of the reference tag)

In regards to claim 2, Okina teaches the following limitations:

wherein the acquisition of the sequence of label identifiers comprises the provision, by an operator of the reading device, of an indication of relative positioning, relative to the location of the label to be located, of the adjacent label whereof the

location is known to the computer system, said indication of relative positioning being transmitted by the reading device to the computer system. *(Okina teaches an operator input into the handy terminal indicating the location information of the tag to be the reference tag (known tag) and transmitting the location information to the ESL server. See at least ¶ 0083 and Figure 13)*

In regards to claim 3, Okina teaches the following limitations:

wherein the scrolling direction of the locations of the retail area is known, and an indication of relative positioning, relative to the location of the located label, of the adjacent label whereof the location is known to the computer system, is deduced from the acquisition order of the label identifiers of the sequence of label identifiers. *(Okina Figures 5 and 15, teach scrolling areas with a known direction from left to right and top to bottom, and further that the relative positioning is known by reading a reference tag and unknown tag and setting the unknown tag based on the known tag information.)*

In regards to claim 4, Okina teaches the following limitations:

wherein the reading device transmits to the computer system data relative to the association between the identifier of the electronic label to be located and the reference of an article with which said added electronic label is associated. *(Okina Figure 15 and ¶ 0120 "The operator causes the barcode reader included in the input unit 56 of the handy terminal 5 to read a barcode attached to a product whose product information is to be displayed on the electronic shelf label terminal 1 from which the barcode has been read in Step S301. The control unit 51 of the handy terminal 5 acquires the product*

code from the read barcode. The wireless communication unit 54 of the handy terminal 5 transmits the acquired product code to the ESL server 2. The management-device communication unit 24 of the ESL server 2 receives the product code transmitted from the handy terminal 5")

In regards to claim 5, Okina teaches the following limitations:

wherein several electronic shelf labels are to be located, said electronic shelf labels to be located being adjacent to each other in a scrolling direction of the locations of the retail area, and the acquisition of the sequence of label identifiers by the reading device comprises the acquisition of the label identifiers of said electronic shelf labels to be located in the order of their arrangement relative to the electronic shelf label whereof the location is known. (Okina Figures 5 and 15, and ¶¶ 0114-0125, Okina teaches reading/transmitting and setting a reference tag (known location) and then reading/transmitting another tag (unkown location) in sequence from the first and determining and setting the location and association data in the ESL server based on the received sequence of ESL tag labels and known position of the reference tag)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103 as being unpatentable over United States Patent Application Publication No. 2011/0102144 A1 to Okina *et al.* ("Okina"), in view of United States Patent Application Publication No. 2008/0198001 to Sarma *et al.* ("Sarma").

In regards to claim 6, Okina does not appear to specifically disclose the following limitations:

The method according to claim 1, wherein each electronic shelf label of said sequence is fitted with a radiofrequency peripheral and the reading device acquires the identifier of said electronic shelf labels by setting up communication via radiofrequency with said electronic shelf labels.

The Examiner provides Sarma to teach the following limitations:

The method according to claim 1, wherein each electronic shelf label of said sequence is fitted with a radiofrequency peripheral and the reading device acquires the identifier of said electronic shelf labels by setting up communication via radiofrequency with said electronic shelf labels. *(Sarma teaches a similar system of a mobile RFID reader and RFID tags to locate items on a shelf and create a planogram of a store, further Sarma teaches reading tags in a sequence given known and unknown tag locations to be determined based on the known tag locations. See at least Abstract and Figure 4)*

Therefore it would have been obvious to one of ordinary skill in the art at the time of filing the invention to include in the system and method of Okina the RFID tag and reader of Sarma because "A primary advantage of the invention is that it utilizes passive

RFID tags and mobile readers, which are more cost effective than active RFID tags and choke-point readers, while providing the benefits of both.” (Sarma ¶ 0021) and to allow increased system flexibility in what kind of tags and communications are available.

Claims 7-8 are rejected under 35 U.S.C. 103 as being unpatentable over United States Patent Application Publication No. 2011/0102144 A1 to Okina *et al.* (“Okina”), in view of JP 2011-96038A to Mitsuoka.

In regards to claims 7 and 8, Okina does not appear to specifically disclose the following limitations:

The method according to claim 1, wherein the reading device comprises a displacement measuring member, and the method comprises determination of the displacement of the reading device between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located.

The method according to claim 7, wherein a distance between the electronic shelf label whereof the location is known and the electronic shelf label to be located is determined from the displacement of the reading device between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located, and the computer processing system uses said distance to update a planogram.

The Examiner provides Mitsuoka to teach the following limitations:

The method according to claim 1, wherein the reading device comprises a displacement measuring member, and the method comprises determination of the displacement of the reading device between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located.

The method according to claim 7, wherein a distance between the electronic shelf label whereof the location is known and the electronic shelf label to be located is determined from the displacement of the reading device between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located, and the computer processing system uses said distance to update a planogram. *(Mitsuoka ¶¶ 0078-0079 "After the detection by the sensor unit 146 is started in step S120 shown in FIG. 10, the store clerk moves the mobile terminal device 140 to the ESL 130-5 along the movement locus B shown in FIG. The attached shelf label code 135 is read. The movement distance of the mobile terminal device 140 to the ESL 130-5 at this time is based on the detection values of the acceleration sensor and the gyro sensor, XE5 in the X-axis direction, YE5 (not shown) in the Y-axis direction, and Z-axis. ZE5 is calculated in the negative direction. Then, based on the calculated moving distance, the relative coordinates of ESL130-5 (ESL130-5 relative coordinates = (XE5, YE5, -ZE5)) can be obtained. Thus, based on the shelf barcode coordinates (X1, Y1, Z1) and the ESL130-5 relative coordinates = (XE5, YE5, -ZE5), the absolute coordinates of ESL130-5 (ESL130-5 absolute coordinates = (X1 + XE5) Y1 + YE5, Z1-ZE5)) can be obtained"*

Therefore it would have been obvious to one of ordinary skill in the art at the time of filing the invention to include in the system and method of Okina the teachings of Mitsuoka since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 9 is rejected under 35 U.S.C. 103 as being unpatentable over United States Patent Application Publication No. 2011/0102144 A1 to Okina *et al.* ("Okina"), in view of JP 2014-199645A to Saito.

In regards to claim 9, Okina does not appear to specifically disclose the following limitations:

comprising the steps according to which:

- the reading device acquires a label identifier of an electronic shelf label,
- a dimension characteristic of the location associated with the electronic shelf label is entered in the reading device,
- said dimension characteristic of the location is transmitted with the label identifier to the computer processing system.

The Examiner provides Saito to teach the following limitations:

comprising the steps according to which:

- the reading device acquires a label identifier of an electronic shelf label,

- a dimension characteristic of the location associated with the electronic shelf label is entered in the reading device,

- said dimension characteristic of the location is transmitted with the label identifier to the computer processing system. (*Saito ¶¶ 0052-0053 The data items indicating the current shelf allocation state include the product position in the store such as the shelf number, the number of faces (dimension characteristic), the quantity, the brand, the category (eg chocolate), and the like. The data indicating the current shelf allocation state input in the input field 302 ' is stored as "shelf allocation data" in association with the product information displayed in the display field 301 locally or in a database on the Internet or LAN)*

Therefore it would have been obvious to one of ordinary skill in the art at the time of filing the invention to include in the system and method of Okina the teachings of Saito since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH M MUTSCHLER whose telephone number is (313)446-6603. The examiner can normally be reached on 0600-1430.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Florian Zeender can be reached on (571)272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOSEPH M MUTSCHLER/
Examiner, Art Unit 3627

/FLORIAN M ZEENDER/
Supervisory Patent Examiner, Art Unit 3627

<i>Notice of References Cited</i>	Application/Control No. 15/747,550		Applicant(s)/Patent Under Reexamination Bottine et al.	
	Examiner JOSEPH M MUTSCHLER		Art Unit 3627	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20110102144-A1	05-2011	Okina; Shigetaka	G06Q30/02	340/5.91
*	B	US-20080198001-A1	08-2008	Sarma; Sanjay	G06Q10/087	340/539.1
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N	JP-2011096038-A	05-2011	JP	UCHIYAMA, TAKESHI	
	O	JP-2014199645-A	10-2014	JP	SAITO HIROKI	
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Search Notes</i> 	Application/Control No. 15/747,550	Applicant(s)/Patent Under Reexamination Bottine et al.
	Examiner JOSEPH M MUTSCHLER	Art Unit 3627

CPC - Searched*		
Symbol	Date	Examiner
G06Q10/087.cpc.G06F16/2379.cpc.G06K19/0723.cpc.G06Q10/08.cpc.	06/02/2020	JMM

CPC Combination Sets - Searched*		
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US Classification - Searched*			
Class	Subclass	Date	Examiner

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Search Notes		
Search Notes	Date	Examiner
Performed Assignee/Inventor search	06/02/2020	JMM
Performed Classification search	06/02/2020	JMM
Performed Google/IP search	06/02/2020	JMM
Performed search in EAST	06/02/2020	JMM

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/JOSEPH M MUTSCHLER/ Examiner, Art Unit 3627	
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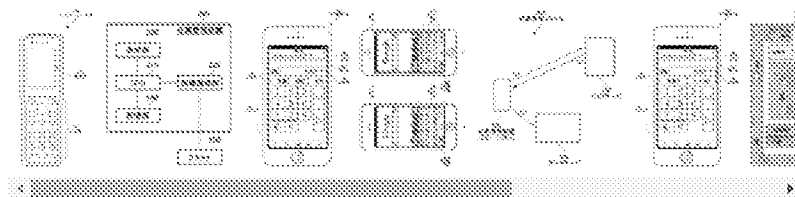


Inventory management device, inventory management system, inventory management method and inventory management program

Abstract

An object of the present invention is to provide an inexpensive inventory management apparatus having functions necessary for inventory management in retail and logistics industries. When an inventory management apparatus 200 such as a smartphone operates an inventory management program using a web browser 300, a product information display field 301 and an input field for data necessary for inventory are displayed on the web browser 300 in the display unit 230. 302 is shown. When the barcode is read by the paired scanner 250 via the wireless communication unit 220, the product information represented by the barcode such as the product number and the product name is displayed in the display column 301. Here, the user of the inventory management apparatus 200 inputs numbers in the input fields 302 such as quantity, price, and department shown on the web browser 300. In the inventory management apparatus 200 according to the present invention, The character input application that the operating system (OS) of the management apparatus 200 has is not used at all for the input necessary for inventory. [Selection] Figure 3

Images (8)



Claims (15)

[Hide Dependent ^](#)

1. A multi-function mobile terminal having an operating system, A web browser that can run web applications, A wireless communication unit capable of receiving an inventory management program that is a web application for performing inventory, When the inventory management program received by the wireless communication unit is operated by the web browser, the web browser displays a display column for product information and an input column for the quantity and position of each product, In the display field, product information represented by a product code acquired through the wireless communication unit is shown, Input to the input field is performed by a numeric keypad displayed on the web browser.
2. The multi-function mobile terminal according to claim 1, wherein the input to the input field is performed without calling a character input application included in the operating system.
3. The multifunctional portable terminal according to claim 1, wherein the inventory management device is either a smartphone or a tablet.
4. The multifunctional portable terminal according to any one of claims 1 to 3, wherein the inventory management program conforms to an HTML5 standard.
5. The multifunctional portable terminal according to claim 4, wherein the inventory management program stores the data input in the input field locally as inventory data in association with the product information using a local storage function. .
6. 6. The inventory management program according to any one of claims 1 to 5, wherein the data input in the input field is transmitted to a data server on the Internet or LAN as inventory data in association with the product information. Multi-function mobile terminal.
7. The multi-function mobile terminal according to claim 1, wherein the product code is a one-dimensional code or a two-dimensional code.
8. The inventory management device is paired with a scanner via the wireless communication unit, The multi-function mobile terminal according to claim 1, wherein the product code is read by the scanner.
9. The multi-function mobile terminal according to claim 1, wherein the numeric keypad is a telephone type or a calculator type.
10. The position of each product input in the input field is stored as location data of each product in association with the product information and a place on the map of the store. The multifunctional portable terminal as described.

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11. An inventory management method for performing inventory using a multi-function mobile terminal having an operating system,
The multi-function mobile terminal receives an inventory management program, which is a web application for performing inventory, by a wireless communication unit of the multi-function mobile terminal; and
Operating the inventory management program received by the wireless communication unit by a web browser of the multi-function mobile terminal;
The web browser includes a step of displaying a display column of product information and an input column of the quantity and position of each product, in the display field, product information represented by a product code acquired through the wireless communication unit is shown,
2. The inventory management method according to claim 1, wherein the input to the input field is performed by a numeric keypad displayed on the web browser.
12. An inventory management program for executing an inventory management method for performing inventory using a multifunctional mobile terminal having an operating system,
It is a web application for taking inventory,
When operating on a web browser of the multi-function mobile terminal, the web browser shows a display column for product information and an input column for the quantity and position of each product,
In the display column, the multi-function mobile terminal indicates product information represented by a product code acquired via a wireless communication unit included in the multi-function mobile terminal,
An inventory management program for causing an input to the input field to be performed by a numeric keypad displayed on the web browser.
13. A product search device for specifying a location of a product desired by a consumer on a store guide map,
Shelf allocation data DB in which the shelf allocation data including the product information of each item and the position of each item in the store is stored as a record;
Based on a search keyword input by a consumer, an extraction unit for extracting the record having relevance to the search keyword from the shelf allocation data DB using the product information as a key;
A product search apparatus comprising: a presentation unit that presents the extracted record on the guide map.
14. A product search device for specifying a position on a map of a product desired by a consumer,
Location data DB in which the location information including the product information of each product, the location of the store that handles each product, and the location of each product in the store is stored as a record;
Based on a search keyword input by a consumer, an extraction unit for extracting the record having relevance to the search keyword from the location data DB using the product information as a key;
A product search apparatus comprising: a presentation unit that presents the extracted record on a map.
15. The said extraction part extracts the thing where the location of the said store is near the said consumer's present location using the present location information of the computer which the said consumer used for the input of the said search keyword. Item 15. A product search device according to Item 14.
16. 15. The product search device according to claim 14, wherein the extraction unit extracts only stores that can purchase products having relevance to the search keyword in real time.

Description

The present invention relates to an inventory management device, an inventory management system, an inventory management method, and an inventory management program, and more particularly, an inventory management device, an inventory management system, an inventory management method, and an inventory management program using a web application. About.

In a retail business such as a supermarket, in order to provide a product that a customer wants without cutting it, the demand of the product is predicted and a certain amount of stock is received in advance. Since inventory leads to an increase in cost, inventory management is performed in consideration of the balance between prevention of loss of sales opportunities possible by having inventory and the cost required for that purpose.

One example of inventory management is inventory work. Inventory check), for example, to check the difference between the inventory quantity listed in the book and the actual inventory quantity. Say.

Inventory is an extremely important task for accurate settlement of accounts, and data collection terminals called handy terminals are widely used. FIG. 1 shows an example of a handy terminal. The handy terminal 100 is small and has dimensions of about 5 cm in width, 15 cm in length, and about 3 cm in thickness, and includes a display unit 110, an input unit 120, a scanner unit (not shown), and a storage unit (see FIG. Not shown). When the barcode is scanned by the scanner unit disposed on the back surface of the case and the information represented by the barcode is read, the information is displayed on the display unit 110. For example, when the barcode is a product code such as a JAN code, an EAN code, or a UPC, a product number, a product name, or the like is displayed on the display unit 110 when the barcode is scanned. The user can input required information such as inventory quantity from the input unit 120, and the input information is stored in the storage unit.

The handy terminal is designed to be used for various purposes in addition to inventory management. For example, an inquiry function for product information, inventory quantity, etc., an ordering function, etc. are implemented, or the length of continuous use time is required as a function so that continuous use for a long time is possible. In addition to such multi-functionality, the handy terminal generally requires robustness. In other words, since the handy terminal is planned to be used in various applications and under various conditions, environmental resistance such as drop impact resistance, ambient temperature, ambient humidity, dust resistance, and waterproofness is the product performance. It is an index for judging.

However, as a matter of course, products that realize such a high level of multi-functionality and robustness must be expensive, and from companies that need to manage inventory. An alternative was sought. Although the retail industry has been described above as an example, inventory management is also required in the logistics industry, and barcodes such as ITF codes are used. The problem is not limited to barcodes that are one-dimensional information, but also to two-dimensional codes.

The present invention has been made in view of such problems, and an object of the present invention is to provide a cheaper inventory management apparatus having functions necessary for inventory management in the retail and logistics industries, and Another object is to provide a similar inventory management system, inventory management method, and inventory management program.

In order to achieve such an object, a first aspect of the present invention is an inventory management apparatus having an operating system for performing a stocktaking described in HTML with a web browser capable of operating a web application. A wireless communication unit capable of receiving an inventory

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management program that is a web application, and when the inventory management program received by the wireless communication unit is operated by the web browser, the web browser displays a product information display field and An input field for data necessary for inventory is shown, and the display field shows product information represented by a product code acquired via the wireless communication unit, and the input to the input field is the operating field. It is shown in the web browser without calling the character input application that the system has. Characterized in that it is carried out by Nki.

According to a second aspect of the present invention, in the first aspect, the inventory management device is either a smartphone or a tablet.

According to a third aspect of the present invention, in the first or second aspect, the inventory management program is compliant with the HTML5 standard.

According to a fourth aspect of the present invention, in the third aspect, the inventory management program stores the data input in the input field locally as inventory data in association with the product information using a local storage function. It is characterized by doing.

According to a fifth aspect of the present invention, in any one of the first to fourth aspects, the inventory management program associates the data input in the input field with the product information as inventory data as an Internet or LAN. It transmits to the above data server, It is characterized by the above-mentioned.

According to a sixth aspect of the present invention, in any one of the first to fifth aspects, the product code is a one-dimensional code or a two-dimensional code.

Further, according to a seventh aspect of the present invention, in any one of the first to sixth aspects, the inventory management device is paired with a scanner via the wireless communication unit, and the product code is It is characterized by being read by a scanner.

According to an eighth aspect of the present invention, in any one of the first to seventh aspects, the numeric keypad is a telephone type or a calculator type.

According to a ninth aspect of the present invention, in any one of the first to eighth aspects, the data necessary for the inventory includes at least one of a quantity, a price, and a department.

According to a tenth aspect of the present invention, there is provided the inventory management apparatus according to any one of the fifth to ninth aspects, a web server for transmitting the inventory management program to the inventory management apparatus, and the inventory management apparatus from the inventory management apparatus. An inventory management system comprising a data server for receiving data.

According to an eleventh aspect of the present invention, there is provided an inventory management method for performing inventory using a multi-function mobile terminal having an operating system, wherein the multi-function mobile terminal performs an inventory described in HTML. A step of receiving an inventory management program that is a web application by a wireless communication unit included in the multi-function mobile terminal, and a step of operating the inventory management program received by the wireless communication unit by a web browser included in the multi-function mobile terminal And a step of displaying a display column of product information and an input column of data necessary for inventory in the web browser, wherein the display column is represented by the product code acquired via the wireless communication unit. Product information is displayed, and input to the input field is character input of the operating system. Without invoking application, a stock management method characterized in that it is made by the numeric keypad shown on the web browser.

A twelfth aspect of the present invention is an inventory management program for causing a multi-function portable terminal having an operating system to execute an inventory management method for performing inventory, and for performing inventory described in HTML. When the web application operates on the web browser of the multi-function mobile terminal, the web browser shows a display column for product information and an input column for data necessary for inventory. The functional mobile terminal indicates the product information represented by the product code acquired through the wireless communication unit of the multi-function mobile terminal, and the input to the input field is a character input application that the operating system has. An inventory management program that allows the user to use the numeric keypad displayed on the web browser without calling That.

A thirteenth aspect of the present invention is an inventory management apparatus having an operating system, which is a web browser capable of operating a web application, and an inventory management which is a web application for inventory management described in HTML. A wireless communication unit capable of receiving the program, and when the inventory management program received by the wireless communication unit is operated by the web browser, the web browser displays a display column of product information and data necessary for inventory management. An input field is shown, and the display field shows product information represented by a product code acquired via the wireless communication unit, and the input to the input field is a character input application that the operating system has Without using the numeric keypad shown on the web browser And wherein the dividing.

According to a fourteenth aspect of the present invention, in the thirteenth aspect, the inventory management is any one of an inventory business, a shipping business, and an ordering business.

According to a fifteenth aspect of the present invention, in the thirteenth aspect, the data necessary for inventory management is data indicating a current shelf allocation state.

According to a sixteenth aspect of the present invention, in the fifteenth aspect, the data indicating the current shelf allocation state includes a position of each product in a store.

According to a seventeenth aspect of the present invention, in the fifteenth or sixteenth aspect, the information input in the input field is stored as shelf allocation data of each product in association with the product information. To do.

According to an eighteenth aspect of the present invention, in the fifteenth or sixteenth aspect, the information input in the input field is stored as location data of each product in association with the product information and the location on the map of the store. It is characterized by being.

According to a nineteenth aspect of the present invention, in any one of the fifteenth to eighteenth aspects, the data necessary for inventory management further includes data necessary for inventory.

According to a twentieth aspect of the present invention, there is provided a commodity search apparatus for specifying a position of a commodity desired by a consumer on a store guide map, which is generated by the inventory management apparatus of the seventeenth or nineteenth aspect. Based on a search keyword input by a consumer and a shelf allocation data DB in which product allocation information including the product information of each product and the location of each product in the store is stored as a record An extraction unit for extracting the record having relevance to the search keyword from the shelf allocation data DB as a key, and a presentation unit for presenting the extracted record on the guide map; A product search device comprising:

According to a twenty-first aspect of the present invention, there is provided a commodity search apparatus for specifying a position of a commodity desired by a consumer on a map, and the location data generated by the inventory management apparatus according to the eighteenth or nineteenth aspect. A location data DB in which product information of each product, a location of a store handling each product, and location data including the location of each product in the store are stored as records, and input by a consumer Based on a search keyword, an extraction unit for extracting the record having relevance to the search keyword from the location data DB using the product information as a key, and a presentation unit for presenting the extracted record on a map It is provided with these.

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According to a twenty-second aspect of the present invention, in the twenty-first aspect, the extraction unit uses the current location information of the computer used by the consumer to input the search keyword, and the location of the store is the It is characterized by extracting a thing close to the current location of the consumer.

According to a twenty-third aspect of the present invention, in the twenty-first aspect, the extraction unit extracts only stores that can purchase a product having relevance to the search keyword in real time.

According to one aspect of the present invention, an inventory management apparatus is configured by operating a web application by a web browser on a multifunctional information terminal such as a smartphone or a tablet, and an input to an input field shown on the web browser is performed. Similarly, by creating the inventory data by inputting with the numeric keypad displayed on the web browser, it provides an inexpensive alternative to the handy terminal, and suppresses high operability and human error required for inventory work. Can be realized. As for the robustness generally required for the handy terminal, as long as the retail industry and the logistics industry are assumed, there is no practical problem with the robustness of multi-function information terminals such as commercially available smartphones and tablets, and the substitution is very effective.

Moreover, according to one aspect of the present invention, an inventory management device is configured by operating a web application by a web browser on a multifunctional information terminal such as a smartphone or a tablet, and an input field indicated on the web browser is displayed. Similarly, the shelf allocation data can be easily created by inputting the input using the numeric keypad displayed on the web browser, and the review of the shelf allocation can be promoted.

It is a figure which shows the conventional handy terminal. 1 is a block diagram of an inventory management apparatus according to the present invention. It is a figure which shows the inventory control apparatus which concerns on this invention. (A) And (b) is a figure which shows the character input application which OS of a smart phone has. 1 is a diagram showing an inventory management system according to the present invention. It is a figure which shows the inventory control apparatus which concerns on alternative embodiment of this invention. It is a figure which shows the example of the guide map in a shop. It is a block diagram of the goods search apparatus which concerns on the further embodiment of this invention.

Hereinafter, embodiments of the present invention will be described in detail with reference to the drawings.

(Inventory management device)

FIG. 2 shows a block diagram of an inventory management apparatus according to an embodiment of the present invention. The inventory management apparatus 200 includes a CPU (central processing unit) 210, a wireless communication unit 220, a display unit 230, and a storage unit 240. The inventory management apparatus 200 operates by executing an inventory management program according to the present invention on a smartphone. An inventory management program (as described later, this is an HTML program received by a smartphone via the Internet, is executed by the browser) is stored in a storage element (or storage unit 240) inside the CPU 210. Here, "smart phone" is a term for comparing with a conventional feature phone, and means a portable terminal capable of various functions other than a call function. In the following, a smartphone will be described as an example, but the present invention including a so-called "tablet" can be applied to a multi-function mobile terminal.

When the inventory management apparatus 200 operates the inventory management program by the web browser 300, the product browser displays the display column 301 for product information and the entry field for the data necessary for inventory (entry field).) 302 is shown (see FIG. 3). When the inventory management program is operated, the "inventory processing" screen of FIG. 3 does not need to be displayed immediately, and the "inventory processing" screen may be displayed after appropriate selection.

In performing the inventory work, communication between the wireless communication unit 220 and the scanner 250 is established. When a barcode reader compatible with the Bluetooth (registered trademark) standard is used as the scanner 250, the product information represented by the barcode can be read by pairing with the inventory management apparatus 200 via the wireless communication unit 220. Although it is possible to perform reading with a camera built in the smartphone, it is preferable to use the scanner 250 from the viewpoint of processing speed.

When the barcode is read by the scanner 250, the product information represented by the barcode such as the product number and the product name is displayed in the display column 301 after being decoded by the wireless communication unit 220 or the CPU 210. In the example of FIG. 3, "JAN code" is described in the display field 301, indicating that a product number, a product name, and the like represented by the JAN code are displayed.

Here, the user of the inventory management apparatus 200 inputs numbers in the input fields such as quantity, price, and department shown on the web browser 300. However, in the inventory management apparatus 200 according to the present invention, a smartphone or The character entry application (character entry application) of the tablet operating system (OS) is not used at all for the input necessary for inventory.

As shown in FIG. 4A, in the smartphone 400, when a character is input using a web application (an application operating on the web) such as Google (registered trademark), the character input application 410 included in the OS is executed. The When the character type switching button 411 is pressed, the displayed characters are switched as shown in FIG. 4B. However, in order to input a number necessary for inventory, the character type switching button 411 must be pressed. Poor operability and high risk of human error. In addition, many other characters are also displayed on the screen where numbers are displayed, and this also causes human error in inventory, where the purpose is to accurately grasp the actual inventory quantity. There is a high risk. As far as the applicant knows, there has not been an example in which an apparatus for performing inventory work has been provided in the form of a web application on a smartphone or a tablet due to such circumstances.

As shown in FIG. 3, the inventory management apparatus 200 according to the present invention also implements a numeric keypad 303 for inputting numbers together with an input field 302 such as a quantity in the web application. In other words, a numeric keypad 303 is displayed on the web browser 300 without calling an OS character input application. The input field 302 to be input is selected by touching, and numbers are input using the numeric keypad 303. After inputting the number, for example, by touching the right key (FIG. 3), the data input in the input field 302 is stored in the storage unit 240 as inventory data in association with the product information displayed in the display field 301. The The inventory data stored in the storage unit 240 is transmitted to a data server on the Internet or LAN.

The key arrangement of the numeric keypad 303 is not limited to the telephone type as shown in FIG. 3, and a calculator type and other arrangements are possible as appropriate. The key layout can be a web application specification or can be changed by opening a setting screen from a menu screen displayed when the user presses the "MENU" button (FIG. 3) on the inventory management apparatus 200. You can also.

The selection of the plurality of input fields 302 shown on the web browser can be moved to the right with the right key and to the left with the left key. For example, if a right key is touched after input in the "Quantity" field, the "Price" field is selected, and the quantity data can be stored in the storage unit 240 at this time.

The keys on these web applications can be implemented by JavaScript (registered trademark).

(Inventory management system)

FIG. 5 shows an inventory management system according to the present invention. The inventory management system 500 includes an inventory management apparatus 200, a web server 510 that transmits an inventory management program to the inventory management apparatus 200, and a data server 520 that receives inventory data stored in the inventory management apparatus 200.

(1) First, the smartphone 200 accesses the URL where the inventory management program is placed by a web browser. (2) Then, the web server 510 transmits an inventory management program described in HTML to the smartphone 200. The smartphone 200 operates as an inventory management device by executing an inventory management program. When the user finishes inputting data necessary for inventory, the inventory management apparatus 200 transmits the inventory data stored in the storage unit 240 to the data server 520. Since the inventory work is often performed by a plurality rather than by one person, the data server 520 needs to tabulate.

Inventories often require 1 to 2 hours, etc., and in order to continue the work without delay, there is a possibility that the inventory management device 200 depends on the web application, which may cause inconvenience. This point can be solved by using a local Storage (local storage) object adopted in the HTML5 standard. During the inventory work, data may be stored locally in the storage unit 240 and transmitted to the data server 520 by wireless or wired communication after the inventory work is completed or at a stage when a certain break is reached. If there is no problem in the communication environment, the inventory data may be transmitted as needed. When using the local storage, the screen is switched for each product to be inventoried, but a program can be created with one module so that the URL does not change.

Although it is conceivable to use the stand-alone application instead of configuring the inventory management apparatus 200 by the operation of the web application, in an application that supports a change in the details of necessary information for each company, such as an inventory operation. Because it requires individual customization and distribution, the form of a web application is suitable. In principle, standalone applications on smartphones and tablets are not suitable for individual distribution because registration to the download service is essential.

(Shelf allocation work)

In the above description, the contents input to the input field 302 are described as data necessary for inventory, but as data necessary for shipping operation, data necessary for ordering operation, etc. It should be noted that the benefits of the present invention are received.

As an example, inputting data necessary for the shelf allocation work into the input field 302 can be mentioned. Shelf management refers to determining where a product is to be placed, such as a gondola (display shelf). Since there are various display methods other than the gondola, in this specification, the determination of where to place the product in the store is called "shelf allocation".

The shelf allocation is an operation that directly affects the sales of the store, depending on which products are displayed and how to propose to the customer as to display. The received inventory is displayed according to the shelf allocation, the shelf allocation is appropriately reviewed according to the sales results, etc., and necessary arrivals are made, and these are displayed.

Conventionally, shelf allocation is often performed using a handy terminal. However, as with inventory, there is a problem that the cost is high and the operation is complicated. Accordingly, in the inventory management apparatus 200 according to the alternative embodiment of the present invention, the current shelf allocation state can be simply shown by displaying the data entry field 302 necessary for the shelf allocation in the web browser 300 in the display unit 230. Can be obtained (see FIG. 6), and can be used for reviewing the shelf allocation. The data items indicating the current shelf allocation state include the product position in the store such as the shelf number, the number of faces, the quantity, the brand, the category (eg chocolate), and the like.

The data indicating the current shelf allocation state input in the input field 302 is stored as "shelf allocation data" in association with the product information displayed in the display field 301 locally or in a database on the Internet or LAN. can do. Here, by associating the shelf allocation data with the guide map in the store as shown in FIG. 7, it is possible to search where the goods desired by the consumer are displayed and specify the position on the guide map. A product search device can be configured.

FIG. 8 shows a block diagram of a product search apparatus according to the present invention. The product search device 800 includes a shelf allocation data database (DB) 810 in which shelf information including product information (product name, product number, etc.) of each product and the location of the product in the store is stored as a record, and a consumer Based on the search keyword input by, the extraction unit 820 for extracting records having relevance to the search keyword from the shelf allocation data DB using the product information as a key, and presenting the extracted record on the store guide map Presenting unit 830.

Since the search keyword input by the consumer does not necessarily match the product information of the record stored in the shelf allocation data DB, it may be necessary to process the search keyword in order to extract a record having a relationship with the search keyword. However, a well-known technique may be appropriately used for this point. For example, records can be extracted by a fuzzy hit or a related hit in addition to a product name match hit.

The search keyword can be input by voice input as well as by keyboard.

The presentation unit 830 can generate data for superimposing and displaying the product information of the extracted record on the store guide map, and can output the data to a display unit such as a monitor to present to the consumer. .

Another method for utilizing the shelf allocation data is to calculate store share. The store occupancy rate means a rate occupied by products, brands, etc. in the storefront (storefront), and is calculated by defining a range for each shelf, the entire store, some shelves, and the like. In addition to the range, such as occupancy by specific products, occupancy by a specific brand, occupancy by a specific category, etc., it is calculated by setting a target. Conventionally, there is a POS that performs inventory management at the point of sale, but the state of the store before the sale is highly important as a leading indicator. However, since it has not been easy to obtain information necessary for calculating the index of store occupancy, its utilization has not been sufficiently advanced so far. By using the shelf allocation data DB obtained by the inventory management apparatus according to the present invention, a desired storefront occupancy ratio can be easily calculated by searching for an object using a range, product information, brand, category, etc. as a key using the product position as a key. The apparatus for doing can be comprised.

When storing the data indicating the current shelf allocation state input in the input field 302 in association with the product information displayed in the display field 301, the location on the store map, such as the store address and GPS information By associating them with each other, the "shelf allocation data" of the product can be expanded to "location data". In other words, it is possible to construct a location data DB that stores, as records, product information (product name, product number, etc.) of each product, the location of the store handling the product, and location data including the product position in the store. it can. In this case, the shelf allocation data DB included in the product search device of FIG. 8 is also the location data DB.

For example, if a consumer wants to purchase a "stylus pen", there is currently no direct way to find out where to go, but a database that stores location data is used with the product name "stylus pen" as a key. This problem can be solved by searching.

Further, by using the current position information of the computer used by the consumer for searching, it is possible to extract a search result using the product name as a key and extract a result close to the current position and present it to the consumer. In addition, it is possible to extract only stores that can be purchased in real time by associating a real-time inventory quantity with each record in the location data DB. The real-time inventory quantity can be calculated from the arrival data and sales data. Such filtering may be performed by the extraction unit 820 or the presentation unit 830.

So far, there has been a technology that presents on the map a place that has some relevance to the search keyword (such as "stylus pen"), but where to go to which store to handle the product that the consumer wants. Furthermore, information with high geographical resolution such as where the store is displayed has not been provided. By using the location data according to the present invention, it is possible to provide a product search device that can specify the position of a product desired by a consumer with high geographical resolution.

Although the acquisition of the shelf allocation data can be performed independently by itself, it is performed together with the inventory operation, that is, the input field 302 for the data necessary for the inventory and the current shelf allocation state are shown. By displaying the data input field 302 at the same time, it is possible to acquire shelf allocation data or location data extremely efficiently.

Further, as an additional function, a product replacement function can be added. When changing some products from the current shelf allocation, scan the product code of the existing product with the scanner, then read the product code of the new product, and press the change button to update the shelf allocation data. be able to. When the number of product faces, brands, etc. are stored as shelf allocation data, it is necessary to input and select these items after reading the product code of the new product. Old information will be used.

DESCRIPTION OF SYMBOLS 100 Handy terminal 110 Display part 120 Input part 200,200 'Inventory management apparatus 210 CPU

DESCRIPTION OF SYMBOLS 220 Wireless communication part 230 Display part 240 Storage part 250 Scanner 300 Web browser 301 Display field 302, 302 'input field 303 Numeric keypad 400 Smart phone 410 Character input application 411 Character type switching button 500 Inventory management system 510 Web server 520 Data server 600 Product search device 810 Shelf allocation data DB

820 Extraction unit 830 Presentation unit

Similar Documents

Publication	Publication Date	Title
JP2018026168A	2018-02-15	Method, client device, and server for accessing network information through graphic code
US9406060B2	2016-08-02	Receipt data processing device and method for processing receipt data
US10580052B2	2020-03-03	Systems and methods for controlling shelf display units and for graphically presenting information on shelf display units
US10134056B2	2018-11-20	Systems and methods for providing information based on location
US9818011B2	2017-11-14	Method and device for identifying two-dimensional barcodes
US8584931B2	2013-11-19	Systems and methods for an augmented experience of products and marketing materials using barcodes
JP420350282	2009-01-07	Product information providing system, user memo management device, terminal device, information providing device, etc.
JP5925915B2	2016-05-25	Method and apparatus for tracking merchandise and providing merchandise information
WO2016004889A1	2016-01-14	Method for displaying communication identification in electronic device, client and electronic device
JP2007213548A	2007-08-23	Apparatus and method for providing information, information management method, information provision program, and information management program
US20090313142A1	2009-12-17	Information providing device, computer-readable recording medium, and store system
JP2008065363A	2008-03-21	Information provision system, information provision method, memorandum information management device, sales promotion information management device, etc.
US20150161703A1	2015-06-11	System and method for aggregating information associating a user with a product
US20150127490A1	2015-05-07	System and a method to recognize a product
JP2004265196A	2004-09-24	Method for coordinating electronic bin tag to article, electronic bin tag system and information acquiring system
JP5329611B2	2013-10-30	Purchase support server, purchase support method, purchase support program, and computer-readable recording medium storing the program
US20180341938A1	2018-11-29	Methods and systems for connected sales associate services
CN102037462A	2011-04-27	Ratings using machine-readable representation
JPS738918B2	2015-06-24	Sales data processing apparatus and program
JP5494730B2	2014-05-21	Management server and information distribution system
KR10158904581	2016-01-28	system and method for managing store using QR code
US10648267B2	2020-05-05	Retail purchasing computer system and method of operating same
US20160019629A1	2016-01-21	Context rich consent controlled food purchase management
JP2007272535A	2007-10-18	Shopping support system, shopping support device, shopping support method, and shopping support program
US20170039542A1	2017-02-09	Sales data processing apparatus and sales data processing method

Priority And Related Applications

Parent Applications (1)

Application	Priority date	Filing date	Relation	Title
JP2013116734		2013-06-03	Division	

Priority Applications (3)

Application	Priority date	Filing date	Title
JP2013052889		2013-03-15	
JP2013052889		2013-03-15	
JP2013272475A	2013-03-15	2013-12-27	Inventory management device, inventory management system, inventory management method, and inventory management program

Applications Claiming Priority (1)

Application	Filing date	Title
JP2013272475A	2013-12-27	Inventory management device, inventory management system, inventory management method, and inventory management program

Legal Events

Date	Code	Title	Description
2014-04-28	TRDD	Decision of grant or rejection written	
2014-05-08	A01	Written decision to grant a patent or to grant a registration (utility model)	Free format text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20140507
2014-06-05	A61	First payment of annual fees (during grant procedure)	Free format text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20140602
2014-06-06	R150	Certificate of patent or registration of utility model	Ref document number: 5555802 Country of ref document: JP Free format text: JAPANESE INTERMEDIATE CODE: R150
2017-09-01	S111	Request for change of ownership or part of ownership	Free format text: JAPANESE INTERMEDIATE CODE: R313113
2017-09-19	R360	Written notification for declining of transfer of rights	Free format text: JAPANESE INTERMEDIATE CODE: R360
2017-10-19	R360	Written notification for declining of transfer of rights	Free format text: JAPANESE INTERMEDIATE CODE: R360
2017-10-19	R371	Transfer withdrawn	Free format text: JAPANESE INTERMEDIATE CODE: R371
2017-10-27	S111	Request for change of ownership or part of ownership	Free format text: JAPANESE INTERMEDIATE CODE: R313113
2017-11-07	R350	Written notification of registration of transfer	Free format text: JAPANESE INTERMEDIATE CODE: R350
2017-12-19	R250	Receipt of annual fees	Free format text: JAPANESE INTERMEDIATE CODE: R250
2018-06-12	R250	Receipt of annual fees	Free format text: JAPANESE INTERMEDIATE CODE: R250
2019-06-18	R250	Receipt of annual fees	Free format text: JAPANESE INTERMEDIATE CODE: R250

Concepts

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products		claims,abstract,description	133	0
extraction		claims,description	11	0
extracts		claims,description	4	0
Show all concepts from the description section				

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Doc code: IDS

PTO/SB/08a (03-15)

Doc description: Information Disclosure Statement (IDS) Filed

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Application Number		
Filing Date		
First Named Inventor	Philippe Bottine	
Art Unit	N/A	
Examiner Name	Not Yet Assigned	
Attorney Docket Number	REGIM 3.3F-369	

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1	20150178767	A1	2015-06-25	WU et al.			
	2	20130339151	A1	2013-12-19	Bottine et al.	English language counterpart to Publication No. WO2013153290A1.		
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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2013153290	WO	A1	2013-10-17	Store Elect Sys	Publication No. US20130339151A1 is an English language counterpart.	×
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Application Number		
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First Named Inventor	Philippe Bottine	
Art Unit	N/A	
Examiner Name	Not Yet Assigned	
Attorney Docket Number	REGIM 3.3F-369	

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	International Search Report for Application No. PCT/FR2016/051930, mailed October 14, 2016.	

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Examiner Signature	/JOSEPH M MUTSCHLER/	Date Considered	06/02/2020
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Filing Date		
First Named Inventor	Philippe Bottine	
Art Unit	N/A	
Examiner Name	Not Yet Assigned	
Attorney Docket Number	REGIM 3.3F-369	

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☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Thomas M. Palisi/	Date (YYYY-MM-DD)	2018-01-25
Name/Print	Thomas M. Palisi	Registration Number	36,629

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Bibliographic Data

Application No: 15/747,550

Foreign Priority claimed: ☒ Yes ☐ No

35 USC 119 (a-d) conditions met: ☒ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged:

/JOSEPH M MUTSCHLER/

Examiner's Signature

Initials

Title:

METHOD FOR UPDATING ASSOCIATION DATA BETWEEN
ARTICLES AND LOCATIONS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
01/25/2018	705	3627	
RULE			

APPLICANTS

SES-imagotag, Nanterre, FRANCE

INVENTORS

Philippe Bottine Boulogne-Billancourt, FRANCE

François Robin Paris, FRANCE

CONTINUING DATA

This application is a 371 of PCT/FR2016/051930 07/25/2016

FOREIGN APPLICATIONS

FRANCE 1557153 07/27/2015

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	11	((("SES-IMAGOTAG"))).AS,AANM.	USPAT	OR	OFF	2020/06/02 15:15
L2	10	((("BOTTINE") near3 ("Philippe")) OR (("ROBIN") near3 ("François"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2020/06/02 15:15
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S2	2	"20150178767".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 12:51
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			JPO; DERWENT; IBM_TDB			
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EAST Search History (Interference)

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Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number	15747550
Filing Date	2018-01-25
First Named Inventor	Philippe Bottine
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	REGIM 3.3F-369

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First Named Inventor	Philippe Bottine
Art Unit	N/A
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Attorney Docket Number	REGIM 3.3F-369

1	French Preliminary Search Report for FR Patent Application No. 1557153, dated February 12, 2016.
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Signature	/Thomas M. Palisi/	Date (YYYY-MM-DD)	2018-06-05
Name/Print	Thomas M. Palisi	Registration Number	36,629

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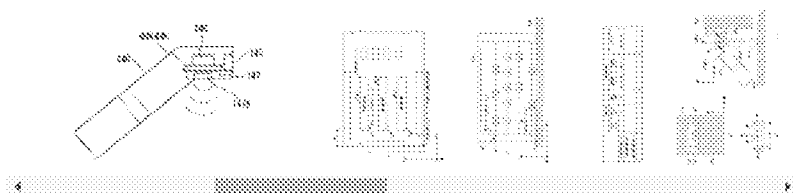


Position information acquisition device and position information acquisition method

Abstract

<P>PROBLEM TO BE SOLVED: To provide a position information acquiring device and a position information acquisition method, allowing automatic high-accuracy acquisition of position information of a specific direction of an information display means, e.g. information regarding height wherein the information display means is installed, without having to previously record the positional information of the information display means. <P>SOLUTION: The position information acquiring device includes an information detection means detecting identification information, used for identification of the information display means displaying information for identifying an article, a coordinate detection means for detecting coordinates, when the identification information is detected by the information detection means to preset reference coordinates; a position information calculation means for calculating information regarding a position, when the identification information is detected by the information detection means, based on the reference coordinates and the coordinates detected by the coordinate detection means; and a position information correction means for detecting the distance to a predetermined reference place, and correcting the information regarding the position in a specified direction, when the identification information calculated by the position information calculation means is detected, based on the distance detected. <P>COPYRIGHT: (C)2011,JPO&INPIT

Images (24)



Claims (7)

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1. Information detecting means for detecting identification information used for identification of information display means for displaying information for identifying an article;
Coordinate detection means for detecting coordinates when the identification information is detected by the information detection means with respect to preset reference coordinates;
Position information calculating means for calculating position information when the identification information is detected by the information detecting means based on the reference coordinates and the coordinates detected by the coordinate detecting means;
Position information that detects a distance from a predetermined reference location, and corrects position information in a specific direction when the identification information calculated by the position information calculation unit is detected based on the detected distance Correction means;
A position information acquisition device comprising;
2. The information detection means further includes
Detects coordinate identification information from an object placed at a predetermined location,
The coordinate detection means further includes
Setting the absolute coordinates pre-associated with the coordinate identification information detected by the information detection means as the reference coordinates;
The position information acquisition apparatus according to claim 1.
3. The coordinate detection means includes
An acceleration sensor for detecting an acceleration when the position information acquisition device moves;
An angle sensor for detecting an angle when the direction of the position information acquisition device changes;
With
The position information correcting means includes
A distance sensor for detecting a distance between the position information acquisition device and a predetermined reference location;
With
Initialize an acceleration detection value output from the acceleration sensor when the reference coordinates are set, and an angle detection value output from the angle sensor,
From the time when the reference coordinates are set based on the detected acceleration value from the acceleration sensor and the detected angle value from the angle sensor output until the identification information is detected by the information detecting means. Calculate the moving distance of the position information acquisition device until the identification information is detected,
Based on the detection value of the distance from the distance sensor that is output when the identification information is detected by the information detection means, the calculated movement distance of the position information acquisition device is corrected,
Based on the corrected moving distance, the coordinates when the position information acquisition device detects the identification information are calculated as relative coordinates with respect to the reference coordinates.
The position information acquisition apparatus according to claim 2.

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4. The acceleration sensor is
Detect triaxial acceleration, and output the detected values of the detected triaxial acceleration,
The angle sensor is
Detecting the angle of the three axes, and outputting the detected values of the detected angles of the three axes,
The coordinate detection means includes
Based on the detected value of the triaxial angle output from the angle sensor, the detected value of the triaxial acceleration output from the acceleration sensor is corrected,
Based on the corrected detection value of the triaxial acceleration, the triaxial movement distance of the position information acquisition device is calculated,
The distance sensor is
Output the detection value of the distance in a specific direction of a predetermined reference location,
The position information correcting means includes
Of the three-axis movement distances calculated by the coordinate detection means, the movement distance in a specific direction in which the distance is detected by the distance sensor is replaced with the distance detected by the distance sensor, and the movement distance after the replacement is the position information. The travel distance of the three axes after correction of the acquisition device,
The position information acquisition apparatus according to claim 3.
5. The position information correcting means includes
Detecting the distance in the height direction of the position information acquisition device;
Correcting the height information when the identification information calculated by the position information calculation means is detected among the three-axis movement distances calculated by the coordinate detection means;
The position information acquisition apparatus according to claim 4.
6. The information display means includes
An electronic shelf label that displays information for identifying the article,
The information detecting means includes
Detecting device identification information associated with the electronic shelf label as the identification information;
The position information acquisition apparatus according to claim 1.
7. An information detection procedure in which the information detection means detects identification information used for identification of the information display means for displaying information for identifying the article;
A coordinate detection procedure for detecting coordinates when the coordinate detection means detects the identification information by the information detection means with respect to preset reference coordinates;
A position information calculating procedure for calculating position information when the information detecting means detects the identification information based on the reference coordinates and the coordinates detected by the coordinate detecting means, ,
The position information correcting unit detects a distance from a predetermined reference location, and based on the detected distance, the position information in the specific direction when the identification information calculated by the position information calculating unit is detected. A position information correction procedure for correcting information;
A position information acquisition method comprising:

Description

The present invention relates to a position information acquisition device and a position information acquisition method for acquiring information of a position where an information display means for displaying information on an article is installed.

In order to identify an article stored in a shelf or the like, a tag on which information related to the article is written (printed) is placed on a shelf that stores the article. For this tag, a paper medium is conventionally used. For example, article information such as an article name and article identification information (barcode) is written on the paper medium, and the tag is pasted on a shelf storing articles. , Identified the goods that were stored. For example, in stores such as supermarkets and convenience stores, products are displayed on product display shelves, and product shelf labels that describe product information such as product names and prices are affixed to the product display shelves.

Further, in recent years, electronic bills that describe information on the article have been digitized. For example, information display devices including display means such as a liquid crystal display device are used. As a system using this information display device, for example, in a store as described above, there is an electronic shelf label system that displays product information such as product names and prices of products displayed on the product display shelf on the information display device. It's being used. In this electronic shelf label system, an electronic shelf label management server installed in a backyard for storing and managing products on the back side of the store, and a store clerk (employee) carry it to check product management information such as product inventory. A portable terminal device (handy terminal) and an ESL (Electronic Shelf Label) that is installed on a merchandise display shelf and displays merchandise information are connected by communication means such as wireless communication. As a result, work equivalent to work in which a store clerk has pasted product information tags previously described on paper media can be easily performed by changing the display content (display data) of the ESL by means of communication means. This has contributed to reducing the labor of shop assistants by changing the product name associated with the change in the displayed product, changing the display price associated with the change in the product price, and displaying detailed product information associated with the inventory check.

Also, in this electronic shelf label system, product management data is created by associating the product code of the product displayed on the product display shelf with the shelf label code individually assigned to each ESL. We manage products based on For example, when checking inventory information of products displayed on a product display shelf, a store clerk first reads a shelf label code with a portable terminal device. The mobile terminal device that has read the shelf label code transmits the read shelf label code to the electronic shelf label management server. The electronic shelf label management server that has received the shelf label code transmits the inventory information of the product linked to the shelf label code to the mobile terminal device. The mobile terminal device that has received the product inventory information displays the received product inventory information on the display unit of the mobile terminal device. The store clerk confirms the inventory information of the product displayed on the mobile terminal device. In this way, it is possible to confirm information on the products displayed on the product display shelf.

As described above, in order to confirm product information, it is first necessary for a store clerk to identify an ESL whose information is to be confirmed, and to read the shelf label code of the identified ESL with a portable terminal device. However, the installation position of the ESL is not limited to the place where the store clerk can

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reach. Therefore, in Patent Document 1, the product display shelf and the positional information of the ESL installed on the product display shelf are recorded in advance, and the desired ESL is specified remotely using the acceleration sensor provided in the mobile terminal device. Techniques to do this are disclosed.

In addition, since the display position of the product greatly affects the sales of the product at the above-mentioned stores, it is desirable to acquire and manage information on the display position of the product for the purpose of improving the sales of the product. It is rare. In particular, the information on the level of the merchandise on the merchandise display shelf is very important information for the merchandise sales strategy, and it is desired that this information can be grasped. As means for acquiring information on the display position of the product, for example, it is considered to grasp the display position of the product in the store by acquiring the position information of the ESL displaying the product information.

However, in the conventional electronic shelf label system, the product management data in which the product code of the product and the ESL shelf code are linked as described above is held in the electronic shelf label management server. The position information of the ESL is not data normally held in the electronic shelf label management server. For this reason, it is impossible to manage information such as which ESL is installed where and information on the display position of the product such as which product display shelf the product is on.

Patent Document 2 discloses a method of obtaining a product position information based on a product code read in a predetermined order when a product code is read by a mobile terminal device in advance.

Patent Document 3 discloses a method in which an output unit that outputs ultrasonic waves and infrared rays is provided in a mobile terminal device, and a detection unit that detects ultrasonic waves and infrared rays is provided in a product display shelf. In this method, the position of the ESL is detected by detecting the ultrasonic wave and infrared rays output when the mobile terminal device reads the product code affixed to the ESL by the detection unit installed on the product display shelf. It is.

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As described above, the method of acquiring the information on the display position of the product by acquiring the position information of the ESL, in particular, the information on what level the product is displayed on the product display shelf, improves the efficiency of store operations. It is a useful way to contribute. However, since the conventional electronic shelf label system does not record the position information of the installed ESL, it is necessary to newly record the position information of the ESL in advance on the electronic shelf label management server. In order to record the ESL position information, it is necessary to manually input a large number of ESL position information corresponding to the number of products to be displayed, and this manual input is a very difficult operation. In addition, changing the displayed product on the product display shelf and changing the ESL position information associated with the change in the product display position in the product display shelf are very complicated operations.

Moreover, although the technique described in Patent Document 1 specifies an ESL using an acceleration sensor, the acceleration sensor is merely used as an input unit for specifying the ESL. Therefore, Patent Document 1 is not a technique for acquiring ESL position information. Accordingly, even in Patent Document 1, information on the installation position of the product display shelf in the store and the installation position of the ESL installed on the product display shelf is grasped in advance, and information is sent to the electronic shelf label management server based on the grasped information. There is a problem that it takes a lot of time and effort.

Moreover, the technique described in Patent Document 2 specifies the position of the product based on the order of reading the product codes by determining the order of reading the product codes in advance. However, the product location information specified here only identifies the product displayed in the same product display shelf, and in the technology for acquiring the information on the display position of the product in the product display shelf. Absent. Of course, it is not possible to obtain information about the number of items displayed on the item display shelf. In addition, for example, when there is a change in the displayed product on the product display shelf or a change in the product display position in the product display shelf, even if this is a change of one product, the product code on the product display shelf has to be read again in a predetermined order, and there is a problem that workability is very poor.

Moreover, the technique described in Patent Document 3 requires a detection unit to be installed on the merchandise display shelf, which complicates the system. In addition, since the ESL position information is calculated based on the detection result of the detection unit installed on the merchandise display shelf, the data processing for obtaining the ESL position information is complicated. There is a problem in that information about the height of whether it is displayed cannot be detected with high accuracy.

The present invention has been made on the basis of the above problem recognition, and automatically records position information in a specific direction of the information display means, for example, information display means, without previously recording the position information of the information display means. It is an object of the present invention to provide a position information acquisition device and a position information acquisition method that can acquire information on the height at which the camera is installed with high accuracy.

In order to solve the above-described problems, a position information acquisition apparatus according to the present invention includes an information detection unit that detects identification information used for identification of an information display unit that displays information for identifying an article, and a reference coordinate set in advance. The identification information is detected by the information detection means based on the coordinate detection means for detecting the coordinates when the identification information is detected by the information detection means, the reference coordinates, and the coordinates detected by the coordinate detection means. Detecting the distance between the position information calculating means for calculating the position information when the position is detected and a predetermined reference location, and based on the detected distance, the identification calculated by the position information calculating means And position information correction means for correcting position information in a specific direction when information is detected.

Further, the information detection means of the present invention further detects coordinate identification information from an object placed at a predetermined location, and the coordinate detection means further associates in advance with the coordinate identification information detected by the information detection means. The absolute coordinates are set as the reference coordinates.

Further, the coordinate detection means of the present invention includes an acceleration sensor that detects an acceleration when the position information acquisition device moves, and an angle sensor that detects an angle when the direction of the position information acquisition device changes. And the position information correcting means includes a distance sensor that detects a distance between the position information acquisition device and a predetermined reference location, and is output from the acceleration sensor when the reference coordinates are set. The acceleration detection value and the angle detection value output from the angle sensor are initialized, and the acceleration detection value output from the acceleration sensor that is output until the identification information is detected by the information detection means, Based on the detected angle value from the angle sensor, the moving distance of the position information acquisition device from when the reference coordinates are set to when the identification information is detected is calculated, Based on the detected distance value from the distance sensor output when the identification information is detected by the information detection means, the calculated movement distance of the position information acquisition device is corrected, and the corrected movement distance is used. Then, the coordinates when the position information acquisition device detects the identification information are calculated as relative coordinates with respect to the reference coordinates.

Further, the acceleration sensor of the present invention detects triaxial acceleration and outputs detection values of the detected triaxial acceleration, and the angle sensor detects triaxial angles. The detected values of the detected three-axis angles are output, and the coordinate detecting means outputs the three-axis accelerations output from the acceleration sensor based on the detected three-axis angle values and the detected three-axis angles. HANSHOW AMERICA, INC. and HANSHOW TECHNOLOGY CO., LTD.

output from the acceleration sensor, based on the detected three-axis angle values output from the angle sensor, and the three-axis movement distance of the position information acquisition device is calculated based on the corrected three-axis acceleration detection value, and the distance sensor is configured to specify a specific direction of a predetermined reference location. The position information correction means outputs a movement distance in a specific direction detected by the distance sensor, among the three-axis movement distances calculated by the coordinate detection means, by the distance sensor. Detected distance and difference instead, the movement distance after the presumed dead, switch the movement distance of the three axes of the corrected of the positional information acquisition device, and wherein the.

Further, the position information correction unit of the present invention detects the distance in the height direction of the position information acquisition device, and the position information calculation unit calculates the movement distance of the three axes calculated by the coordinate detection unit. The height information when the identification information is detected is corrected.

Further, the information display means of the present invention is an electronic shelf label that displays information for identifying the article, and the information detection means detects device identification information associated with the electronic shelf label as the identification information. It is characterized by.

In the position information acquisition method according to the present invention, the information detection procedure for detecting the identification information used for the identification of the information display means for displaying the information for identifying the article by the information detection means, and the coordinate detection means are preset. A coordinate detection procedure for detecting coordinates when the identification information is detected by the information detection means with respect to the reference coordinates, and position information calculation means based on the reference coordinates and the coordinates detected by the coordinate detection means. A position information calculating procedure for calculating position information when the identification information is detected by the information detecting means, and a position information correcting means for detecting a distance from a predetermined reference location; A position information correction procedure for correcting position information in a specific direction when the identification information calculated by the position information calculation means is detected based on a distance; And wherein the Mukoto.

According to the present invention, it is possible to automatically obtain the position information of the information display unit in a specific direction with high accuracy without recording the position information of the information display unit in advance.

1 is a block diagram illustrating a schematic configuration of a system using a position information acquisition apparatus according to an embodiment of the present invention. It is the block diagram which showed schematic structure of ESL in embodiment of this invention. It is the figure which showed an example of the outline appearance and display of ESL in the embodiment of the present invention. It is the block diagram which showed schematic structure of the portable terminal device in embodiment of this invention. It is the figure which showed schematic structure of the portable terminal device in embodiment of this invention. It is the figure which showed an example of arrangement | positioning and a coordinate of the merchandise display shelf in the store in embodiment of this invention. It is the figure which showed an example of arrangement | positioning of ESL in embodiment of this invention. It is the figure which showed an example of the shelf position coordinate table in embodiment of this invention. It is a figure explaining the method of reading the information of the position of the goods display shelf in embodiment of this invention. It is the flowchart which showed the whole process sequence which acquires the positional information on ESL in embodiment of this invention. It is the flowchart which showed the process sequence which calculates the positional information on ESL in embodiment of this invention. It is the figure which showed an example in the case of acquiring the positional information on ESL in embodiment of this invention. It is a figure explaining the processing method of the sensor detection value of the portable terminal device in embodiment of this invention. It is a figure explaining the method of the correction process of the sensor detection value according to the attitude | position of the portable terminal device in embodiment of this invention. It is a figure explaining the method of the correction process of the sensor detection value according to the attitude | position of the portable terminal device in embodiment of this invention. It is a figure explaining the method of the correction process of the sensor detection value according to the attitude | position of the portable terminal device in embodiment of this invention. It is the figure which showed an example in the case of correct | amending the movement distance of a portable terminal device in embodiment of this invention. It is the figure which showed an example in the case of correct | amending the movement distance of a portable terminal device in embodiment of this invention. It is a figure explaining the processing method of the sensor detection value of the portable terminal device in embodiment of this invention. It is the figure which showed an example in the case of correct | amending the positional information on ESL in embodiment of this invention. It is the figure which showed an example of the shelf label position table in embodiment of this invention. It is a figure explaining an example in the case of link | linking the positional information on ESL, and the information of goods in embodiment of this invention. It is the flowchart which showed the process sequence which acquires ESL and the information of goods in embodiment of this invention. It is the figure which showed an example of the goods link information table in embodiment of this invention.

Hereinafter, embodiments of the present invention will be described with reference to the drawings. FIG. 1 is a block diagram showing a schematic configuration of a store system including an electronic shelf label system using the position information acquisition apparatus according to the present embodiment. In FIG. 1, the store system 1 includes an in-store system 10 and a backyard system 20.

The backyard system 20 is a product management system that manages the inventory, price, and the like of products that are displayed and sold in the store in the store's backyard. The backyard system 20 includes a store server 200 that manages the inventory and price of products sold in the store, and an electronic shelf label management server 210 that manages display of the price of the products sold in the store. .

The in-store system 10 is an in-store system displaying products to be sold. The in-store system 10 includes a point-of-sale (POS) system register (hereinafter referred to as "POS register") 100 that manages information on purchased products, a wireless LAN access point 110, a repeater 120, an ESL 130, The portable terminal device 140 and the shelf barcode device 150 are configured.

In the store system 1 shown in FIG. 1, the store server 200 of the backyard system 20 and the POS register 100 of the in-store system 10 are connected by connection means such as a network. The store server 200 and the POS register 100 manage product sales data by transmitting data to each other via this connection means. For example, when a product is purchased, the POS cash register 100 transmits product information such as a product code (bar code) of the purchased product to the store server 200. The store server 200 transmits product price information such as the price of the product to the POS register 100 based on the product information received from the POS register 100. The POS cash register 100 displays the price of the product based on the product price information received from the store server 200, and displays the total price with the price of other purchased products. Note that data transmission between the POS cash register 100 and the store server 200 is not directly related to the present invention, and thus detailed description thereof is omitted. Further, in the present invention, there is no provision regarding a method for selling products at a store such as the configuration of the POS cash register 100 or the store server 200.

The electronic shelf label management server 210 manages display of the ESL 130 and position information of the ESL 130 in the store. The electronic shelf label management server 210 is connected to the store server 200 by connection means such as a network. The electronic shelf label management server 210 is connected to the wireless LAN access point 110 of the in-store system 10 by a connection means such as a network. The electronic shelf label management server 210 transmits the product information recorded in the store server 200 to the wireless LAN access point 110 of the in-store system 10 via this connection means. In addition, the data request from the in-store system 10 transmitted via the wireless LAN access point 110 is transmitted to the store server 200. Moreover, the data regarding the positional information on the ESL 130 sent from the in-store system 10 is recorded. In the present invention, the communication method between the electronic shelf label management server 210 and the store server 200 or the wireless LAN access point 110 is not defined. FIG. 1 shows an example in which the electronic shelf label

management server 210 and the store server 200 are configured as separate servers. However, the electronic shelf label management server 210 and the store server 200 are configured as the same server. These can be different functions that operate on the same server.

The wireless LAN access point 110 is connected to a repeater 120 disposed in the store by wireless communication means such as a wireless LAN. The wireless LAN access point 110 transmits the product information transmitted from the electronic shelf label management server 210 to each repeater 120. The wireless LAN access point 110 receives a data request transmitted from each repeater 120 and transmits it to the electronic shelf label management server 210. FIG. 1 shows an example in which one wireless LAN access point 110 is placed in a store and communicates with two repeaters 120. A plurality of wireless LAN access points 110 may be arranged in the store. Further, in the present invention, there is no regulation regarding a communication method between the wireless LAN access point 110 and the repeater 120 or the electronic shelf label management server 210.

The repeater 120 is connected to the ESL 130 disposed in the store and the mobile terminal device 140 carried by the store clerk (employee) of the store by wireless communication means such as a wireless LAN. The repeater 120 transfers the transmission data transmitted from the wireless LAN access point 110 to the ESL 130 and the mobile terminal device 140 within the communication range. Further, the repeater 120 receives a data request transmitted from the ESL 130 or the mobile terminal device 140 and transfers it to the wireless LAN access point 110. In addition, for example, when the communication range of the wireless LAN access point 110 covers all areas in the store, depending on the communication range of the wireless LAN access point 110, the in-store system 10 may be configured without installing the repeater 120. You can also. Further, a plurality of repeaters 120 may be arranged in the store according to the communication range of the wireless communication. FIG. 1 shows an example in which two repeaters 120 are arranged in a store and each repeater 120 communicates with two ESLs 130. In the present invention, the communication method between the repeater 120 and the ESL 130 or the mobile terminal device 140 is not defined.

The ESL 130 is an information display device including a display unit that displays product information such as the price of a product displayed on a product display shelf (not shown) disposed in the store. In the ESL 130, the product information displayed on the display unit of the ESL 130 is changed based on the transmission data transmitted from the repeater 120. FIG. 1 shows an example in which one repeater 120 and two ESLs 130 communicate with each other, but the present invention does not define the number of ESLs 130 that communicate with one repeater 120. Also, there is no provision regarding the communication method between the repeater 120 and the ESL 130. The configuration of the ESL 130 will be described later.

The mobile terminal device 140 is a position information acquisition device of the present invention that can be carried by a store clerk and confirmed by the store clerk by communicating with the repeater 120. When the store clerk operates the portable terminal device 140, the barcode reading unit provided in the portable terminal device 140 reads the shelf label code (barcode) given to the ESL 130 individually. Information on the shelf label code read by the mobile terminal device 140 is transmitted to the electronic shelf label management server 210 via the repeater 120 and the wireless LAN access point 110. Upon receiving the shelf label code, the electronic shelf label management server 210 transmits information on the product linked to the shelf label code to the mobile terminal device 140 via the wireless LAN access point 110 and the repeater 120. The mobile terminal device 140 that has received the product information displays the received product information on a display unit included in the mobile terminal device 140. In this way, the store clerk can check the information on the product displayed on the mobile terminal device 140. In the store system 1 of this embodiment, the electronic shelf label management server 210, the wireless LAN access point 110, the repeater 120, the ESL 130, and the mobile terminal device 140 constitute an electronic shelf label system. The configuration of the mobile terminal device 140 will be described later.

Further, when acquiring the position information of the ESL 130, the mobile terminal device 140 reads the shelf position identification information individually given to the shelf barcode device 150 by the operation of the store clerk, and the read shelf position identification information is transmitted to the electronic shelf label management server 210 in the same manner as the shelf label code information of the ESL 130. A method for acquiring the position information of the ESL 130 based on the transmitted shelf position identification information will be described later.

The shelf barcode device 150 is, for example, a tag that is installed on a product display shelf installed in a store and displays a reference position of a product display shelf used when the mobile terminal device 140 acquires position information of the ESL 130. The shelf barcode device 150 displays individually assigned shelf position identification information, and this shelf position identification information is associated with information (absolute coordinates) of the installation position of the shelf barcode device 150 in the store. When the store clerk obtains the position information of the ESL 130, first, the shelf position identification information displayed on the shelf barcode device 150 is read by the barcode reading unit provided in the portable terminal device 140, whereby the shelf bar is displayed. Information on the position where the code device 150 is installed is acquired. Thereby, the electronic shelf label management server 210 can acquire information on absolute coordinates in the store of the product display shelf on which the shelf barcode device 150 is installed. FIG. 1 shows an example in which the shelf barcode device 150 installed on the merchandise display shelf is a reference position used when acquiring position information of the ESL 130 surrounded by a two-dot chain line. The configuration of the shelf barcode device 150 will be described later.

Next, the electronic shelf label of the electronic shelf label system in the store system 1 of the present embodiment will be described. FIG. 2 is a block diagram showing a schematic configuration of the ESL 130 in the present embodiment. 2, the ESL 130 includes a CPU (Central Processing Unit) 131, a memory 132, an LCD (Liquid Crystal Display) display unit 133, and a wireless communication unit 134. The CPU 131, the memory 132, the LCD display unit 133, and the wireless communication unit 134 are connected to each other via a bus in the ESL 130. FIG. 3 is a diagram showing an example of a schematic appearance and display of the ESL 130 in the present embodiment. In FIG. 3, a label of a shelf label code 135 on which individually provided shelf label identification information (barcode) is written is attached to the ESL 130. The shelf label code 135 in the present embodiment is a label on which shelf label identification information (barcode) is described. However, in the present invention, the form of the shelf label code 135 is not specified. For example, the shelf label code 135 can be printed on the ESL 130.

The CPU 131 is a central processing unit that controls the operation of the ESL 130. The CPU 131 controls the operation of the ESL 130 by reading and executing a program stored in the memory 132.

The memory 132 is a semiconductor memory such as a ROM (Read Only Memory) or a RAM (Random Access Memory). The memory 132 is a program executed by the CPU 131, a shelf label code 135 given individually to the ESL 130, or the shelf label code 135. Store the corresponding data. Also, product information such as product name and price displayed on the LCD display unit 133 is stored. The memory 132 is also used as a storage area for temporarily storing data during execution of the program by the CPU 131.

The LCD display unit 133 displays product information such as product names and prices stored in the memory 132. For example, as shown in FIG. 3, product information such as the product manufacturer, product name, content, and price is displayed.

Based on the control from the CPU 131, the wireless communication unit 134 communicates with the repeater 120 and receives product information such as product names and prices displayed on the LCD display unit 133.

Next, the portable terminal device of the electronic shelf label system in the store system 1 of this embodiment will be described. FIG. 4 is a block diagram illustrating a schematic configuration of the mobile terminal device 140 according to the present embodiment. 4, the mobile terminal device 140 includes a CPU 141, a memory 142, an LCD display unit 143, a wireless communication unit 144, a barcode reading unit 145, a sensor unit 146, and an ultrasonic sensor unit 147. The CPU 141, the memory 142, the LCD display unit 143, the wireless communication unit 144, the barcode reading unit 145, the sensor unit 146, and the ultrasonic sensor unit 147 are mutually connected via a bus in the mobile terminal device 140. It is connected to the.

FIG. 5 is a diagram illustrating an example of a schematic structure of the mobile terminal device 140 according to the present embodiment. 5, the mobile terminal device 140 includes a CPU 141, a memory 142, an LCD display unit 143, a wireless communication unit 144, a barcode reading unit 145, a sensor unit 146, and an ultrasonic sensor unit 147. The CPU 141, the memory 142, the LCD display unit 143, the wireless communication unit 144, the barcode reading unit 145, the sensor unit 146, and the ultrasonic sensor unit 147 are mutually connected via a bus in the mobile terminal device 140. It is connected to the.

FIG. 4 is a diagram illustrating an example of a schematic structure of the mobile terminal device 140 in the present embodiment. In FIG. 4, the sensor unit 146 and the ultrasonic sensor unit 147 are arranged on the circuit board of the mobile terminal device 140. FIG. 5 shows an example in which the sensor unit 146 is arranged on the upper surface of the circuit board and the ultrasonic sensor unit 147 is arranged on the lower surface of the circuit board. In addition, the barcode reading unit 145 is disposed at the tip of the mobile terminal device 140.

In this embodiment, the sensor unit 146 is disposed on the upper surface of the circuit board, the ultrasonic sensor unit 147 is disposed on the lower surface of the circuit board, and the barcode reading unit 145 is disposed on the distal end portion of the portable terminal device 140. Although an example is shown, the arrangement of the sensor unit 146, the ultrasonic sensor unit 147, and the barcode reading unit 145 is not limited to the arrangement shown in FIG. 5, and the sensor unit 146 and the ultrasonic sensor unit described later. As long as the functions of 147 and the barcode reading unit 145 can be realized. Therefore, in the present invention, the arrangement of the sensor unit 146, the ultrasonic sensor unit 147, and the barcode reading unit 145 is not defined.

The CPU 141 is a central processing unit that controls the operation of the mobile terminal device 140. The CPU 141 controls the operation of the mobile terminal device 140 by reading and executing the program stored in the memory 142.

The memory 142 is a semiconductor memory such as a ROM or a RAM, and stores a program executed by the CPU 141, the read shelf label code 135 of the ESL 130, and data corresponding to the shelf label code 135. Further, the product information such as the product name and price received by the wireless communication unit 144, the product management information such as the stock of the product, and the product information notified to the store clerk by being displayed on the LCD display unit 143 are stored. The memory 132 is also used as a storage area for temporarily storing data during execution of the program by the CPU 131.

The LCD display unit 143 displays product information to be notified to the store clerk stored in the memory 142.

Based on the control from the CPU 141, the wireless communication unit 144 communicates with the repeater 120, and transmits information regarding the read shelf label code 135 of the ESL 130. In addition, the wireless communication unit 144 receives product information that is transmitted from the repeater 120 and is displayed on the LCD display unit 143 to inform the store clerk.

The barcode reading unit 145 reads the shelf label code 135 individually given to the ESL 130 or the product code (barcode) given to the product, and relays the read barcode information via the wireless communication unit 144. 120. Further, the barcode information read by the barcode reading unit 145 is also stored in the memory 142.

Further, the barcode reading unit 145 reads the shelf position identification information individually given to the shelf barcode device 150 when acquiring the position information of the ESL 130.

The sensor unit 146 detects the movement of the mobile terminal device 140. The sensor unit 146 includes an acceleration sensor and a gyro sensor (not shown). The acceleration sensor detects acceleration when the mobile terminal device 140 moves, and the gyro sensor detects angular velocity when the mobile terminal device 140 moves.

When the mobile terminal device 140 reads the shelf label code 135 individually given to the ESL 130, the ultrasonic sensor unit 147 transmits ultrasonic waves from the ultrasonic transmission / reception unit 1471 to the floor in the store where the merchandise display shelf is arranged. The reflected wave reflected from the floor surface is detected by the ultrasonic transmission / reception unit 1471. Thereby, the distance between the floor surface and the ESL 130, that is, the height from the floor surface to the ESL 130 can be detected.

The CPU 141 of the mobile terminal device 140 calculates the moving distance of the mobile terminal device 140 based on the acceleration and angular velocity of the mobile terminal device 140 detected by the acceleration sensor and the gyro sensor in the sensor unit 146. The CPU 141 calculates position information of the ESL 130 based on the calculated moving distance. Further, the CPU 141 calculates the distance between the floor surface and the ESL 130 based on the time from when the ultrasonic sensor unit 147 transmits the ultrasonic wave to the time when the reflected wave is detected, and the calculated distance is the floor surface. To ESL130. Further, the CPU 141 stores the calculated position information of the ESL 130 and the height information of the ESL 130 in the memory 142 and transmits the information to the electronic shelf label management server 210 via the communication unit 144.

The CPU 141 corrects the calculated position information of the ESL 130 based on the calculated height information of the ESL 130, stores the corrected position information of the ESL 130 in the memory 142, and manages the electronic shelf label via the communication unit 144. Send to server 210.

A calculation method for calculating the movement distance from the detection value by the acceleration sensor and the gyro sensor and a calculation method for calculating the height information from the transmission of the ultrasonic wave by the ultrasonic sensor unit 147 and the detection of the reflected wave will be described later. . A method for calculating the position information of the ESL 130 based on the calculated movement distance and height information will also be described later.

Next, the arrangement of ESL stores that acquire position information will be described. FIG. 6 is a diagram showing an example of the arrangement of the merchandise display shelves on which the ESL 130 for obtaining the position information is installed in the store. In the store shown in FIG. 6, merchandise display shelves 300-1 to 300-3 (hereinafter, collectively referred to as "product display shelves 300") are arranged. In addition, a shelf barcode device 150 is arranged on each product display shelf 300. In FIG. 6, the wireless LAN access point 110, the wireless communication means such as the repeater 120, and the POS register 100 shown in FIG. 1 are not shown because they are not directly related to the present invention.

FIG. 7 is a diagram illustrating an example of the arrangement of the ESL 130 in the merchandise display shelf 300-1. ESL130-1 to ESL130-13 are arranged on the merchandise display shelf 300-1 shown in FIG.

FIG. 6 shows an example of coordinates of the shelf barcode device 150 in the store. FIG. 7 shows an example of coordinates of the shelf barcode device 150 in the commodity display shelf 300-1.

In FIG. 6, the right direction is the X-axis direction, the upward direction is the Y-axis direction, and the vertical direction (front direction in FIG. 6) is the Z-axis direction. In FIG. 7, the right direction is the X-axis direction, the upward direction is the Z-axis direction, and the vertical direction (depth direction in FIG. 7) is the Y-axis direction. The X, Y, and Z axes are used as reference absolute coordinate axes in the store.

6 and 7, the coordinates at the floor surface position of the point A shown in FIG. 6 are the reference coordinates (reference coordinates (X, Y, Z) = (0, 0, 0)). In the following description, absolute coordinates are represented by capital letters "X", "Y", and "Z".

In addition, as shown in FIG. 6, the shelf barcode device 150 installed in each merchandise display shelf 300 has a shelf barcode coordinate indicating the installed position, which is an absolute coordinate according to the distance from the point A. Is set as For example, the shelf barcode coordinates of the shelf barcode device 150 installed in the commodity display shelf 300-1 include absolute coordinates (shelf barcode coordinates (X1, Y1, Z1) corresponding to the distances X1, Y1, and Z1 from the point A. Z1)) is set. In FIG. 6, the relationship between the distances X1 and Y1 from the point A and the shelf barcode coordinates can be understood. Moreover, in FIG. 7, the relationship between the distance Z1 from the point A of the shelf barcode device 150 installed in the commodity display shelf 300-1 and the shelf barcode coordinates can be understood. The shelf barcode coordinates are associated with the shelf position identification information individually given to the shelf barcode device 150, and as the location information of the shelf barcode device 150, together with the management information of the commodity display shelf 300-1, the shelf position R is recorded in the electronic shelf label management server 210 as a coordinate table.

Further, as shown in FIG. 7, the absolute coordinates of the product display shelf 300-1 on the surface (hereinafter referred to as "surface") on which the shelf barcode device 150 is installed are the shelf table coordinates (shelf table coordinates (Xf, Yf, Zf)). The shelf table coordinates are obtained by setting the coordinates of the position of the lower left corner when the surface of the product display shelf 300-1 is viewed from the front as absolute coordinates according to the distance from the point A.

Further, as shown in FIG. 6, the absolute coordinates of the product display shelf 300-1 on the surface opposite to the surface on which the shelf barcode device 150 is installed (hereinafter referred to as "back surface") The back coordinates (Xb, Yb, Zb) are set. The shelf back coordinates are obtained by setting the coordinates of the position of the upper left corner when the back surface of the product display shelf 300-1 is viewed from the front as absolute coordinates according to the distance from the point A.

The shelf table coordinates and the shelf back coordinates are recorded in the shelf position coordinate table in the electronic shelf label management server 210 in association with the management information of the product display shelf 300-1.

In addition, regarding the shelf table coordinates and the shelf back coordinates described above, the following can also be performed. For example, coordinates based on a distance corresponding to the size of the commodity display shelf 300-1 can be calculated from the shelf table coordinates and set as shelf back coordinates. Further, for example, when another shelf barcode device 150 is installed on the back surface of the product display shelf 300-1, the shelf barcode coordinates of the shelf barcode device 150 on the front surface of the product display shelf 300-1 are set as the shelf table coordinates. The shelf barcode coordinates of the shelf barcode device 150 on the back surface of the commodity display shelf 300-1 are used as the shelf back coordinates, so that the shelf table coordinates and the shelf back coordinates can be used instead.

FIG. 8 is a diagram showing an example of the shelf position coordinate table recorded in the electronic shelf label management server 210 in the present embodiment. The shelf position coordinate table shown in FIG. 8 is installed on the product display shelf 300, the shelf size that is management information of the product display shelf 300, the shelf table coordinates and the shelf back coordinates that are absolute coordinates of the product display shelf 300, and the product display shelf 300. The shelf barcode coordinate of the shelf barcode device 150 is an information table associated with the product display shelf 300.

Next, a method for reading the shelf position identification information will be described. FIG. 9 is a diagram for explaining a method of reading information on absolute coordinates of a merchandise display shelf in the store by the mobile terminal device 140 of the present embodiment. FIG. 9A shows an example of a schematic structure of the shelf barcode device 150, and FIG. 9B shows an example of a schematic structure of the distal end portion of the mobile terminal device 140 that reads the barcode. FIG. 9C shows a method for reading the shelf position identification information displayed on the shelf barcode device 150 by the mobile terminal device 140.

As shown in FIG. 9A, the shelf barcode 151 in which the shelf position identification information (barcode) individually given to the shelf barcode device 150 is described in the central portion of the shelf barcode device 150. The label is affixed. The shelf barcode 151 in the present embodiment is a label on which shelf position identification information (barcode) is described. However, in the present invention, the form of the shelf barcode 151 is not specified. For example, the shelf barcode 151 can be printed on the shelf barcode device 150.

As shown in FIG. 9A, the left and right ends of the shelf barcode device 150 are provided with a fitting portion 152 and a fitting portion 153. The fitting portion 152 and the fitting portion 153 have, for example, a convex shape, and the position when the shelf barcode 151 is read is always a fixed position together with the structure of the distal end portion of the mobile terminal device 140 described later. To suit.

As shown in FIG. 9B, a barcode reading unit 145 is disposed at the center of the tip of the mobile terminal device 140, and the shelf barcode 151 attached to the shelf barcode device 150. Read.

Further, as shown in FIG. 9B, a fitting portion 148 and a fitting portion 149 are provided at the left and right ends of the distal end portion of the mobile terminal device 140. The fitting portion 148 and the fitting portion 149 have, for example, a concave shape, and when the shelf barcode 151 is read together with the structure of the fitting portion 152 and the fitting portion 153 of the shelf barcode device 150. The position is always adjusted to a certain position.

When reading the shelf barcode 151 attached to the shelf barcode device 150 by the portable terminal device 140, as shown in FIG. 9C, the fitting portion 152 and the fitting portion 153 of the shelf barcode device 150 are provided. And the fitting part 148 and the fitting part 149 of the portable terminal device 140 are fitted. Thereby, the attitude | position of the portable terminal device 140 when the barcode reading part 145 in the portable terminal device 140 reads the shelf barcode 151 can always be kept constant.

When the barcode reading unit 145 reads the shelf barcode 151, the acceleration value output by the acceleration sensor in the sensor unit 146 of the mobile terminal device 140 and the angular velocity value output by the gyro sensor are initialized. . Thereafter, the mobile terminal device 140 calculates the position information of the ESL 130 based on the acceleration and the angular velocity when the shelf label code 135 is read in order to acquire the position information of the ESL 130. It should be noted that the acceleration and angular velocity when the barcode reading unit 145 reads the shelf barcode 151 are set as initial values, and the initial value and the acceleration and angular velocity when the portable terminal device 140 reads the shelf label code 135 thereafter are The position information of the ESL 130 can be calculated based on the above.

Further, when the shelf barcode device 150 is installed on the commodity display shelf 300, the x axis, the y axis, and the z axis that are the detection axes of the acceleration sensor and the gyro sensor shown in FIG. It is desirable that the X axis, the Y axis, and the Z axis that are coordinate axes are in the same direction. Thereby, the relative relationship in the axial direction of the relative coordinates (x, y, z) of the acceleration sensor and the gyro sensor with respect to the axial direction of the reference coordinates (X, Y, Z) can be fixed in a certain direction. In the following description, relative coordinates are represented by lowercase letters "x", "y", and "z". In the following description of the present embodiment, the sensor detection axis (x axis, y axis, and z axis) and the reference absolute coordinate axis (X axis, Y axis, and Z axis) are assumed to be in the same direction. I do.

Further, when the barcode reading unit 145 reads the shelf barcode 151, the ultrasonic sensor unit 147 of the mobile terminal device 140 can correct the information on the height at which the shelf barcode device 150 is installed. That is, an error between the height value at which the shelf barcode device 150 that is known in advance is installed and the height value detected by the mobile terminal device 140 is confirmed. Thereby, the accuracy of the detection value of the height when the portable terminal device 140 reads the shelf label code 135 for acquiring the position information of the ESL 130 can be improved. The height value when the barcode reading unit 145 reads the shelf barcode 151 is set as an initial value, and this initial value and the height when the portable terminal device 140 reads the shelf label code 135 thereafter are set. The height information of the ESL 130 can be calculated based on the detection value.

In FIG. 9, as a method for keeping the posture of the mobile terminal device 140 always constant, the convex fitting portion 152 and the fitting portion 153 provided in the shelf barcode device 150 and the concave shape provided in the mobile terminal device 140. Although the method of fitting the fitting part 148 and the fitting part 149 to each other has been shown, the present invention does not define a method for keeping the posture of the portable terminal device 140 constant. For example, permanent magnets are provided at the positions of the fitting portion 152 and the fitting portion 153 provided in the shelf barcode device 150 and the positions of the fitting portion 148 and the fitting portion 149 provided in the mobile terminal device 140, and the shelf bar is provided. When the cord device 150 and the mobile terminal device 140 approach each other, the shelf bar code device 150 and the mobile terminal device 140 are brought into contact with each other using the force with which the respective permanent magnets are attracted, whereby the attitude of the mobile terminal device 140 is It can also be set as the structure which keeps constant.

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Next, a method for acquiring position information of the ESL 130 will be described. FIG. 10 is a flowchart showing an overall processing procedure for acquiring the position information of the ESL 130 in the mobile terminal device 140 of this embodiment. FIG. 11 is a flowchart showing a processing procedure for calculating the position information of the ESL 130 by the mobile terminal device 140 of this embodiment. FIG. 12 is a diagram illustrating an example in which the position information of the ESL 130 is acquired in the arrangement of the ESL 130 of the commodity display shelf 300-1 illustrated in FIG.

The overall processing procedure for acquiring the position information of the ESL 130 is as follows.

First, in step S100, the mobile terminal device 140 checks whether or not the position acquisition mode is selected as the operation mode. If the position acquisition mode is selected, the process proceeds to step S110. Note that the selection of the operation mode of the mobile terminal device 140 is performed by the operation of a store clerk carrying the mobile terminal device 140, but in the present invention, the rules regarding the method of selecting the operation mode of the mobile terminal device 140 do not.

If the position acquisition mode is not selected in step S100, step S100 is repeated. When the position acquisition mode is not selected as the operation mode of the mobile terminal device 140, the mobile terminal device 140 performs an operation in an operation mode other than the position acquisition mode. However, in the present invention, the operation other than the position acquisition mode is performed. There is no provision for. Further, the process transition to step S100 during the operation other than the position acquisition mode repeats step S100 by executing step S100 at a predetermined time interval during the operation other than the position acquisition mode, for example, in the present invention, the transition to the process to step S100 during the operation other than the position acquisition mode is not specified.

In step S110, the mobile terminal device 140 confirms whether or not the shelf barcode 151 attached to the shelf barcode device 150 has been read by the barcode reader 145 in the mobile terminal device 140. If the shelf barcode 151 has been read, the process proceeds to step S120. In step S120, the mobile terminal device 140 initializes the output value of the sensor unit 146 when the shelf barcode 151 is read, and starts detection by the sensor unit 146. More specifically, the integrated value of the acceleration value output from the acceleration sensor in the sensor unit 146, the integrated value of the angular velocity value output from the gyro sensor, and the detection time by the acceleration sensor and the gyro sensor are set to "0". Then, integration of the acceleration value output from the acceleration sensor and the angular velocity value output from the gyro sensor is started.

Note that the reading of the shelf barcode 151 by the portable terminal device 140 is performed by the operation of a store clerk carrying the portable terminal device 140. In the present invention, the reading of the shelf barcode 151 by the portable terminal device 140 is performed. There is no provision for the operation method. In step S120, the mobile terminal device 140 may acquire the height information when the shelf barcode 151 is read by the ultrasonic sensor unit 147.

If the shelf barcode 151 has not been read in step S110, step S110 is repeated. Note that the repetition of step S110 can be a process of repeating step S110, for example, by executing step S110 at a predetermined time interval. Further, for example, as shown in FIG. 9C, the fitting portion 152 and the fitting portion 153 of the shelf barcode device 150 are fitted to the fitting portion 148 and the fitting portion 149 of the mobile terminal device 140. As a result, when it is detected that the attitude of the mobile terminal device 140 is kept constant, or reading of the shelf barcode 151 is instructed by a store clerk operation with the attitude of the mobile terminal device 140 kept constant. Sometimes, it is possible to confirm the reading of the shelf barcode 151 in step S110. In the present invention, there is no definition regarding the repetitive processing in step S110. Further, there is no provision regarding the instruction method for reading the shelf barcode 151 by the operation of the store clerk.

After the detection by the sensor unit 146 is started in step S120, in step S130, the portable terminal device 140 has read the shelf label code 135 attached to the ESL 130 by the barcode reading unit 145 in the portable terminal device 140. Confirm whether or not. When the shelf label code 135 is read, the mobile terminal device 140 stores the output value of the sensor unit 146 when the shelf label code 135 is read in the memory 142 in the mobile terminal device 140. Further, when the shelf label code 135 is read, the mobile terminal device 140 transmits an ultrasonic wave from the ultrasonic sensor unit 147 and detects a reflected wave, and detects the time when the ultrasonic wave is transmitted and the reflected wave. The time is stored in the memory 142 in the mobile terminal device 140. Note that the reading of the shelf label code 135 by the portable terminal device 140 is performed by the operation of a store clerk carrying the portable terminal device 140. In the present invention, the reading of the shelf label code 135 by the portable terminal device 140 is performed. There is no provision for the operation method.

If the shelf label code 135 has not been read in step S130, step S130 is repeated. Note that the repetition of step S130 can be a process of repeating step S130, for example, by executing step S130 at a predetermined time interval. Further, for example, when the reading of the shelf label code 135 is instructed by the operation of the mobile terminal device 140 by the store clerk, the process of confirming the reading of the shelf label code 135 in step S130 may be performed. In the present invention, there is no definition regarding the repetitive processing in step S130. Further, there is no regulation regarding the instruction method for reading the shelf label code 135 by the operation of the store clerk.

In step S140, the mobile terminal device 140 determines the ESL 130 based on the output value of the sensor unit 146 stored in the memory 142, the time when the ultrasonic sensor unit 147 sends the ultrasonic wave, and the time when the reflected wave is detected. The position information of is calculated.

In step S140, the mobile terminal device 140 calculates the position information of the ESL 130, and in step S150, the mobile terminal device 140 uses the calculated position information of the ESL 130 and the read information of the shelf label code 135 to the electronic shelf label management server. To 210.

Subsequently, in step S160, the mobile terminal device 140 confirms whether or not to read the shelf label code 135 of the next ESL 130. When reading the next shelf label code 135, the process returns to step S130 to read the shelf label code 135, calculate the position information of the ESL 130, and transmit the calculated position information of the ESL 130 to the electronic shelf label management server 210. repeat. If the next shelf label code 135 is not read, the process is completed.

The processing procedure for calculating the position information of the ESL 130 is as follows. Since a specific method for calculating the position information of the ESL 130 will be described later, only the process flow when calculating the position information of the ESL 130 will be described here.

First, in step S200, the CPU 141 in the mobile terminal device 140 moves the mobile terminal device 140 based on the acceleration value output by the acceleration sensor in the sensor unit 146 and the angular velocity value output by the gyro sensor. Attitude change information is calculated.

Subsequently, in step S210, the CPU 141 calculates an acceleration component when the mobile terminal device 140 moves, based on the calculated posture change information.

Subsequently, in step S220, the CPU 141 calculates the movement distance of the mobile terminal device 140 based on the calculated acceleration component.

Subsequently, in step S230, the CPU 141 pastes the mobile terminal device 140 to the ESL 130 based on the time when the ultrasonic sensor unit 147 sends out the ultrasonic wave and the time when the ultrasonic sensor unit 147 detects the reflected wave. The distance between the portable terminal device 140 and the floor when the shelf label code 135 is read, that is, the height of the ESL 130 installed on the merchandise display shelf 300 is calculated.

Subsequently, in step S240, the CPU 141 reads the relative coordinates when the mobile terminal device 140 reads the shelf label code 135 attached to the ESL 130 based on the calculated movement distance of the mobile terminal device 140 and the height of the ESL 130. That is, the coordinates of the position where the ESL 130 is arranged on the product display shelf 300 are calculated.

As described above, the relative coordinates of the position of the ESL 130 are calculated based on the detection values of the acceleration sensor and the gyro sensor, the transmission time of the ultrasonic wave, and the detection time of the reflected wave. The relative coordinates of the ESL 130 include highly accurate height

information for the ESL 130 arranged on the merchandise display shelf 300. As a result, the electronic shelf label management server 210 can also accurately obtain information on the level of the product display shelf 300 where the ESL 130 is arranged. Then, the electronic shelf label management server 210 that has received the relative coordinates of the ESL 130 from the mobile terminal device 140 can calculate the absolute coordinates of the acquired ESL 130 based on the absolute coordinates associated with the shelf barcode 151.

Note that although the calculation of the coordinates of the ESL 130 in step S240 in FIG. 11 has been described with the configuration performed by the CPU 141 in the mobile terminal device 140, the calculation of the movement distance of the mobile terminal device 140 in step S220 and the mobile terminal device in step S230. The configuration in which the CPU 141 in the mobile terminal device 140 executes the process up to the calculation of the distance between 140 and the floor surface, and transmits the calculated distance between the mobile terminal device 140 and the floor surface to the electronic shelf label management server 210. It can be. In this case, the electronic shelf label management server 210 calculates the relative coordinates of the ESL 130 in the merchandise display shelf 300 and the absolute coordinates of the ESL 130 in the store based on the received movement distance of the mobile terminal device 140 and the distance from the floor surface. Will be.

Further, when the shelf barcode 151 pasted on the shelf barcode device 150 is read, the shelf barcode coordinates of the shelf barcode device 150 read from the electronic shelf label management server 210 are acquired, and the shelf barcode coordinates are acquired. Based on the above, the CPU 141 in the portable terminal device 140 may be configured to execute the calculation up to the absolute coordinates of the ESL 130. In this case, the electronic shelf label management server 210 only records the relative coordinates of the ESL 130 in the merchandise display shelf 300 received from the mobile terminal device 140 and the absolute coordinates of the ESL 130 in the store.

Here, an example in the case of acquiring ESL130 position information is demonstrated using FIG. FIG. 12 shows an example of acquiring the position information of the ESL 130-5 based on the absolute coordinates of the shelf barcode device 150.

After the detection by the sensor unit 146 is started in step S120 shown in FIG. 10, the store clerk moves the mobile terminal device 140 to the ESL 130-5 along the movement locus B shown in FIG. The attached shelf label code 135 is read. The movement distance of the mobile terminal device 140 to the ESL 130-5 at this time is based on the detection values of the acceleration sensor and the gyro sensor, XE5 in the X-axis direction, YE5 (not shown) in the Y-axis direction, and Z-axis. ZE5 is calculated in the negative direction. Then, based on the calculated moving distance, the relative coordinates of ESL130-5 (ESL130-5 relative coordinates = (XE5, YE5, -ZE5)) can be obtained.

Thus, based on the shelf barcode coordinates (X1, Y1, Z1) and the ESL130-5 relative coordinates = (XE5, YE5, -ZE5), the absolute coordinates of ESL130-5 (ESL130-5 absolute coordinates = (X1 + XE5, Y1 + YE5, Z1 - ZE5)) can be obtained.

In addition, the distance between the mobile terminal device 140 and the floor when the mobile terminal device 140 reads the shelf label code 135 attached to the ESL 130-5 is the time when the ultrasonic sensor unit 147 sends an ultrasonic wave. The distance ZE5 between the portable terminal device 140 and the floor surface is calculated based on the time when the reflected ultrasonic wave transmitted by the ultrasonic sensor unit 147 is detected.

Then, the ESL130-5 absolute coordinate = (X1 + XE5, Y1 + YE5, Z1 - ZE5) is replaced with the value of the distance ZE5 between the mobile terminal device 140 and the floor surface by replacing the value in the Z direction, which is the height direction coordinate. -5 corrected absolute coordinates (ESL130-5 absolute coordinates = (X1 + XE5, Y1 + YE5, ZE5)) can be obtained.

Next, a method for calculating the movement distance of the mobile terminal device 140 will be described. FIG. 13 is a diagram for explaining a detection value processing method by the sensor unit 146. FIG. 13A shows a method for processing the acceleration value output from the acceleration sensor in the sensor unit 146, and FIG. 13B shows a method for processing the angular velocity value output by the gyro sensor in the sensor unit 146. Show. 14 to 16 are diagrams illustrating a method for correcting the detection value of the sensor unit 146 detected according to the attitude of the mobile terminal device 140. 15 and 16, the illustration of the ultrasonic sensor unit 147 that is not related to the calculation of the movement distance of the mobile terminal device 140 is omitted.

The moving distance of the mobile terminal device 140 can be obtained by processing the acceleration value output by the acceleration sensor in the sensor unit 146.

As shown in FIG. 13A, when the store clerk moves the mobile terminal device 140, the acceleration sensor in the sensor unit 146 causes the acceleration $a(t)$ [m / sec²] accompanying the movement of the mobile terminal device 140.] Value is output. A velocity $v(t)$ [m / sec] is obtained by integrating the acceleration $a(t)$ once at time t . Further, the distance $k(t)$ [m] can be obtained by integrating the velocity $v(t)$ once at time t . This distance $k(t)$ is the moving distance of the mobile terminal device 140.

However, in order to obtain the moving distance as shown in FIG. 13A, it is necessary to subtract the gravitational acceleration in consideration of the gravitational acceleration applied to the mobile terminal device 140. Moreover, since the value of the gravitational acceleration differs depending on the posture of the mobile terminal device 140, it is necessary to detect a change in the posture of the mobile terminal device 140.

The change in the attitude of the mobile terminal device 140 can be obtained by processing the value of the angular velocity output from the gyro sensor in the sensor unit 146.

As shown in FIG. 13B, when the store clerk moves the mobile terminal device 140, the gyro sensor in the sensor unit 146 causes the angular velocity $\Omega(t)$ [deg / sec] accompanying the movement of the mobile terminal device 140. The value of is output. By integrating the angular velocity $\Omega(t)$ once at time t , an angle $\theta(t)$ [deg] on the axis shown in FIG. 13C is obtained. This angle $\theta(t)$ is the movement angle of the mobile terminal device 140.

And based on this movement angle, the gravitational acceleration concerning each axial direction of the portable terminal device 140 is calculated.

As shown in FIG. 14 (a), a gravitational acceleration ag of 1.0 G is always applied in the Z-axis direction of the mobile terminal device 140, and the acceleration sensor in the sensor unit 146 has a gravitational acceleration ag in the z-axis direction. Is detected. This state is an initial posture when the shelf barcode 151 attached to the shelf barcode device 150 is read by the barcode reading unit 145 in the mobile terminal device 140. For example, a rotation around the X axis as shown in FIG. 14B is accompanied by a hand shake when the store clerk moves the mobile terminal device 140 in order to acquire the position information of the ESL 130 from this initial posture. If there is, the posture of the mobile terminal device 140 is as shown in FIG. At this time, the gravitational acceleration ag detected by the acceleration sensor in the sensor unit 146 includes the following gravitational acceleration component az in the z-axis direction and gravitational acceleration in the y-axis direction according to the rotation angle θ_x around the X axis. The component agy is detected separately.

z-axis direction: $ag_z = ag \times \cos \theta_x$

y-axis direction: $ag_y = ag \times \sin \theta_x$

Further, as shown in FIG. 15A, from the initial posture in which the acceleration sensor in the sensor unit 146 detects the gravitational acceleration ag in the z-axis direction, for example, with the movement of the mobile terminal device 140 by the store clerk, When there is a rotation around the Y axis as shown in FIG. 15B, the attitude of the mobile terminal device 140 is as shown in FIG. 15C. At this time, the gravitational acceleration ag detected by the acceleration sensor in the sensor unit 146 includes the following gravitational acceleration component az in the z-axis direction and gravitational acceleration in the x-axis direction according to the rotation angle θ_y about the Y axis. The component ag_x is detected separately.

z-axis direction: $ag_z = ag \times \cos \theta_y$

x-axis direction: $ag_x = ag \times \sin \theta_y$

Further from the attitude of the mobile terminal device 140 as shown in FIG. 16A, for example, with the movement of the mobile terminal device 140 by the store clerk, When there is a rotation around the X axis as shown in FIG. 16B, the attitude of the mobile terminal device 140 is as shown in FIG. 16C. At this time, the gravitational acceleration ag detected by the acceleration sensor in the sensor unit 146 includes the following gravitational acceleration component az in the z-axis direction and gravitational acceleration in the y-axis direction according to the rotation angle θ_x around the X axis. The component agy is detected separately.

Further, from the attitude of the moving terminal device 140 as shown in FIG. 16C, for example, rotation around the Z axis is shown in FIG. 16D, the position of the mobile terminal device 140 is as shown in FIG. At this time, the acceleration a detected by the acceleration sensor in the sensor unit 146 is detected separately as an acceleration component a_x in the x-axis direction and an acceleration component a_y in the y-axis direction. The acceleration component a_x in the x-axis direction and the acceleration component a_y in the y-axis direction are different from the X-axis and Y-axis that are reference absolute coordinate axes in the store. Therefore, as shown in FIG. 16D, the acceleration a detected by the acceleration sensor according to the rotation angle θ_z around the Z axis is used as the reference absolute coordinate axis component in the store, that is, the acceleration in the X axis direction. Correction is made to the component a_x and the acceleration component a_y in the Y-axis direction. The corrected acceleration component a_x and acceleration component a_y are processed by the method shown in FIG. 13A, and the mobile terminal device 140 when the store clerk moves the mobile terminal device 140 in order to acquire the position information of the ESL 130. Is calculated.

In addition, in the rotation around the X axis shown in FIG. 14 and the rotation around the Y axis shown in FIG. 15, the gravitational acceleration components in the respective axial directions described above are detected by the acceleration sensor and subtracted from the acceleration a . Thus, the acceleration accompanying the movement of the mobile terminal device 140 is calculated. Then, similarly to the idea shown in FIG. 16D, the acceleration obtained by subtracting the gravitational acceleration component is corrected to the reference absolute coordinate axis component in the store according to the rotation angle θ_x and the rotation angle θ_y . Thereafter, the moving distance of the mobile terminal device 140 is calculated by processing according to the method shown in FIG.

Thus, the mobile terminal device 140 calculates the movement distance of the self-portable terminal device 140, and calculates the relative coordinates of the position of the ESL 130 based on the calculated movement distance. In addition, the mobile terminal device 140 stores the calculated relative coordinates of the ESL 130 and the shelf label code 135 of the ESL 130 in the memory 142 in the mobile terminal device 140.

Note that when the mobile terminal device 140 reads the shelf barcode 151 attached to the shelf barcode device 150, the product display shelf on which the shelf barcode device 150 read from the electronic shelf label management server 210 is installed. When the information regarding the size of 300 (hereinafter referred to as "shelf information") is acquired, the moving distance of the mobile terminal device 140 can be corrected based on the shelf information. Note that the shelf information acquired by the mobile terminal device 140 is, for example, information on the shelf position coordinate table illustrated in FIG. In the following description, it is assumed that the shelf information acquired by the mobile terminal device 140 is the shelf position coordinate table shown in FIG.

For example, as illustrated in FIG. 17, when the store clerk moves the mobile terminal device 140 and continuously reads the shelf label codes 135 of the ESL 130-1 to ESL 130-8, the sensor unit 146 of the mobile terminal device 140 in the detection, it is assumed that the result of moving along the locus shown in the movement locus B2 is obtained. As can be seen from FIG. 17, the calculation point E8, which is position information when the shelf label code 135 of the ESL 130-8 is read, is the shelf barcode coordinates (X1, Y1, Z1) in the shelf size in the shelf position coordinate table.) And the length L, which is the distance in the X-axis direction. In such a case, as in the correction R8 shown in FIG. 17, the value in the X direction of the calculation point E8 of the ESL 130-8 is a value within the length L of the product display shelf 300-1 (in FIG. The movement distance of the mobile terminal device 140 is corrected so as to change to the value of the point E8a.

Also, for example, as shown in FIG. 18, when the store clerk moves the mobile terminal device 140 and continuously reads the shelf label codes 135 of the ESL 130-1, ESL 130-4, ESL 130-9, and ESL 130-12. It is assumed that the detection by the sensor unit 146 of the mobile terminal device 140 has obtained a result of moving along the locus shown in the movement locus B3. As can be seen from FIG. 18, the calculation point E12, which is position information when the shelf label code 135 of the ESL 130-12 is read, is the Z in the shelf barcode coordinates (X1, Y1, Z1) in the shelf position coordinate table. The direction distance value Z1 is exceeded. In such a case, as in the correction R12 shown in FIG. 18, the value in the Z direction of the calculation point E12 of the ESL 130-12 is used as the shelf barcode coordinate of the shelf barcode device 150 installed in the product display shelf 300-1. The movement distance of the mobile terminal device 140 is corrected so as to be changed to a value within Z1 that is the value in the Z direction (the value of the correction point E12a in FIG. 18).

Thus, based on the shelf information acquired from the electronic shelf label management server 210, the calculated movement distance of the mobile terminal device 140 can be corrected.

In addition, when the calculated movement distance of the mobile terminal device 140 exceeds the range of values included in the shelf information acquired from the electronic shelf label management server 210, the movement distance of the mobile terminal device 140 as described above is set. A configuration may be adopted in which the store clerk detects the position information of the ESL 130 again by displaying an error on the LCD display unit 143 of the mobile terminal device 140 without performing correction.

In the correction of the movement distance of the mobile terminal device 140, the determination as to whether or not the calculated movement distance of the mobile terminal device 140 exceeds the range of values included in the shelf information acquired from the electronic shelf label management server 210 is as follows: An arbitrary distance value is set in advance, and it is determined whether or not a calculation result has been obtained that the mobile terminal device 140 has moved beyond the value included in the shelf information to a position separated by the set arbitrary distance value or more. It can also be set as the structure to do. Further, when the calculated movement distance of the mobile terminal device 140 exceeds the range of values included in the shelf information acquired from the electronic shelf label management server 210, it is said that the distance is not more than the set arbitrary distance value. In the case of the calculation result, the movement distance is corrected as described above, and when the calculation result indicates that the distance is not less than the set arbitrary distance, an error is displayed on the LCD display unit 143 of the mobile terminal device 140. The store clerk may be configured to re-detect the position information of the ESL 130. In the present invention, a method for determining whether or not the calculated movement distance of the mobile terminal device 140 exceeds the range of values included in the shelf information acquired from the electronic shelf label management server 210, There is no provision for the processing method.

Next, a method for calculating the distance between the mobile terminal device 140 and the floor will be described. FIG. 19 is a diagram for explaining a detection value processing method by the ultrasonic sensor unit 147. FIG. 19 shows an ultrasonic transmission waveform transmitted by the ultrasonic transmission / reception unit 1471 of the ultrasonic sensor unit 147 and an ultrasonic reception waveform detected by the ultrasonic transmission / reception unit 1471.

The detection of the distance by the ultrasonic sensor unit 147 includes the time T_s from the time T_t when the ultrasonic transmission / reception unit 1471 of the ultrasonic sensor unit 147 transmits the ultrasonic wave S to the time T_r when the reflected wave S_r is detected. It can be calculated based on the ultrasonic propagation time T_p .

More specifically, as illustrated in FIG. 19, when the ultrasonic transmission / reception unit 1471 transmits the ultrasonic wave S at the time T_t , first, the ultrasonic transmission / reception unit 1471 directly transmits the transmitted ultrasonic wave S. A wave S_d is detected. Thereafter, the ultrasonic transmission / reception unit 1471 detects the reflected wave S_r of the ultrasonic wave S transmitted at the timing of time T_r . The ultrasonic sensor unit 147 calculates the time T_s by subtracting the time T_t from the time T_r . For example, when the ultrasonic transmission / reception unit 1471 transmits an ultrasonic wave S having a carrier frequency of 40 [kHz], the propagation time T_p of the ultrasonic wave S is $T_p = 331.5 + 0.61 t$ [m / sec]. is there. Here, t indicates the temperature [° C.] of the measurement space. Note that the temperature t of this measurement space has little influence on the propagation time T_p due to the temperature change, as can be seen from the above-described equation of the propagation time T_p , so that a predetermined temperature (for example, room temperature: 25 [° C]). Based on the time T_s and the propagation time T_p , the distance X between the mobile terminal device 140 and the floor surface is calculated by the following equation (1).

$$X = T_s / 2 \times T_p (1)$$

The measurement distance by the ultrasonic wave S having a carrier frequency of 40 [kHz] is 0.1 to several [m], and the measurement resolution is 1 [cm]. Therefore, the distance X between the mobile terminal device 140 and the floor surface can be calculated with high accuracy. The calculated distance X is a height value from the floor surface to the mobile terminal device 140.

In this way, the mobile terminal device 140 calculates the height from the floor surface to the mobile terminal device 140, and stores the calculated height value in the memory 142 in the mobile terminal device 140. Further, the calculated height value is replaced with the Z-direction value of the relative coordinates of the position of the ESL 130 calculated separately. Further, the mobile terminal device 140 stores the replaced relative coordinates of the ESL 130 (hereinafter referred to as "corrected relative coordinates") and the shelf label code 135 of the ESL 130 in the memory 142 in the mobile terminal device 140. Then, the stored corrected relative coordinates of the ESL 130 and the shelf label code 135 of the ESL 130 are transmitted to the electronic shelf label management server 210. The electronic shelf label management server 210 that has received the corrected relative coordinates of the ESL 130 from the mobile terminal device 140 calculates the absolute coordinates of the acquired ESL 130 based on the absolute coordinates associated with the shelf barcode 151.

The mobile terminal device 140 may be configured to transmit the calculated relative coordinates of the ESL 130, the calculated height value, and the shelf label code 135 of the ESL 130 to the electronic shelf label management server 210. In this case, the electronic shelf label management server 210 calculates the corrected relative coordinates of the ESL 130 based on the received relative coordinates of the ESL 130 and the height value, and based on the calculated corrected relative coordinates of the ESL 130, calculate absolute coordinates of.

Further, each time the shelf label code 135 of the ESL 130 is read continuously after the shelf barcode 151 is read, the position information of each ESL 130 is corrected based on the calculated height value from the floor surface to the portable terminal device 140 itself. You can also An example of this case will be described with reference to FIG.

In FIG. 20, after reading the shelf bar code 151, the store clerk moves the mobile terminal device 140 to continuously read the shelf label codes 135 of the ESL 130-1 to ESL 130-8. In addition, every time the ESL 130 is detected by the sensor unit 146, the mobile terminal device 140 corrects the position information of the detected ESL 130 based on the height value detected by the ultrasonic sensor unit 147.

The correction of the position information that is performed every time the position information of the ESL 130 is detected is obtained by using the ultrasonic sensor unit 147 to calculate the value in the Z direction of the relative coordinates of the position of the ESL 130 obtained by the detection of the sensor unit 146 of the mobile terminal device 140. Replace with the detected height value. Thereby, for example, as in the correction R8b illustrated in FIG. 20, the position information of the ESL 130-8 is corrected from the calculation point E8b of the ESL 130-8 to the correction point E8c. As described above, each time the position information of the ESL 130 is detected by the mobile terminal device 140, the position information of the detected ESL 130 is corrected, so that the movement locus of the portable terminal device 140 becomes the locus indicated by the movement locus B4.

Thereby, the detection error (cumulative error) of the sensor unit 146 when the ESL 130 is detected by the sensor unit 146 of the mobile terminal device 140 can be reduced.

FIG. 21 is a diagram showing an example of a shelf label position table recorded in the electronic shelf label management server 210 in the present embodiment. The shelf label position coordinate table shown in FIG. 21 includes a shelf number for identifying the product display shelf 300, a device code for identifying the shelf barcode device 150 and the ESL 130 installed on the product display shelf 300, and the shelf barcode device 150. 2 is an information table in which absolute coordinates and relative coordinates, which are information on the position where the ESL 130 is installed, and correction information indicating whether or not the relative coordinates are corrected are associated with each other.

In the shelf label position coordinate table shown in FIG. 21, the shelf barcode 151 attached to the shelf barcode device 150 and the shelf label code 135 attached to the ESL 130 are recorded in the device code.

In the shelf label position coordinate table, the shelf bar code coordinate of the shelf position coordinate table shown in FIG. 8 is recorded as the absolute coordinate of the shelf barcode device 150, and this shelf barcode coordinate is used as the reference coordinate. The relative coordinates of the ESL 130 are recorded with the relative coordinates of the ESL 130 transmitted from the mobile terminal device 140. The absolute coordinates of the ESL 130 are recorded with the absolute coordinates of the ESL 130 calculated from the relative coordinates of the ESL 130 based on the shelf barcode coordinates (absolute coordinates). The relative coordinates of the ESL 130 and the absolute coordinates of the ESL 130 include highly accurate height information with respect to the ESL 130 arranged on the merchandise display shelf 300. As a result, the electronic shelf label management server 210 can accurately obtain information regarding the height, such as the level of the product display shelf 300, at which the ESL 130 is arranged.

The correction information in the shelf label position coordinate table illustrated in FIG. 21 includes sensor detection axes (x-axis, y-axis) in which the mobile terminal device 140 has corrected the relative coordinates of the ESL 130 transmitted from the mobile terminal device 140. (Axis, z-axis) information is recorded. The information recorded in the correction information is, for example, the movement of the mobile terminal device 140 in a configuration in which the mobile terminal device 140 acquires the shelf information from the electronic shelf label management server 210 as shown in FIGS. This is distance correction information. Further, for example, in the configuration in which the mobile terminal device 140 calculates the relative coordinates of the ESL 130 and the height value to the electronic shelf label management server 210, the electronic shelf label management server 210 calculates the corrected relative coordinates of the ESL 130. It is the correction information recorded in the case. The shelf label position coordinate table illustrated in FIG. 21 illustrates an example in which the z-axis direction correction is performed on the relative coordinates of the ESL 130-12.

Further, the correction information in the shelf label position coordinate table shown in FIG. 21 is obtained when the portable terminal device 140 corrects the position information of the ESL 130 based on the height value detected by the ultrasonic sensor unit 147. The presence or absence of correction cannot be determined from the relative coordinates of the ESL 130 transmitted from the device 140. In such a case, the information in the tag position coordinate table is corrected by acquiring from the portable terminal device 140 information regarding whether or not the position information of the ESL 130 has been corrected based on the detected height value. Information can be recorded. In the present invention, the correction information acquisition method is not specified.

Next, a method for acquiring the position information of the ESL 130 when associating the information on the products displayed on the product display shelf 300 with the shelf label code 135 will be described. FIG. 22 is a diagram illustrating an example of linking the ESL 130 and the information of the product 400 when acquiring the position information of the ESL 130 in the arrangement of the ESL 130 of the product display shelf 300-1 illustrated in FIG. is there. FIG. 23 is a flowchart showing a processing procedure for acquiring the position information of the ESL 130 and the information of the product 400 in the mobile terminal device 140 of this embodiment. In FIG. 22, as shown in FIG. 20, in the embodiment where the mobile terminal device 140 corrects the position information of the ESL 130 each time the ESL 130 is detected, the association between the ESL 130 and the information of the product 400 is applied. Will be described.

FIG. 22 shows the product codes of the products 400-1 to 400-3 associated with each ESL 130 when acquiring the position information of the ESL 130-1 to ESL 130-3 based on the absolute coordinates of the shelf barcode device 150. An example of acquiring (barcode) is shown. The movement locus of the mobile terminal device 140 by the store clerk when acquiring the product codes of the ESL 130-1 to ESL 130-3 and the products 400-1 to 400-3 is a movement locus B5.

First, the shelf barcode 151 attached to the shelf barcode device 150 is read by the mobile terminal device 140. Subsequently, the shelf label code 135 affixed to the ESL 130-1 is read by the mobile terminal device 140. Here, the mobile terminal device 140 calculates the moving distance of the mobile terminal device 140 based on the detection value of the sensor unit 146 when the shelf label code 135 is read. Subsequently, the mobile terminal device 140 calculates the height from the floor surface to the mobile terminal device 140 based on the detection value of the ultrasonic sensor unit 147. Then, the mobile terminal device 140 reads the shelf label code 135 attached to the ESL 130-1 based on the calculated movement distance of the mobile terminal device 140 and the height from the floor surface to the mobile terminal device 140. Correct the position information. Thereafter, the mobile terminal device 140 reads the product code of the product 400-1 corresponding to the ESL 130-1. Then, the mobile terminal device 140 transmits the corrected ESL 130 position information, shelf label code 135 information, and product code information to the electronic shelf label management server 210. When the mobile terminal device 140 does not correct the position information of the ESL 130 every time the ESL 130 is detected, the position information of the ESL 130 is changed to the corrected position information of the ESL 130 and is calculated based on the calculated movement distance of the mobile terminal device 140. The relative coordinates of the position of the ESL 130 and the calculated height value from the floor surface to the mobile terminal device 140 may be transmitted to the electronic shelf label management server 210.

Subsequently, the mobile terminal device 140 reads the shelf label code 135 attached to the ESL 130-2, corrects the position information of the ESL 130-2, and reads the product code of the product 400-2 corresponding to the ESL 130-2. . Similarly, the mobile terminal device 140 reads the shelf label code 135 attached to the ESL 130-3, corrects the position information of the ESL 130-3, and reads the product code of the product 400-3 corresponding to the ESL 130-3. .

In this way, by reading the shelf label code 135 and correcting the position information of the ESL 130, the electronic shelf label management server 210 links the ESL 130 position information and the product information of the product 400. The attached product management data can be acquired.

Here, a processing procedure in which the mobile terminal device 140 acquires the position information of the ESL 130 and the information of the product 400 will be described. Note that the detailed processing procedure in each step of the flowchart shown in FIG. 23 is the same as in FIG. 10 and FIG. 11, and here, the outline when acquiring the position information of the ESL 130 and the information of the product 400 is shown. Only the flow of processing will be described.

First, in step S 300, the mobile terminal device 140 reads the shelf barcode 151 attached to the shelf barcode device 150 by the barcode reading unit 145 in the mobile terminal device 140.

Subsequently, in step S 310, the mobile terminal device 140 reads the shelf label code 135 attached to the ESL 130 by the barcode reading unit 145 in the mobile terminal device 140. Then, the mobile terminal device 140 calculates a moving distance when the mobile terminal device 140 moves based on the acceleration value output by the acceleration sensor in the sensor unit 146 and the angular velocity value output by the gyro sensor. . In addition, the mobile terminal device 140 is the mobile terminal device 140 when the mobile terminal device 140 reads the shelf label code 135 based on the time when the ultrasonic sensor unit 147 transmits the ultrasonic wave and the time when the reflected wave is detected. Calculate the height from the floor. Then, the mobile terminal device 140 calculates the corrected position information of the ESL 130 when the mobile terminal device 140 reads the shelf label code 135 based on the calculated moving distance and the height from the floor surface.

Subsequently, in step S320, the mobile terminal device 140 reads the product code of the product 400 corresponding to the ESL 130 read in step S310 by the barcode reading unit 145 in the mobile terminal device 140.

Subsequently, in step S330, the mobile terminal device 140 confirms whether or not to acquire the position information of the next ESL 130. When the position information of the next ESL 130 is not acquired, the process proceeds to step S340. When acquiring the position information of the next ESL 130, the process returns to step S310, and reading of the shelf label code 135, calculation of the position information of the ESL 130, and reading of the product code of the product 400 corresponding to the ESL 130 are repeated.

In step S340, the mobile terminal device 140 transmits the corrected position information of the ESL 130, the information of the read shelf label code 135, and the information of the read product code to the electronic shelf label management server 210, and completes the processing. .

Thereafter, in the electronic shelf label management server 210, based on the corrected position information of the ESL 130, the information of the shelf label code 135, and the information of the product code transmitted from the mobile terminal device 140, the ESL 130 position information and the product 400 Record product management data linked to information.

As described above, when displaying the product 400 on the product display shelf 300, the information of the corrected position where the ESL 130 is installed is acquired simultaneously with the operation of associating the product code of the product 400 with the ESL 130. Can do. The information on the corrected position of the ESL 130 includes accurate height information for the ESL 130 arranged on the merchandise display shelf 300. As a result, the electronic shelf label management server 210 can also accurately acquire information on the level of the product display shelf 300 where the ESL 130 is arranged.

Note that in the example of linking the ESL 130 and the information of the product 400 shown in FIGS. 22 and 23, the shelf label code 135 previously attached to the ESL 130 is read, and then the product 400 of the product 400 corresponding to the ESL 130 is obtained. Although an example of reading a code has been shown, the present invention is not limited to this order. For example, the product code of the product 400 corresponding to the ESL 130 can be read first, and then the shelf label code 135 attached to the ESL 130 can be read. For example, when it is possible to determine whether the code (bar code) read by the mobile terminal device 140 is the shelf label code 135 or the product code, the shelf label code 135 attached to the ESL 130 The order of reading the product code of the product 400 corresponding to the ESL 130 can be made arbitrary.

FIG. 24 is a diagram illustrating an example of a product link information table that is product management data recorded in the electronic shelf label management server 210 in the present embodiment. The product link information table shown in FIG. 24 includes a shelf number for identifying the product display shelf 300, a device code for identifying the shelf barcode device 150 and the ESL 130 installed on the product display shelf 300, the shelf barcode device 150, It is an information table in which absolute coordinates and relative coordinates, which are information on a position where the ESL 130 is installed, and a product code and a product name of the product 400 corresponding to the ESL 130 are associated with each other.

In the product link information table shown in FIG. 24, the information on the shelf label position coordinate table shown in FIG. 21 is recorded in the shelf number, device code, absolute coordinate, and relative coordinate. In addition, in the product code of the product link information table, the product code corresponding to the ESL 130 transmitted together with the position information of the ESL 130 and the shelf label code 135 from the mobile terminal device 140 is recorded. In the product name of the product link information table, the product name corresponding to the product code transmitted from the mobile terminal device 140 is recorded. For example, the electronic shelf label management server 210 obtains information on the product 400 recorded in the store server 200 from the store server 200 shown in FIG. And recording based on the information of the acquired product 400. In the present invention, the method for associating the product code with the product name is not defined.

The relative coordinates of the ESL 130 and the absolute coordinates of the ESL 130 recorded in the product link information table include highly accurate information regarding the height at which the ESL 130 is installed. Thereby, the electronic shelf label management server 210 displays information related to the product 400 such as

a product code and a product name, a product display shelf displaying the product 400, and the product display shelf at which level of the product display shelf. You can get information about whether or not

As described above, in the present invention, by reading the shelf barcode 151 of the shelf barcode device 150, the attitude of the mobile terminal device 140 is always kept constant, and the mobile phone device 140 in the mobile terminal device 140 is self-portable. The distance traveled by the terminal device 140 can be calculated. As a result, it is possible to obtain information on the position when the shelf label code 135 affixed to the ESL 130 after reading the shelf barcode 151, that is, the position where the ESL 130 is installed. Furthermore, information on the distance (height) between the mobile terminal device 140 and the floor surface can be acquired with high accuracy by the ultrasonic sensor unit 147 in the mobile terminal device 140. As a result, the position information of the ESL 130 can be automatically acquired with good workability without recording the position information of the ESL 130 in advance. Further, since the information on the height at which the ESL 130 is arranged can be obtained with high accuracy, for example, when the number of shelves in the product display shelf 300 is large, or the number of ESLs 130 arranged in the product display shelf 300 Even when there are many cases, the product 400 can be easily confirmed without making a mistake in the position where the product 400 is displayed.

Further, simultaneously with the associating operation between the product code of the product 400 and the ESL 130 performed when the product 400 is displayed on the product display shelf 300, information on the position where the ESL 130 is installed is acquired, and the position of the acquired ESL 130 is acquired. Information can be corrected. Thereby, it is possible to obtain product management data in which the management data in which the product code of the product 400 is associated with the ESL 130 and the location information of the ESL 130 are associated with each other efficiently. In addition, for example, when the store clerk checks the information of the product 400 at the time of inventory of the product 400, the position information of the ESL 130 is recorded with the three-dimensional information, so the position of the product 400 is easily specified. be able to.

In the present embodiment, the ultrasonic sensor unit 147 in the mobile terminal device 140 has been described as detecting the distance (height) between the mobile terminal device 140 and the floor surface. The distance measured by the sound wave sensor unit 147 is not limited to the distance from the floor surface. For example, the ultrasonic sensor unit 147 may be arranged at a position where the distance from the ceiling is measured, and information on the height at which the ESL 130 is arranged can be obtained according to the distance between the ceiling and the mobile terminal device 140. Further, for example, when the merchandise display shelf 300 has a box shape, the ultrasonic sensor unit 147 is disposed at a position for measuring the distance from the side surface of the merchandise display shelf 300, and the side surface of the merchandise display shelf 300 is portable. It can also be set as the structure which acquires the information regarding the distance of the plane direction (for example, X direction in this embodiment) in which ESL 130 is arrange | positioned by the distance with the terminal device 140. FIG. In addition, for example, the ultrasonic sensor unit 147 is arranged at a position for measuring the distance in the four directions of up, down, left and right, and shelf information corresponding to the shape of the product display shelf 300 is created, and used for correction based on the shelf information. The detection value of the distance to be selected may be selected.

Further, in the present embodiment, the configuration using the ultrasonic sensor unit 147 has been described as means for detecting the distance between the mobile terminal device 140 and a reference location (in this embodiment, the floor surface). The present invention does not limit the means for detecting the distance between the mobile terminal device 140 and the reference location to the ultrasonic sensor unit 147. That is, any means that can detect the distance between the mobile terminal device 140 and the reference location may be used. For example, a sensor such as an optical sensor or a distance measuring sensor, or other means that can measure the distance is used. It is also possible to adopt a configuration that is suitable.

In the present embodiment, an example of ESL installed on a merchandise display shelf of a store such as a supermarket or a convenience store has been described as an information display means for displaying information on an article. However, the present invention is limited to ESL. It is not something. For example, it may be a paper medium on which a barcode of identification information for identifying each of the information display means is printed together with information other than information such as products sold at a store. Further, the present invention is not limited to application in a store such as a supermarket or a convenience store. For example, in a warehouse, etc., to obtain information on labels and tags that display information on the contents of stored items attached to shelves for storing stored items, boxes containing stored items, and stored items themselves Can also be applied. Further, for example, in a business dealing with documents such as a bank, it may be arranged in a paper storage area and used to acquire position information of a display device that displays a description of the paper and the remaining number of sheets. Further, in a factory or the like, it may be attached to a panel for displaying work instructions to workers or a shelf on which parts are placed, and used to acquire position information of labels or tags for displaying information such as parts classification.

The embodiment of the present invention has been described above with reference to the drawings. However, the specific configuration is not limited to this embodiment, and includes various modifications within the scope of the present invention. It is.

DESCRIPTION OF SYMBOLS 1 ... Store system 10 ... In-store system 20 ... Backyard system 200 ... Store server 210 ... Electronic shelf label management server 100 ... POS cash register 110 ... Wireless LAN access point 120 ... Repeaters 130, 130-1, 130-2, 130-3, 130-4, 130-5, 130-6, 130-7, 130-8, 130-9, 130-10, 130-11 , 130-12, 130-13 ... ESL				
131 ... CPU	Cited By (1)			
132 ... Memory 133 ... LCD display unit 134 ... Wireless communication unit 135 ... Shelf label code 140 ... Mobile terminal device 141 ... CPU				
142 ... Memory 143 ... LCD display unit 144 ... Wireless communication unit 145 ... Bar code reading unit 146 ... Sensor unit 147 ... Ultrasonic sensor unit 1471 ... Ultrasonic transmission / reception unit 148 / 149 ... fitting part 150 ... shelf barcode device 151 ... shelf barcodes 152, 153 ... fitting parts 300, 300-1, 300-2, 300-3 ... product display shelf 400, 400-1, 400-2, 400-3 ... commodity				
JP2016023986A *	2014-07-17	2016-02-08	株式会社トルク	Method for recording information in space and system thereof

Family To Family Citations

* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
TW567576B	2017-01-21	Method and apparatus for managing product placement on store shelf
US20160042315A1	2016-02-11	System and methods for order fulfillment, inventory management, and providing personalized services to customers
EP2715393B1	2017-04-26	Method and apparatus for providing accurate localization for an industrial vehicle
US9171278B1	2015-10-27	Item illumination based on image recognition

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.

JP5940682B2	2016-06-29	System for automatic picking of products in material handling facilities
US20160063429A1	2016-03-03	Apparatus and method for performing an item picking process
JP5564615B2	2014-07-30	Networked vending machines for the workplace or managed environment
US9916561B2	2018-03-13	Methods, devices and computer readable storage devices for tracking inventory
CN103946758B	2016-06-15	in the time starting, use the method and apparatus of demarcating uniquely position industrial vehicle
US8561897B2	2013-10-22	Load tracking utilizing load identifying indicia and spatial discrimination
JP2019091470A	2019-06-13	Methods of detecting item interaction and movement
US6550674B1	2003-04-22	System for cataloging an inventory and method of use
US9652734B2	2017-05-16	Portable encoded information reading terminal configured to acquire images
WO2015145982A1	2015-10-01	information processing device, information processing system, distribution system, information processing method, and program storage medium
CN101149792B	2010-06-23	System and method for performing inventory using a mobile inventory robot
KR101043489B1	2011-06-23	Radio frequency identification tag on picking container and display of picklist to order filler
US20150220761A1	2015-08-06	Portable encoded information reading terminal configured to adjust transmit power level
JP4525074B2	2010-08-18	Product identification information management system
JP3643111B1	2005-04-27	Asset management system
US9165279B2	2015-10-20	System and method for calibration and mapping of real-time location data
US20120191272A1	2012-07-26	Inferential load tracking
EP2876059A1	2015-05-27	Support device and system for article picking work
JP2007108144A	2007-04-26	Mobile object management system and mobile device
US20100045436A1	2010-02-25	Method for associating and rfid tag with a known region
US20070050271A1	2007-03-01	Presence, pattern and weight sensor surface

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
JP2009250033A	2009-10-30	2009-10-30	Position information acquisition device and position information acquisition method

Applications Claiming Priority (1)

Application	Filing date	Title
JP2009250033A	2009-10-30	Position information acquisition device and position information acquisition method

Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
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acceleration		claims,description	95	0
methods		claims,description	39	0
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LERNER, DAVID, LITTENBERG,
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NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <https://portal.uspto.gov/pair/PublicPair>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15747550
	Filing Date		2018-01-25
	First Named Inventor	Philippe Bottine	
	Art Unit	N/A	
	Examiner Name	Not Yet Assigned	
	Attorney Docket Number	REGIM 3.3F-369	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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Add

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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If you wish to add additional U.S. Published Application citation information please click the Add button.

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							

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Add

NON-PATENT LITERATURE DOCUMENTS			Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15747550
Filing Date	2018-01-25
First Named Inventor	Philippe Bottine
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	REGIM 3.3F-369

1	French Preliminary Search Report for FR Patent Application No. 1557153, dated February 12, 2016.
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If you wish to add additional non-patent literature document citation information please click the Add button

Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15747550
Filing Date	2018-01-25
First Named Inventor	Philippe Bottine
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	REGIM 3.3F-369

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Thomas M. Palisi/	Date (YYYY-MM-DD)	2018-06-05
Name/Print	Thomas M. Palisi	Registration Number	36,629

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: June 5, 2018
Electronic Signature for Thomas M. Palisi: /Thomas M. Palisi/

Docket No. REGIM 3.3F-369
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Bottine et al.

Application No.: 15/747,550

Confirmation No.: 5851

Filed: January 25, 2018

Art Unit: N/A

For: METHOD FOR UPDATING ASSOCIATION
DATA BETWEEN ARTICLES AND
LOCATIONS

Examiner: Not Yet Assigned

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

It is respectfully requested that the reference listed on the enclosed form be made of record and considered with respect to the above-referenced U.S. patent application. A copy of each reference which is not a U.S. patent or patent application is enclosed. Submission of the present Information Disclosure Statement should not be taken as an admission that the cited reference is legally available prior art or that the same is pertinent or material.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 12-1095, under Order No. REGIM 3.3F-369 from which the undersigned is authorized to draw.

Dated: June 5, 2018

Respectfully submitted,

Electronic signature: /Thomas M. Palisi/
Thomas M. Palisi
Registration No.: 36,629
LERNER, DAVID, LITTENBERG, KRUMHOLZ &
MENTLIK, LLP
600 South Avenue West
Westfield, New Jersey 07090
(908) 654-5000
Attorney for Applicant

LD-4584

5469025

Electronic Acknowledgement Receipt

EFS ID:	32808964
Application Number:	15747550
International Application Number:	
Confirmation Number:	5851
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS
First Named Inventor/Applicant Name:	Philippe Bottine
Customer Number:	530
Filer:	Brian R. Tomkins
Filer Authorized By:	
Attorney Docket Number:	REGIM 3.3F-369
Receipt Date:	05-JUN-2018
Filing Date:	25-JAN-2018
Time Stamp:	14:47:40
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	Preliminary_SR_FR.pdf	196229	no	2
			7448951d3a03423721554cc6fa58a6ff67a103ca		

Warnings:

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.

EX. 1002 page 112

Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	Information_Disclosure_Statement_Fillable_PDF.pdf	1034347 1a28e30631950082bc6bd760afb0c45f05b0e36a	no	4
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
3	Transmittal Letter	IDS_-_Information_Disclosure_Statement_-_Reference_Enclosed_LD-458.pdf	21540 591bff784a1d4e1a85cf068bd79220d491297f17	no	1
Warnings:					
Information:					
Total Files Size (in bytes):			1252116		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 15/747,550			
APPLICATION AS FILED - PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300		
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	520		
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760		
TOTAL CLAIMS (37 CFR 1.16(j))	11	minus 20 = *			OR	x 100 =	0.00		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *				x 460 =	0.00		
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00		
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00		
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL	1580		
APPLICATION AS AMENDED - PART II									
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)		
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
				TOTAL ADD'L FEE		TOTAL ADD'L FEE			
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)		
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
				TOTAL ADD'L FEE		TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.									

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET Substitute for Form PTO-1360 (For use with Form PTO/SB/06)							Application Number 15747550		Filing Date				
							Applicant(s) Philippe Bottine						
							* May be used for additional claims or amendments						
CLAIMS	AS FILED		AFTER FIRST AMENDMENT		AFTER SECOND AMENDMENT			*		*		*	
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Total Indep	1		1		0								
Total Depend	12	↙	10	↙	0	↙							
Total Claims	13		11		0								

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED INVENTOR	ATTY. DOCKET NO.
15/747,550	Philippe Bottine	REGIM 3.3F-369

530

LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
600 SOUTH AVENUE WEST
WESTFIELD, NJ 07090

INTERNATIONAL APPLICATION NO.

PCT/FR2016/051930

I.A. FILING DATE	PRIORITY DATE
07/25/2016	07/27/2015

**CONFIRMATION NO. 5851
371 ACCEPTANCE LETTER**



Date Mailed: 04/24/2018

NOTICE OF ACCEPTANCE OF APPLICATION UNDER 35 U.S.C 371 AND 37 CFR 1.495

The applicant is hereby advised that the United States Patent and Trademark Office, in its capacity as a Designated / Elected Office (37 CFR 1.495), has ACCEPTED the above identified international application for national patentability examination in the United States Patent and Trademark Office.

The United States Application Number assigned to the application is shown above. A Filing Receipt will be issued for the present application in due course. **THE DATE APPEARING ON THE FILING RECEIPT AS THE "FILING DATE or 371(c) DATE" IS THE DATE ON WHICH THE LAST OF THE 35 U.S.C. 371 (c)(1) and (c)(2) REQUIREMENTS HAS BEEN RECEIVED IN THE OFFICE. THIS DATE IS SHOWN BELOW.** The filing date of the above identified application is the international filing date of the international application (Article 11(3) and 35 U.S.C. 363)

01/25/2018

DATE OF RECEIPT OF 35 U.S.C.
371(c)(1) and (c)(2) REQUIREMENTS

The following items have been received:

- Copy of the International Application filed on 01/25/2018
- English Translation of the IA filed on 01/25/2018
- Copy of the International Search Report filed on 01/25/2018
- English Translation of ISR filed on 01/25/2018
- Preliminary Amendments filed on 01/25/2018
- Information Disclosure Statements filed on 01/25/2018
- Inventor's Oath or Declaration filed on 02/28/2018
- U.S. Basic National Fees filed on 01/25/2018
- Authorize Access to Search Results filed on 01/25/2018
- Priority Documents filed on 01/25/2018
- Power of Attorney filed on 03/28/2018
- Authorization to Permit Access filed on 01/25/2018
- Application Data Sheet (37 CFR 1.76) filed on 01/25/2018

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

MARIAN E DAY

Telephone: (703) 756-1142



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
15/747,550	01/25/2018		1720	REGIM 3.3F-369	11	1

CONFIRMATION NO. 5851

FILING RECEIPT



0000000098984330

530
LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
600 SOUTH AVENUE WEST
WESTFIELD, NJ 07090

Date Mailed: 04/24/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Philippe Bottine, Boulogne-Billancourt, FRANCE;
François Robin, Paris, FRANCE;

Applicant(s)

SES-imagotag, Nanterre, FRANCE;

Assignment For Published Patent Application

SES-imagotag, Nanterre, FRANCE

Power of Attorney: The patent practitioners associated with Customer Number 00530

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/FR2016/051930 07/25/2016

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)
FRANCE 1557153 07/27/2015

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 04/23/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/747,550**

Projected Publication Date: 08/02/2018

Non-Publication Request: No

Early Publication Request: No

Title

METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
15/747,550	January 25, 2018

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

00530

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☐ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

SES-imagotag

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional)

Name

Title

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☒ Total of 1 forms are submitted.

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

**Title of
Invention**

METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS

As the below named inventor, I hereby declare that:

This declaration ☐ The attached application, or
is directed to:

☒ United States application or PCT international application number 15/747,550
filed on 01/25/2018

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001
by fine or imprisonment of not more than five (5) years, or both.

WARNING:

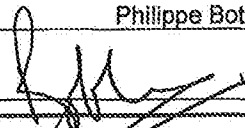
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Philippe Bottine

Date (Optional):

Feb 15, 2018

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)****Title of
Invention****METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS**

As the below named inventor, I hereby declare that:

This declaration ☐ The attached application, or
is directed to:☒ United States application or PCT International application number 15/747,550
filed on 01/25/2018

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001
by fine or imprisonment of not more than five (5) years, or both.**WARNING:**

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTORInventor: François RobinDate (Optional): 22/02/2018Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

Electronic Acknowledgement Receipt

EFS ID:	31920884
Application Number:	15747550
International Application Number:	
Confirmation Number:	5851
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS
First Named Inventor/Applicant Name:	Philippe Bottine
Customer Number:	530
Filer:	April M. Capati
Filer Authorized By:	
Attorney Docket Number:	REGIM 3.3F-369
Receipt Date:	28-FEB-2018
Filing Date:	
Time Stamp:	16:22:49
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	Executed_POA.pdf	79089	no	1
			65a134051e873a3643607cc8883478b70bc5f4c5		

Warnings:

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.

EX. 1002 page 124

Information:					
2	Oath or Declaration filed	Executed_Declarlations.pdf	973133	no	2
			1b8329d4805073748f629dfb234f4e6f539ba995		
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
Total Files Size (in bytes):			1052222		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

PCT

RAPPORT PRÉLIMINAIRE INTERNATIONAL SUR LA BREVETABILITÉ

(chapitre I du Traité de coopération en matière de brevets)

(règle 44bis du PCT)

Référence du dossier du déposant ou du mandataire 370782d34325	POUR SUITE À DONNER		Voir le point 4 ci-dessous
Demande internationale no. PCT/FR2016/051930	Date du dépôt international (<i>jour/mois/année</i>) 25 July 2016 (25.07.2016)	Date de priorité (<i>jour/mois/année</i>) 27 July 2015 (27.07.2015)	
Classification internationale des brevets (8 ^e édition, sauf indication d'une édition antérieure) Voir les informations pertinentes dans le formulaire PCT/ISA/237			
Déposant SES-IMAGOTAG			

1.	Le présent rapport préliminaire international sur la brevetabilité (chapitre I) est établi par le Bureau international au nom de l'administration chargée de la recherche internationale selon la règle 44bis.1.a).																								
2.	Ce RAPPORT comprend un total de 7 feuilles, y compris la présente feuille de couverture. Dans les feuilles jointes, toute référence à l'opinion écrite de l'administration chargée de la recherche internationale doit être entendue, à la place, comme une référence au rapport préliminaire international sur la brevetabilité (chapitre I).																								
3.	Le présent rapport contient des indications relatives aux points suivants : <table style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 5%; text-align: center;">☒</td> <td style="width: 25%;">Cadre n° I</td> <td>Base de l'opinion</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° II</td> <td>Priorité</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° III</td> <td>Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° IV</td> <td>Absence d'unité de l'invention</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Cadre n° V</td> <td>Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° VI</td> <td>Certains documents cités</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Cadre n° VII</td> <td>Certaines irrégularités relevées dans la demande internationale</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° VIII</td> <td>Certaines observations relatives à la demande internationale</td> </tr> </table>	☒	Cadre n° I	Base de l'opinion	☐	Cadre n° II	Priorité	☐	Cadre n° III	Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle	☐	Cadre n° IV	Absence d'unité de l'invention	☒	Cadre n° V	Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration	☐	Cadre n° VI	Certains documents cités	☒	Cadre n° VII	Certaines irrégularités relevées dans la demande internationale	☐	Cadre n° VIII	Certaines observations relatives à la demande internationale
☒	Cadre n° I	Base de l'opinion																							
☐	Cadre n° II	Priorité																							
☐	Cadre n° III	Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle																							
☐	Cadre n° IV	Absence d'unité de l'invention																							
☒	Cadre n° V	Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration																							
☐	Cadre n° VI	Certains documents cités																							
☒	Cadre n° VII	Certaines irrégularités relevées dans la demande internationale																							
☐	Cadre n° VIII	Certaines observations relatives à la demande internationale																							
4.	Le Bureau international communiquera le présent rapport aux offices désignés conformément aux règles 44bis.3.c) et 93bis.1 mais pas avant l'expiration du délai de 30 mois à compter de la date de priorité (règle 44bis.2), sauf si le déposant a présenté une requête expresse à cet égard en vertu de l'article 23.2).																								

Bureau international de l'OMPI 34, chemin des Colombettes 1211 Geneva 20, Switzerland no de télécopieur +41 22 338 82 70	Date d'établissement du présent rapport 30 January 2018 (30.01.2018) Fonctionnaire autorisé Simin Baharlou e-mail: pct.team9@wipo.int
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Formulaire PCT/IB/373 (janvier 2004)

TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

Expéditeur : L'ADMINISTRATION CHARGÉE DE
LA RECHERCHE INTERNATIONALE

PCT

Destinataire :

voir le formulaire PCT/ISA/220

OPINION ÉCRITE DE L'ADMINISTRATION
CHARGÉE DE LA RECHERCHE
INTERNATIONALE
(règle 43bis.1 du PCT)

Date d'expédition

(jour/mois/année)

PCT/ISA/210 (deuxième feuille)

voir le formulaire

Référence du dossier du déposant ou du mandataire
voir le formulaire PCT/ISA/220

POUR SUITE À DONNER

Voir le point 2 ci-dessous

Demande internationale No.
PCT/FR2016/051930

Date du dépôt international (jour/mois/année)
25.07.2016

Date de priorité (jour/mois/année)
27.07.2015

Classification internationale des brevets (CIB) ou à la fois classification nationale et CIB
INV. G06Q30/02 G06Q10/08

Déposant
STORE ELECTRONIC SYSTEMS

1. La présente opinion contient des indications relatives aux points suivants :

- ☒ Cadre n° I Base de l'opinion
- ☐ Cadre n° II Priorité
- ☐ Cadre n° III Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle
- ☐ Cadre n° IV Absence d'unité de l'invention
- ☒ Cadre n° V Déclaration motivée selon la règle 43bis.1.a)i) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration
- ☐ Cadre n° VI Certains documents cités
- ☒ Cadre n° VII Certaines irrégularités relevées dans la demande internationale
- ☐ Cadre n° VIII Certaines observations relatives à la demande internationale

2. **SUITE À DONNER**

Si une demande d'examen préliminaire internationale est présentée, la présente opinion sera considérée comme une opinion écrite de l'administration chargée de l'examen préliminaire international, sauf dans le cas où le déposant a choisi une administration différente de la présente administration aux fins de l'examen préliminaire international et que l'administration considérée a notifié au Bureau international, selon la règle 66.1bis.b), qu'elle n'entend pas considérer comme les siennes les opinions écrites de la présente administration chargée de la recherche internationale.

Si, comme cela est indiqué ci-dessus, la présente opinion écrite est considérée comme l'opinion écrite de l'administration chargée de l'examen préliminaire international, le déposant est invité à soumettre à l'administration chargée de l'examen préliminaire international une réponse écrite, avec le cas échéant des modifications, avant l'expiration d'un délai de 3 mois à compter de la date d'envoi du formulaire PCT/ISA/220 ou avant l'expiration d'un délai de 22 mois à compter de la date de priorité, le délai expirant le dernier devant être appliqué.

Pour plus de détails sur les possibilités offertes au déposant, se référer au formulaire PCT/ISA/220.

Nom et adresse postale de l'administration chargée de la recherche internationale



Office européen des brevets

D-80298 Munich
Tél. +49 89 2399 - 0
Fax: +49 89 2399 - 4465

Date à laquelle la
présente opinion a été
établie

voir le formulaire
PCT/ISA/210

Fonctionnaire autorisé

Aupiais, Brigitte

N° de téléphone +49 89 2399-0



Cadre n° I Base de l'opinion

1. En ce qui concerne la **langue**, la présente opinion a été établie sur la base
 - ☒ de la demande internationale dans la langue dans laquelle elle a été déposée.
 - ☐ d'une traduction de la demande internationale dans la langue suivante , qui est la langue d'une traduction remise aux fins de la recherche internationale (règles 12.3.a) et 23.1.b)).
2. ☐ La présente opinion a été établie en prenant en considération la **rectification d'une erreur évidente** autorisée par ou notifiée à la présente administration en vertu de la règle 91 (règle 43bis.1.a)).
3. ☐ En ce qui concerne **la ou les séquences de nucléotides ou d'acides aminés** divulguées dans la demande internationale, la présente opinion a été effectuée sur la base d'un listage des séquences :
 - a. ☐ faisant partie de la demande internationale telle que déposée :
 - ☐ sous forme d'un fichier texte selon la norme de l'annexe C/ST.25.
 - ☐ sur papier ou sous forme d'un fichier image.
 - b. ☐ remis avec la demande internationale en vertu de la règle 13ter.1.a), exclusivement aux fins de la recherche internationale, sous forme d'un fichier texte selon la norme de l'annexe C/ST.25.
 - c. ☐ remis postérieurement à la date de dépôt international exclusivement aux fins de la recherche internationale :
 - ☐ sous forme d'un fichier texte selon la norme de l'annexe C/ST.25 (règle 13ter.1.a)).
 - ☐ sur papier ou sous forme d'un fichier image (règle 13ter.1.b) et instruction administrative 713).
4. ☐ De plus, lorsque plus d'une version ou d'une copie d'un listage des séquences a été déposée ou remise, les déclarations requises selon lesquelles les informations fournies ultérieurement ou au titre de copies supplémentaires sont identiques à celles faisant partie de la demande telle que déposée et ne vont pas au-delà de la divulgation faite dans la demande internationale telle que déposée initialement, selon le cas, ont été remises.
5. Commentaires complémentaires :

Cadre n° V Déclaration motivée selon la règle 43bis.1(a)(i) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration

1. Déclaration

Nouveauté	Oui :	Revendications	<u>1-11</u>
	Non :	Revendications	
Activité inventive	Oui :	Revendications	<u>1-11</u>
	Non :	Revendications	
Possibilité d'application industrielle	Oui :	Revendications	<u>1-11</u>
	Non :	Revendications	

2. Citations et explications

voir feuille séparée

Cadre n° VII Certaines irrégularités relevées dans la demande internationale

Les irrégularités suivantes, concernant la forme ou le contenu de la demande internationale, ont été constatées :

voir feuille séparée

Ad point V

Déclaration motivée quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle ; citations et explications à l'appui de cette déclaration

1 Il est fait référence au document suivant :

D1 US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 juin 2015
(2015-06-25)

2 Revendication indépendante 1

Le document D1, qui est considéré comme l'état de la technique le plus proche de l'objet de la revendication1, divulgue (voir paragraphes [0006]-[0009], [0023]-[0024], [0028], [0030]-[0038], [0051]-[0052], [0058]-[0063]) un procédé de mise à jour (voir paragraphe [0009]) de données d'association (voir paragraphes [0028], [0030]) entre des articles ("product" : voir paragraphe [0028]) d'une surface de vente et des emplacements (voir paragraphe [0028]) de ladite surface de vente, ladite surface de vente présentant une pluralité d'étiquettes ("electronic shelf label 110" : voir paragraphe [0024]) de gondole réparties dans ladite surface de vente, chacune desdites étiquettes ("electronic shelf label 110") de gondole étant associée à un article et étant disposée à proximité d'un emplacement associé audit article, chacune desdites étiquettes ("electronic shel label 110") de gondole étant munie d'un identifiant ("label identifying information" : voir paragraphe [0028]) d'étiquette qui lui est propre, ledit procédé comprenant les étapes selon lesquelles, pour localiser (voir paragraphe [0031]) au moins une étiquette ("electronic shelf label 110") de gondole à localiser,

- un dispositif de lecture ("deploying device 130" : voir paragraphe [0027]) acquiert (voir paragraphe [0032],) *des identifiants d'étiquettes* ~~une séquence d'identifiants d'étiquette~~ ~~comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles sont adjacentes dans une direction de défilement des emplacements de la surface de vente, une desdites étiquettes électroniques de gondoles adjacentes étant ladite étiquette électronique de gondole à localiser, et une autre~~

~~desdites étiquettes électroniques de gondoles adjacentes~~
~~étant une étiquette électronique de gondole dont~~
~~l'emplacement est connu,~~
- le dispositif de lecture transmet ~~la séquence~~
~~d'identifiants~~ les identifiants d'étiquettes à un système
informatique ("controlling device 120" : voir paragraphes [0027]-[0028]),
- le système informatique ("controlling device 120") met à jour
(voir paragraphes [0035]-[0036]) les données d'association à
partir ~~de la séquence d'identifiants d'étiquettes~~ des
identifiants d'étiquettes, en déterminant
. ~~les articles associés aux étiquettes de la séquence~~
~~d'étiquettes,~~
. les emplacements ~~respectifs desdits articles à partir~~
~~de l'ordre des étiquettes dans la séquence d'étiquettes.~~

Par conséquent, l'objet de la revendication 1 diffère de ce procédé connu en ce qu'il comporte les caractéristiques barrées ; il est donc nouveau (art. 33(2) PCT).

Le problème que la présente invention se propose de résoudre peut être considéré comme étant de maintenir les données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente conformes à la disposition réelle des articles dans la surface de vente.

La solution à ce problème, proposée dans la revendication 1 de la présente demande, est considérée comme impliquant une activité inventive (art. 33(3) PCT) pour les raisons suivantes : aucun document de l'état de la technique ne divulgue, ni ne suggère de mettre à jour des données d'associations relatives à l'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, par le biais de l'acquisition, par un dispositif de lecture, d'une séquence d'au moins deux identifiants d'étiquette dont les étiquettes sont adjacentes, dans une direction de défilement des emplacements de la surface de vente, et dont l'un des identifiants correspond à l'étiquette à localiser, et l'autre à une étiquette dont l'emplacement est connu.

3 Revendications indépendantes 10 et 11

Le même raisonnement s'applique mutatis mutandis à l'objet des revendications indépendantes correspondantes 10 et 11 qui est donc considéré comme impliquant une activité inventive (art. 33(3) PCT).

4 Revendications dépendantes 2 à 9

Les revendications 2 à 9 dépendent de la revendication 1 et satisfont donc également, en tant que telles, aux exigences du PCT concernant la nouveauté et l'activité inventive.

Ad point VII

Certaines irrégularités relevées dans la demande internationale

- 5 Contrairement aux exigences de la règle 5.1 a)ii) PCT, la description ne mentionne pas l'état de la technique pertinent qui est divulgué dans le document D1 et ne cite pas ce document.

ADVANCE E-MAIL

PCT

NOTIFICATION DE L'ENREGISTREMENT D'UN CHANGEMENT

(règle 92bis.1 et instruction administrative 422 du PCT)

Expéditeur : le BUREAU INTERNATIONAL

Destinataire :

REGIMBEAU
Regimbeau
139 rue Vendôme
69477 Lyon Cedex 06
FRANCE

Date d'expédition (jour/mois/année) 26 janvier 2018 (26.01.2018)	NOTIFICATION IMPORTANTE
Référence du dossier du déposant ou du mandataire 370782d34325	
Demande internationale n° PCT/FR2016/051930	
Date du dépôt international (jour/mois/année) 25 juillet 2016 (25.07.2016)	

1. Les renseignements suivants étaient enregistrés en ce qui concerne :

☒ le déposant
 ☐ l'inventeur
 ☐ le mandataire
 ☐ le représentant commun

Nom et adresse STORE ELECTRONIC SYSTEMS 55 Place Nelson Mandela 92000 Nanterre FRANCE	Nationalité (nom de l'Etat) FR	Domicile (nom de l'Etat) FR
	n° de téléphone	
	n° de télécopieur	
	Address électronique	

2. Le Bureau international notifie au déposant que le changement indiqué ci-après a été enregistré en ce qui concerne :

☐ la personne
 ☒ le nom
 ☐ l'adresse
 ☐ la nationalité
 ☐ le domicile

Nom et adresse SES-IMAGOTAG 55 Place Nelson Mandela 92000 Nanterre FRANCE	Nationalité (nom de l'Etat) FR	Domicile (nom de l'Etat) FR
	n° de téléphone	
	n° de télécopieur	
	Address électronique ☐ Autorisation de recourir au courrier électronique	

3. Observations complémentaires, le cas échéant :

4. Une copie de cette notification a été envoyée

☒ à l'office récepteur ☒ à l'administration chargée de la recherche internationale ☐ [à l'] [aux] administration(s) indiquée(s) pour la recherche supplémentaire	☐ à l'administration chargée de l'examen préliminaire international ☒ aux offices désignés concernés ☐ aux offices élus concernés ☐ autre destinataire :
--	--

Bureau international de l'OMPI 34, chemin des Colombettes 1211 Genève 20, Suisse n° de télécopieur +41 22 338 89 75	Fonctionnaire autorisé Deprez Isabelle e-mail pct.team5@wipo.int n° de téléphone +41 22 338 74 09
--	---

TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

PCT

RAPPORT PRÉLIMINAIRE INTERNATIONAL SUR LA BREVETABILITÉ

(chapitre I du Traité de coopération en matière de brevets)

(règle 44bis du PCT)

Référence du dossier du déposant ou du mandataire 370782d34325	POUR SUITE À DONNER		Voir le point 4 ci-dessous
Demande internationale no. PCT/FR2016/051930	Date du dépôt international (<i>jour/mois/année</i>) 25 July 2016 (25.07.2016)	Date de priorité (<i>jour/mois/année</i>) 27 July 2015 (27.07.2015)	
Classification internationale des brevets (8 ^e édition, sauf indication d'une édition antérieure) Voir les informations pertinentes dans le formulaire PCT/ISA/237			
Déposant SES-IMAGOTAG			

1.	Le présent rapport préliminaire international sur la brevetabilité (chapitre I) est établi par le Bureau international au nom de l'administration chargée de la recherche internationale selon la règle 44bis.1.a).																								
2.	Ce RAPPORT comprend un total de 7 feuilles, y compris la présente feuille de couverture. Dans les feuilles jointes, toute référence à l'opinion écrite de l'administration chargée de la recherche internationale doit être entendue, à la place, comme une référence au rapport préliminaire international sur la brevetabilité (chapitre I).																								
3.	Le présent rapport contient des indications relatives aux points suivants : <table style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 5%; text-align: center;">☒</td> <td style="width: 25%;">Cadre n° I</td> <td>Base de l'opinion</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° II</td> <td>Priorité</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° III</td> <td>Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° IV</td> <td>Absence d'unité de l'invention</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Cadre n° V</td> <td>Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° VI</td> <td>Certains documents cités</td> </tr> <tr> <td style="text-align: center;">☒</td> <td>Cadre n° VII</td> <td>Certaines irrégularités relevées dans la demande internationale</td> </tr> <tr> <td style="text-align: center;">☐</td> <td>Cadre n° VIII</td> <td>Certaines observations relatives à la demande internationale</td> </tr> </table>	☒	Cadre n° I	Base de l'opinion	☐	Cadre n° II	Priorité	☐	Cadre n° III	Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle	☐	Cadre n° IV	Absence d'unité de l'invention	☒	Cadre n° V	Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration	☐	Cadre n° VI	Certains documents cités	☒	Cadre n° VII	Certaines irrégularités relevées dans la demande internationale	☐	Cadre n° VIII	Certaines observations relatives à la demande internationale
☒	Cadre n° I	Base de l'opinion																							
☐	Cadre n° II	Priorité																							
☐	Cadre n° III	Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle																							
☐	Cadre n° IV	Absence d'unité de l'invention																							
☒	Cadre n° V	Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration																							
☐	Cadre n° VI	Certains documents cités																							
☒	Cadre n° VII	Certaines irrégularités relevées dans la demande internationale																							
☐	Cadre n° VIII	Certaines observations relatives à la demande internationale																							
4.	Le Bureau international communiquera le présent rapport aux offices désignés conformément aux règles 44bis.3.c) et 93bis.1 mais pas avant l'expiration du délai de 30 mois à compter de la date de priorité (règle 44bis.2), sauf si le déposant a présenté une requête expresse à cet égard en vertu de l'article 23.2).																								

Bureau international de l'OMPI 34, chemin des Colombettes 1211 Geneva 20, Switzerland no de télécopieur +41 22 338 82 70	Date d'établissement du présent rapport 30 January 2018 (30.01.2018) Fonctionnaire autorisé Simin Baharlou e-mail: pct.team9@wipo.int
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Formulaire PCT/IB/373 (janvier 2004)

From the INTERNATIONAL SEARCHING AUTHORITY

To:

PCTWRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY(PCT Rule 43*bis*.1)

Applicant's or agent's file reference 370782d34325		Date of mailing (day/month/year) 14 October 2016	
		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/FR2016/051930	International filing date (day/month/year) 25 July 2016	Priority date (day/month/year) 27 July 2015	
International Patent Classification (IPC) or both national classification and IPC G06Q 30/02(2012.01)i; G06Q 10/08(2012.01)i			
Applicant STORE ELECTRONIC SYSTEMS			

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
☐ Box No. II Priority
☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐ Box No. IV Lack of unity of invention
☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
☐ Box No. VI Certain documents cited
☒ Box No. VII Certain defects in the international application
☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/FR2016/051930

Box No. I	Basis of the opinion
1.	☒ With regard to the language, this opinion has been established on the basis of: ☒ the international application in the language in which it was filed. ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2.	☐ This opinion has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a)).
3.	☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been established on the basis of a sequence listing: a. ☐ forming part of the international application as filed: ☐ in the form of an Annex C/ST.25 text file. ☐ on paper or in the form of an image file. b. ☐ furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file. c. ☐ furnished subsequent to the international filing date for the purposes of international search only: ☐ in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)). ☐ on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4.	☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5.	Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2016/051930

Box No. V

Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims 1-11 YES

Claims NO

Inventive step (IS)

Claims 1-11 YES

Claims NO

Industrial applicability (IA)

Claims 1-11 YES

Claims NO

2. Citations and explanations :

see Supplemental Box

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2016/051930

Box No. VII **Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

see Supplemental Box

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/FR2016/051930

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V**Reasoned statement with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement**

- [1] Reference is made to the following document:

D1	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 June 2015 (2015-06-25)
----	---

- [2] Independent claim 1

Document D1, which is considered to be the prior art closest to the subject matter of claim 1, discloses (see paragraphs [0006]-[0009], [0023]-[0024], [0028], [0030]-[0038], [0051]-[0052], [0058]-[0063]) a method of updating (see paragraph [0009]) association data (see paragraphs [0028], [0030]) associating between articles ("product": see paragraph [0028]) of a retail area and locations (see paragraph [0028]) of said retail area, said retail area exhibiting a plurality of shelf labels ("electronic shelf label 110": see paragraph [0024]) distributed in said retail area, each of said shelf labels ("electronic shelf label 110") being associated with an article and being disposed in proximity to a location associated with said article, each of said shelf labels ("electronic shelf label 110") being furnished with its own label identifier ("label identifying information": see paragraph [0028]), said method comprising the steps according to which, to locate (see paragraph [0031]) at least one shelf label ("electronic shelf label 110") to be located,

- a reading device ("deploying device 130": see paragraph [0027]) acquires (see paragraph [0032],) label identifiers ~~a sequence of label identifiers comprising at least two label identifiers whose electronic shelf labels are adjacent in a direction of sweeping of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said adjacent electronic shelf labels being an electronic shelf label whose location is known~~,
- the reading device transmits ~~the sequence of identifiers~~ *the label identifiers* to a computing system ("controlling device 120": see paragraphs [0027]-[0028]),
- the computing system ("controlling device 120") updates (see paragraphs [0035]-[0036]) the association data on the basis ~~of the sequence of label identifiers~~ *of the label identifiers*, by determining
- . ~~the articles associated with the labels of the sequence of labels,~~
- . the locations ~~, respective, of said articles on the basis of the order of the labels in the sequence of labels~~.

Consequently, the subject matter of claim 1 differs from this known method in that it comprises the struck-through features; it is therefore novel (PCT Article 33(2)).

The problem addressed by the present invention can be considered to be that of maintaining the association data associating between articles of a retail area and locations of said retail area in accordance with the actual disposition of the articles in the retail area.

The solution to this problem, as proposed in claim 1 of the present application, is considered to involve an inventive step (PCT Article 33(3)) for the following reasons: no document of the prior art either discloses or suggests updating data of associations relating to the association between articles of a retail area and locations of said retail area, by way of the acquisition, by a reading device, of a sequence of at least two label identifiers whose labels are adjacent, in a direction of sweeping of the locations of the retail area, and one of whose identifiers corresponds to the label to be located, and the other to a label whose location is known.

- [3] Independent claims 10 and 11

The same reasoning applies mutatis mutandis to the subject matter of the corresponding independent claims 10 and 11 which is therefore considered to involve an inventive step (PCT Article 33(3)).

- [4] Dependent claims 2 to 9

Claims 2 to 9 are dependent on claim 1 and, as such, likewise meet the requirements of the PCT in respect of novelty and inventive step.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/FR2016/051930

Supplemental Box

Box VII**Certain defects in the international application**

- [5] Contrary to the requirements of PCT Rule 5.1(a)(ii), the description neither cites D1 nor indicates the relevant prior art disclosed therein.

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371		Attorney Docket No. REGIM 3.3F-369
		U.S. Application No. (if known, see 37 CFR 1.5) Not Yet Assigned
International Application No. PCT/FR2016/051930	International Filing Date 25 July 2016	Priority Date Claimed 27 July 2015
Title of Invention METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		
First Named Inventor Philippe Bottine		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information.		
1. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). NOTE: The express request under 35 U.S.C. 371(f) will not be effective unless the requirements under 35 U.S.C. 371(c)(1), (2), and (4) for payment of the basic national fee, copy of the International Application and English translation thereof (if required), and the oath or declaration of the inventor(s) have been received.		
2. ☒ A copy of the International Application (35 U.S.C. 371(c)(2)) is attached hereto (not required if the International Application was previously communicated by the International Bureau or was filed in the United States Receiving Office (RO/US)).		
3. An English language translation of the International Application (35 U.S.C. 371(c)(2))		
a. ☒ is attached hereto.		
b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).		
4. An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4))		
a. ☐ is attached.		
b. ☐ was previously filed in the international phase under PCT Rule 4.17(iv).		
Items 5 to 8 below concern amendments made in the international phase.		
<u>PCT Article 19 and 34 amendments</u>		
5. ☐ Amendments to the claims under PCT Article 19 are attached (not required if communicated by the International Bureau) (35 U.S.C. 371(c)(3)).		
6. ☐ English translation of the PCT Article 19 amendment is attached (35 U.S.C. 371(c)(3)).		
7. ☐ English translation of annexes (Article 19 and/or 34 amendments only) of the International Preliminary Examination Report is attached (35 U.S.C. 371(c)(5)).		
<u>Cancellation of amendments made in the international phase</u>		
8a. ☐ Do not enter the amendment made in the international phase under PCT Article 19.		
8b. ☐ Do not enter the amendment made in the international phase under PCT Article 34.		
NOTE: A proper amendment made in English under Article 19 or 34 will be entered in the U.S. national phase application absent a clear instruction from applicant not to enter the amendment(s).		
The following items 9 to 17 concern a document(s) or information included.		
9. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.		
10. ☒ A preliminary amendment.		
11. ☒ An Application Data Sheet under 37 CFR 1.76.		
12. ☐ A substitute specification. NOTE: A substitute specification cannot include claims. See 37 CFR 1.125(b).		
13. ☐ A power of attorney and/or change of address letter.		
14. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.3 and 37 CFR 1.821-1.825 (not required if sequence listing in text format was indicated on the PCT Request as part of the International Application and the sequence listing was published as part of the International application).		
15. ☐ Assignment papers (<i>cover sheet and document(s)</i>). Name of Assignee:		
16. ☐ 37 CFR 3.73(c) Statement (<i>when there is an Assignee</i>).		

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLN. No. (if known – see 37 CFR 1.5) Not Yet Assigned	INTERNATIONAL APPLICATION No. PCT/FR2016/051930	ATTORNEY DOCKET No. REGIM 3.3F-369
17. ☒ Other items or information: Replacement Abstract		
The following fees have been submitted.		CALCULATIONS PTO USE ONLY
18. ☒ Basic national fee (37 CFR 1.492(a)) \$300		\$ 300.00
19. ☒ Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) \$0 All other situations \$760		\$ 760.00
20. ☒ Search fee (37 CFR 1.492(b)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority \$140 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB \$520 All other situations \$660		\$ 520.00
TOTAL OF 18, 19, and 20 =		\$ 1,580.00
☐ Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) in an electronic medium or computer program listing in an electronic medium) (37 CFR 1.492(j)). Fee for each additional 50 sheets of paper or fraction thereof \$400		
Total Sheets	Extra Sheets	Number of each addition 50 or fraction thereof (round up to a whole number)
22 - 100 =	/ 50 =	x \$400
		\$
Surcharge for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)) \$140		\$ 140.00
CLAIMS	NUMBER FILED	NUMBER EXTRA
Total claims	11 - 20 =	0
Independent claims	1 - 3 =	0
MULTIPLE DEPENDENT CLAIM(S) (if applicable)		+ \$820
Fee for submission of Sequence Listing text file of 300 MB to 800 MB (37 CFR 1.21(o)(1)) \$1,000		\$
Fee for submission of Sequence Listing text file of more than 800 MB (37 CFR 1.21(o)(2)) \$10,000		\$
Processing fee for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)) \$140.00 +		\$
TOTAL OF ABOVE CALCULATIONS =		\$ 1,720.00
☐ Applicant asserts small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.		
☐ Applicant certifies micro entity status. See 37 CFR 1.29. Fees above are reduced by 3/4. Applicant must attach form PTO/SB/15A or B or equivalent.		
TOTAL NATIONAL FEE =		\$ 1,720.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$50.00 per property. +		\$
TOTAL FEES ENCLOSED =		\$ 1,720.00

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

- a. ☐ A check in the amount of \$ _____ to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees.
- c. ☒ The Director is hereby authorized to charge additional fees which may be required, or credit any overpayment, to Deposit Account No. 12-1095 as follows:
- i. ☒ any required fee.
- ii. ☐ any required fee except for excess claims fees required under 37 CFR 1.492(d) and (e) and multiple dependent claim fee required under 37 CFR 1.492(f).
- d. ☒ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. The PTO-2038 should only be mailed or faxed to the USPTO. However, when paying the basic national fee, the PTO-2038 may NOT be faxed to the USPTO.

ADVISORY: If filing by EFS-Web, do **NOT** attach the PTO-2038 form as a PDF along with your EFS-Web submission. Please be advised that this is **not** recommended and by doing so your **credit card information may be displayed via PAIR**. To protect your information, it is recommended to pay fees online by using the electronic payment method.

NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

- ☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013, and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE 1: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

NOTE 2: A U.S. national stage application may not claim priority to the international application of which it is the national phase. The filing date of a U.S. national stage application is the international filing date. See 35 U.S.C. 363.

Correspondence Address

- ☒ The address associated with Customer Number: 00530 OR ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country				Telephone	
Email					

Signature	/Thomas M. Palisi/	Date	January 25, 2018
Name (Print/Type)	Thomas M. Palisi	Registration No. (Attorney/Agent)	36,629

[Page 3 of 3]

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: January 25, 2018

Electronic Signature for Thomas M. Palisi: /Thomas M. Palisi/

INTERNATIONAL SEARCH REPORT

International application No

PCT/FR2016/051930

A. CLASSIFICATION OF SUBJECT MATTER

INV. G06Q30/02 G06Q10/08
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 June 2015 (2015-06-25) paragraphs [0006] - [0009], [0023] - [00024], [0028] paragraphs [0030] - [0038], [0051] - [0052], [0058] - [0063] -----	1-11



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

5 October 2016

Date of mailing of the international search report

14/10/2016

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Aupiais, Brigitte

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/FR2016/051930

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2015178767 A1	25-06-2015	CN 104732174 A	24-06-2015
		TW 201525890 A	01-07-2015
		US 2015178767 A1	25-06-2015

RAPPORT DE RECHERCHE INTERNATIONALE

Demande internationale n°

PCT/FR2016/051930

A. CLASSEMENT DE L'OBJET DE LA DEMANDE
INV. G06Q30/02 G06Q10/08
ADD.

Selon la classification internationale des brevets (CIB) ou à la fois selon la classification nationale et la CIB

B. DOMAINES SUR LESQUELS LA RECHERCHE A PORTE

Documentation minimale consultée (système de classification suivi des symboles de classement)
G06Q

Documentation consultée autre que la documentation minimale dans la mesure où ces documents relèvent des domaines sur lesquels a porté la recherche

Base de données électronique consultée au cours de la recherche internationale (nom de la base de données, et si cela est réalisable, termes de recherche utilisés)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERES COMME PERTINENTS

Catégorie*	Identification des documents cités, avec, le cas échéant, l'indication des passages pertinents	no. des revendications visées
A	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 juin 2015 (2015-06-25) alinéas [0006] - [0009], [0023] - [0024], [0028] alinéas [0030] - [0038], [0051] - [0052], [0058] - [0063] -----	1-11



Voir la suite du cadre C pour la fin de la liste des documents



Les documents de familles de brevets sont indiqués en annexe

* Catégories spéciales de documents cités:

- "A" document définissant l'état général de la technique, non considéré comme particulièrement pertinent
 "E" document antérieur, mais publié à la date de dépôt international ou après cette date
 "L" document pouvant jeter un doute sur une revendication de priorité ou cité pour déterminer la date de publication d'une autre citation ou pour une raison spéciale (telle qu'indiquée)
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- "T" document ultérieur publié après la date de dépôt international ou la date de priorité et n'appartenant pas à l'état de la technique pertinent, mais cité pour comprendre le principe ou la théorie constituant la base de l'invention
 "X" document particulièrement pertinent; l'invention revendiquée ne peut être considérée comme nouvelle ou comme impliquant une activité inventive par rapport au document considéré isolément
 "Y" document particulièrement pertinent; l'invention revendiquée ne peut être considérée comme impliquant une activité inventive lorsque le document est associé à un ou plusieurs autres documents de même nature, cette combinaison étant évidente pour une personne du métier
 "&" document qui fait partie de la même famille de brevets

Date à laquelle la recherche internationale a été effectivement achevée

5 octobre 2016

Date d'expédition du présent rapport de recherche internationale

14/10/2016

Nom et adresse postale de l'administration chargée de la recherche internationale
Office Européen des Brevets, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Fonctionnaire autorisé

Aupiais, Brigitte

RAPPORT DE RECHERCHE INTERNATIONALE

Renseignements relatifs aux membres de familles de brevets

Demande internationale n°

PCT/FR2016/051930

Document brevet cité au rapport de recherche	Date de publication	Membre(s) de la famille de brevet(s)	Date de publication
US 2015178767 A1	25-06-2015	CN 104732174 A	24-06-2015
		TW 201525890 A	01-07-2015
		US 2015178767 A1	25-06-2015

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Philippe Bottine	
	Art Unit	N/A	
	Examiner Name	Not Yet Assigned	
	Attorney Docket Number	REGIM 3.3F-369	

U.S. PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20150178767	A1	2015-06-25	WU et al.	
	2	20130339151	A1	2013-12-19	Bottine et al.	English language counterpart to Publication No. WO2013153290A1.

If you wish to add additional U.S. Published Application citation information please click the Add button.

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2013153290	WO	A1	2013-10-17	Store Elect Sys	Publication No. US20130339151A1 is an English language counterpart.	×

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		
Filing Date		
First Named Inventor	Philippe Bottine	
Art Unit	N/A	
Examiner Name	Not Yet Assigned	
Attorney Docket Number	REGIM 3.3F-369	

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	International Search Report for Application No. PCT/FR2016/051930, mailed October 14, 2016.	

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	Philippe Bottine
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	REGIM 3.3F-369

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Thomas M. Palisi/	Date (YYYY-MM-DD)	2018-01-25
Name/Print	Thomas M. Palisi	Registration Number	36,629

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The information provided by you in this form will be subject to the following routine uses:

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8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
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Dated: January 25, 2018
Electronic Signature for Thomas M. Palisi: /Thomas M. Palisi/

Docket No. REGIM 3.3F-369
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Bottine et al.

International Application No.: PCT/FR2016/051930

Confirmation No.: N/A

Filed: July 25, 2016

Art Unit: N/A

For: METHOD FOR UPDATING ASSOCIATION
DATA BETWEEN ARTICLES AND
LOCATIONS

Examiner: Not Yet Assigned

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

It is respectfully requested that the references listed on the enclosed form be made of record and considered with respect to the above-referenced U.S. patent application. A copy of each reference which is not a U.S. patent or patent application is enclosed. Submission of the present Information Disclosure Statement should not be taken as an admission that the cited references are legally available prior art or that the same are pertinent or material.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 12-1095, under Order No. REGIM 3.3F-369, from which the undersigned is authorized to draw.

Dated: January 25, 2018

Respectfully submitted,

Electronic signature: /Thomas M. Palisi/
Thomas M. Palisi
Registration No.: 36,629
LERNER, DAVID, LITTENBERG, KRUMHOLZ &
MENTLIK, LLP
600 South Avenue West
Westfield, New Jersey 07090
(908) 654-5000
Attorney for Applicant

LD-4588

5298235

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS			
First Named Inventor/Applicant Name:	Philippe Bottine			
Filer:	Leonor Dominguez			
Attorney Docket Number:	REGIM 3.3F-369			
Filed as Large Entity				
Filing Fees for U.S. National Stage under 35 USC 371				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
NATIONAL STAGE FEE	1631	1	300	300
NATL STAGE SEARCH FEE - REPORT PROVIDED	1642	1	520	520
NATIONAL STAGE EXAM - ALL OTHER CASES	1633	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
OATH/DECL > 30 MOS FROM 371 COMMENCEMENT	1617	1	140	140
Petition:				
HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1720

Electronic Acknowledgement Receipt

EFS ID:	31604159
Application Number:	15747550
International Application Number:	PCT/FR2016/051930
Confirmation Number:	5851
Title of Invention:	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS
First Named Inventor/Applicant Name:	Philippe Bottine
Customer Number:	00530
Filer:	Leonor Dominguez
Filer Authorized By:	
Attorney Docket Number:	REGIM 3.3F-369
Receipt Date:	25-JAN-2018
Filing Date:	
Time Stamp:	13:42:41
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1720
RAM confirmation Number	012518INTEFSW13432400
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.

EX. 1002 page 155

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Documents submitted with 371 Applications	Published_PCT.pdf	1115691	no	27
			7d2b853ac59595c7f767f6085c4c93ae2789a063		
Warnings:					
Information:					
2		English_Translation.pdf	130533	yes	19
			a4bb03905d02a02ee7eaa4571a9c7536f3033530		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	13	
	Claims		14	16	
	Drawings-only black and white line drawings		17	19	
Warnings:					
Information:					
3	Preliminary Amendment	Preliminary_Amendment.pdf	41012	no	8
			dc507ce0296916dcf17ed2335586db2d579b9165		
Warnings:					
Information:					
4	Abstract	Replacement_Abstract.pdf	9305	no	1
			c5641fceb08209a92885e4cb34461e7a5199fbb8		
Warnings:					
Information:					
5	Application Data Sheet	Application_Data_Sheet_Fillable_PDF.pdf HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.	1822800	no	8
			3ddb3865077491aa143d03f4abb81bb125347039		

Warnings:					
Information:					
6	Transmittal of New Application	Transmittal_Letter_to_the_United_States_Designated-Elected_Office.pdf	48040	no	3
			7993c8567ee04e777d02c66d39a282742a711bd6		
Warnings:					
Information:					
7	Non Patent Literature	ISR.pdf	108882	no	4
			3e6bc5be96e8b5903e41dec35eedebdac65d6d33		
Warnings:					
Information:					
8	Information Disclosure Statement (IDS) Form (SB08)	Information_Disclosure_Statement_Fillable_PDF.pdf	1035244	no	4
			023cf3506fd56d8a4503c2b3ee42b525c8b42a3a		
Warnings:					
Information:					
9	Transmittal Letter	IDS_-_Information_Disclosure_Statement_-_Reference_Enclosed_LD-458.pdf	21552	no	1
			654ee424eb7ead7007c07f3f565adea6444d99b6		
Warnings:					
Information:					
10	Fee Worksheet (SB06)	fee-info.pdf	36974	no	2
			d2b4465c5a9802df0ddc16f9aa364a509519cea6		
Warnings:					
Information:					
Total Files Size (in bytes):			4370033		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

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(43) Date de la publication internationale
2 février 2017 (02.02.2017)

WIPO | PCT

(10) Numéro de publication internationale
WO 2017/017366 A1

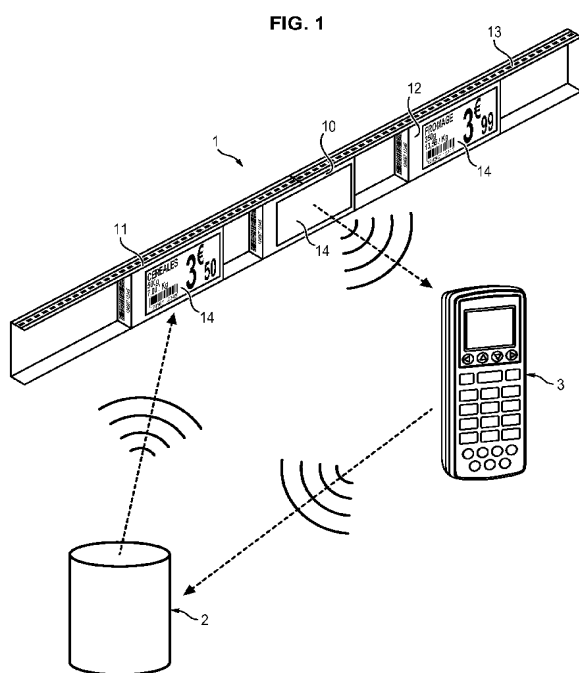
- (51) Classification internationale des brevets :
G06Q 30/02 (2012.01) **G06Q 10/08** (2012.01)
- (21) Numéro de la demande internationale :
PCT/FR2016/051930
- (22) Date de dépôt international :
25 juillet 2016 (25.07.2016)
- (25) Langue de dépôt : français
- (26) Langue de publication : français
- (30) Données relatives à la priorité :
1557153 27 juillet 2015 (27.07.2015) FR
- (71) Déposant : **STORE ELECTRONIC SYSTEMS**
[FR/FR]; 55 Place Nelson Mandela, 92000 Nanterre (FR).
- (72) Inventeurs : **BOTTINE, Philippe**; 6 rue des Peupliers,
92100 Boulogne-Billancourt (FR). **ROBIN, François**; 34
rue Saint-Didier, 75116 Paris (FR).
- (74) Mandataire : **REGIMBEAU**; Regimbeau, 139 rue Ven-
dôme, 69477 Lyon Cedex 06 (FR).

- (81) États désignés (sauf indication contraire, pour tout titre de protection nationale disponible) : AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) États désignés (sauf indication contraire, pour tout titre de protection régionale disponible) : ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), eurasien (AM, AZ, BY, KG, KZ, RU, TJ, TM), européen (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

[Suite sur la page suivante]

(54) Title : METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS

(54) Titre : PROCÉDÉ DE MISE À JOUR DE DONNÉES D'ASSOCIATION ENTRE DES ARTICLES ET DES EMPLACEMENTS



(57) Abstract : The invention concerns a method for updating association data between articles in a retail area and locations of said retail area, said method comprising the steps according to which, - a reading device (3) acquires a sequence of tag identifiers comprising at least two tag identifiers of which the electronic shelf tags (10, 11, 12) are adjacent, one of said adjacent electronic shelf tags being said electronic shelf tag to be located, and another of said adjacent electronic shelf tags being an electronic shelf tag of which the location is known, - the reading device (3) transmits the sequence of identifiers to a computer system (2) that updates the association data from the sequence of tag identifiers, by determining: the articles associated with the tags of the sequence of tags, the respective locations of said articles from the order of the tags in the sequence of tags.

(57) Abrégé : L'invention concerne un procédé de mise à jour de données

[Suite sur la page suivante]

WO 2017/017366 A1

Publiée :

— avec rapport de recherche internationale (Art. 21(3))

d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente ledit procédé comprenant les étapes selon lesquelles, -un dispositif de lecture(3)acquiert une séquence d'identifiants d'étiquette comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles (10, 11, 12) sont adjacentes,une des dites étiquettes électroniques de gondoles adjacentes étant ladite étiquette électronique de gondole à localiser,et une autre desdites étiquettes électroniques de gondoles adjacentes étant une étiquette électronique de gondole dont l'emplacement est connu, -le dispositif de lecture(3) transmet la séquence d'identifiants à un système informatique(2) qui met à jour les données d'association à partir de la séquence d'identifiants d'étiquettes, en déterminant: les articles associés aux étiquettes de la séquence d'étiquettes, les emplacements respectifs desdits articles à partir de l'ordre des étiquettes dans la séquence d'étiquettes.

Procédé de mise à jour de données d'association entre des articles et des emplacements

DOMAINE TECHNIQUE GENERAL ET CONTEXTE DE L'INVENTION

5

La présente invention concerne l'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente.

L'affichage d'informations relatives à des articles présentés à la vente dans une surface de vente se fait généralement au moyen d'étiquettes affichant notamment le
10 prix de l'article auquel une étiquette est associée, ainsi que d'autres informations telles que le prix au poids, etc...

La nécessité de disposer d'un affichage d'informations à jour a justifié l'implantation dans de nombreuses surfaces de vente d'étiquettes électroniques de gondole, plus commodément désignées par leur acronyme EEG, disposant d'un écran sur
15 lequel l'affichage d'informations est commandé à distance.

L'utilité de tels systèmes est essentiellement de permettre, au niveau des rayonnages d'une surface de vente telle qu'un supermarché, hypermarché ou toute autre surface de vente, de présenter au consommateur, pour chaque article présenté à la vente, un prix correspondant de façon fiable au prix tel qu'il figure dans le fichier
20 central du site, c'est-à-dire au prix tel qu'il sera effectivement utilisé en caisse pour le paiement de l'article.

Un autre avantage de ces systèmes connus est de permettre de réaliser des changements de prix automatisés dans des délais beaucoup plus courts qu'avec un affichage manuel, que ce soit pour des périodes particulières de promotion sur le site,
25 pour tout ou partie des articles présentés à la vente, pour répercuter des changements de tarifs, pour faire face à des situations d'inflation où les prix doivent être augmentés très fréquemment, etc...

Les capacités de communications des EEG ont récemment été amplifiées en les munissant d'un périphérique radiofréquence à courte portée, de type NFC (acronyme de
30 l'anglais Near Field Communication pour communication en champ proche) ou RFID (acronyme de l'anglais Radio Frequency Identification pour identification radiofréquence), afin de tirer parti de l'équipement des clients des surfaces de ventes en terminaux mobile de communication intelligents. Un exemple courant d'un tel terminal mobile est un téléphone portable de type smartphone, qui offre à la fois des
35 possibilités de connexion et de traitement d'informations appropriées.

De fait, l'interaction entre l'EEG et le terminal du client permet d'offrir à celui-ci de nouveaux services, tels que l'affichage d'informations supplémentaires sur le produit auquel est associée l'EEG. La demande de brevet WO2013/153290 décrit une exploitation particulièrement avantageuse de ces capacités de communication, en permettant de transmettre au terminal mobile du client des informations spatialement localisées associée à la localisation dudit terminal mobile. Le terminal mobile est localisé grâce à l'identification et la localisation d'au moins une étiquette de gondole avec lequel le terminal mobile entre en communication. Une telle localisation permet d'obtenir une très grande précision, de l'ordre de quelques centimètres, tandis que les procédés de géolocalisation à base de triangulation intérieur à partir de balises émettant un signal radio ne permettent au mieux qu'une précision de l'ordre du mètre, ce qui empêche de savoir devant quel produit se trouve le client, et restreint donc fortement les possibilités d'interactions basées sur la localisation.

Cependant, la localisation du terminal mobile à partir des EEG suppose une connaissance précise et correcte de l'emplacement desdites EEG. La disposition d'une surface de vente est normalement décrite par un planogramme. Un planogramme est un ensemble de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente. Le planogramme établit quels produits doivent être à telle hauteur, sur quelles étagères et sur combien de mètres linéaires.

Or, les planogrammes actuellement utilisés sont des visions théoriques de ce que devrait être la surface de vente. En effet, ils sont typiquement définis de façon générique, pour une pluralité de magasins de taille similaire, pour lesquels le même agencement et le même achalandage est prévu. De fait, l'agencement d'une surface de vente donnée est effectué sur la base du planogramme théorique correspondant à la taille de la surface de vente. Dans les faits, la réalité de l'organisation de la surface de vente s'écarte de manière non négligeable de ce planogramme théorique. En effet, il est courant que de l'ordre de 10 à 15 % des articles présents dans la surface de vente ne se retrouvent pas sur le planogramme, par exemple parce que ces articles sont propres à la surface de vente, et n'ont pas été intégrés au planogramme conçu pour un ensemble de surfaces de vente. En outre, la disposition des articles dans la surface de vente peut varier au fil du temps, en raison des décalages de produits et des adaptations effectuées par les opérateurs de la surface de vente, par exemple pour des produits saisonniers comme ceux proposés uniquement à Noël ou à la rentrée des classes.

Il en résulte que le planogramme n'est jamais conforme à la réalité, et que la localisation faisant appel à ce planogramme pâtit de l'incapacité du planogramme à

refléter la réalité. Mais l'inexactitude du planogramme présente d'autres inconvénients, notamment au niveau de la gestion des stocks et d'autres aspects commerciaux, puisque le planogramme est par exemple utilisé pour estimer les quantités d'articles sur les gondoles, sur la base de l'étendue théorique de leur présence, qui, erronée, peut mener
5 à des ruptures de stock non anticipées.

PRESENTATION DE L'INVENTION

Un but général de l'invention est de pallier tout ou partie des défauts des
10 dispositifs de liaison de l'art antérieur, en proposant un procédé permettant de maintenir le planogramme à jour et conforme à la disposition réelle des produits dans la surface de vente.

A cet effet, il est proposé un procédé de mise à jour de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de
15 vente, ladite surface de vente présentant une pluralité d'étiquettes de gondole réparties dans ladite surface de vente, chacune desdites étiquettes de gondole étant associée à un article et étant disposée à proximité d'un emplacement associé audit article, chacune desdites étiquettes de gondole étant munie d'un identifiant d'étiquette qui lui est propre, ledit procédé comprenant les étapes selon lesquelles, pour ajouter
20 au moins une étiquette de gondole :

- un dispositif de lecture acquiert une séquence d'identifiants d'étiquette comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles sont adjacentes dans une direction de défilement des emplacements de la surface de vente, une desdites étiquettes électroniques de
25 gondoles adjacentes étant ladite étiquette électronique de gondole ajoutée, et une autre desdites étiquettes électroniques de gondoles adjacentes étant une étiquette électronique de gondole dont l'emplacement est connu,
- le dispositif de lecture transmet la séquence d'identifiants à un système informatique,
- 30 - le système informatique met à jour les données d'association à partir de la séquence d'identifiants d'étiquettes, en déterminant
 - les articles associés aux étiquettes de la séquence d'étiquettes,
 - les emplacements respectifs desdits articles à partir de l'ordre des étiquettes dans la séquence d'étiquettes.

35

Ce procédé est avantageusement complété par les caractéristiques suivantes, prises seules ou en une quelconque de leur combinaison techniquement possible:

- 5 - l'acquisition de la séquence d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de lecture, d'une indication de positionnement relatif par rapport à l'emplacement de l'étiquette ajoutée de l'étiquette adjacente dont l'emplacement est connu du système informatique, ladite indication de positionnement relatif étant transmise par le dispositif de lecture au système informatique;
- 10 - le sens de défilement des emplacements de la surface de vente est connu, et une indication de positionnement relatif, par rapport à l'emplacement de l'étiquette localisée, de l'étiquette adjacente dont l'emplacement est connu du système informatique, est déduite de l'ordre d'acquisition des identifiants d'étiquette de la séquence d'identifiants d'étiquette;
- 15 - le dispositif de lecture transmet au système informatique des données relatives à l'association entre l'identifiant de l'étiquette électronique ajoutée et la référence d'un article auquel est associée ladite étiquette électronique ajoutée;
- 20 - plusieurs étiquettes électroniques de gondole sont ajoutées, lesdites étiquettes électroniques de gondole ajoutées étant adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente, et l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole ajoutées dans l'ordre de leur disposition par rapport à l'étiquette électronique de gondole dont l'emplacement est connu;
- 25 - chaque étiquette électronique de gondole de ladite séquence est munie d'un périphérique radiofréquence et le dispositif de lecture acquiert l'identifiant desdites étiquettes électroniques de gondole en établissant une communication par radiofréquence avec lesdites étiquettes électroniques de gondole;
- 30 - le dispositif de lecture comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser;
- 35 - une distance entre l'étiquette électronique de gondole dont l'emplacement est connu et l'étiquette électronique de gondole à localiser est déterminée à partir du déplacement du dispositif de lecture entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant

de l'étiquette électronique de gondole à localiser, et le système informatique de traitement utilise ladite distance pour mettre à jour le planogramme;

- le procédé comprend les étapes selon lesquelles:
 - le dispositif de lecture acquiert un identifiant d'étiquette d'une étiquette électronique de gondole,
 - une caractéristique de dimension de l'emplacement associé à l'étiquette électronique de gondole est renseignée dans le dispositif de lecture,
 - ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

L'invention concerne également un produit programme d'ordinateur comprenant des instructions de code de programme pour l'exécution du procédé selon l'invention, lorsque ledit programme est exécuté sur un ordinateur.

L'invention concerne également un système de gestion de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, comprenant:

- une pluralité d'étiquettes électroniques de gondole, chacune desdites étiquettes de gondole étant associée à un identifiant d'étiquette qui lui est propre,
- un dispositif de lecture adapté pour acquérir les identifiants d'étiquette de ladite pluralité d'étiquettes électroniques de gondole et les références des articles associés auxdites étiquettes électroniques de gondole,
- un système informatique stockant des données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, configuré pour recevoir du dispositif de lecture les identifiants d'étiquette acquis par ledit dispositif de lecture, ledit système de gestion étant adapté pour mettre en œuvre le procédé selon l'invention.

PRESENTATION DES FIGURES

D'autres caractéristiques, buts et avantages de l'invention ressortiront de la description qui suit, qui est purement illustrative et non limitative, et qui doit être lue en regard des dessins annexés parmi lesquels:

- la figure 1 illustre est un schéma illustrant un système selon un mode de réalisation possible de l'invention,

- les figures 2, 3 et 4 sont des exemples de menus affichés par le dispositif de lecture dans le cadre de la mise en œuvre de l'invention selon un mode de réalisation possible,

5 - la figure 5 est un schéma illustrant différentes étapes du procédé selon un mode de réalisation possible de l'invention.

DESCRIPTION DETAILLEE

10 Sur la figure 1 est représenté, dans un but illustratif et non limitatif, un système de communication de données correspondant à un mode de réalisation possible de l'invention, comprenant un dispositif de lecture 3, un serveur central 2 et une séquence 1 d'étiquettes électroniques de gondole (EEG).

15 Le dispositif de lecture 3 est apte à communiquer avec un serveur central 2. Ce dispositif de lecture 3 est de préférence muni de moyens d'affichage d'informations, tel qu'un écran, à destination d'un utilisateur dudit dispositif de lecture 1, et de moyens d'entrée comme un clavier, des boutons, et/ou un écran tactile. La communication entre le dispositif de lecture 3 et le serveur central 2 peut être établi au moyen de tout réseau de communication au moins partiellement sans fil, notamment via un réseau sans fil de type DECT, WIFI ou 3G. Ainsi la communication peut être établie en passant par le
20 réseau internet auquel est relié le serveur central 2.

25 Les EEG sont réparties dans la surface de vente. Les EEG présentent une forte densité spatiale, typiquement une dizaine d'étiquettes par mètres carrés en moyenne, avec cependant une variabilité importante. Chaque EEG est identifiée par un unique identifiant d'étiquette qui lui est propre. Cette identifiant d'étiquette permet donc d'identifier de manière univoque une seule et unique EEG de la surface de vente. Chacune desdites étiquettes de gondole est associée à un article et est disposée à proximité d'un emplacement associé audit article.

30 Sur la figure 1 est illustrée une séquence 1 d'EEG 10, 11, 12 mis en place le long d'un rail 13 de gondole de présentation d'articles. Une telle EEG comporte un écran d'affichage 14 pour l'affichage d'informations relatives à un article auquel elle est associée. Typiquement, ces informations comprennent le prix de l'article, et d'autres informations habituellement disponibles dans une surface de vente, par exemple le prix par kilogramme pour un produit alimentaire. L'EEG comporte également un boîtier en plastique à l'intérieur duquel sont logés les constituants fonctionnels de l'EEG.

35 Notamment, l'étiquette électronique comporte un module de communication radiofréquence pour recevoir des données représentatives d'informations relatives à un

article en provenance d'une station centrale reliée au système informatique 2, une mémoire pour stocker lesdites données, et un microcontrôleur pour commander l'affichage des informations relatives à l'article. Ces différents constituants fonctionnels sont disposés sur une carte de circuit imprimé logée dans le boîtier. L'EEG
5 comporte également un périphérique radiofréquence avec lequel le dispositif de lecture 3 peut établir une communication pour acquérir l'identifiant d'étiquette de ladite EEG. De fait, le dispositif de lecture 3 est adapté pour établir une communication sans fil avec l'EEG.

Le périphérique radiofréquence de l'étiquette électronique comprend une
10 antenne et une puce électronique de type NFC (acronyme de l'anglais Near Field Communication pour communication en champ proche) ou RFID (acronyme de l'anglais Radio Frequency Identification pour identification radiofréquence). Un périphérique radiofréquence de type NFC fonctionne par exemple avec une fréquence de 13,56 Mhz comme un périphérique radiofréquence de type RFID HF.

15 Le serveur central 2 comprend des moyens informatiques de traitement incluant au moins un processeur et une mémoire dans laquelle sont stockées des données d'associations relatives à l'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, lesdites données d'association constituant le planogramme.

20 La mémoire du serveur central 2 stocke également des données relatives à l'association entre l'identifiant d'étiquette et un emplacement de la surface de vente qui correspond à la localisation de l'EEG identifiée par ledit identifiant, ainsi qu'à l'article auquel est associé l'EEG. Ainsi, grâce à l'identifiant d'étiquette, on peut retrouver l'emplacement de l'EEG identifiée par ledit identifiant et l'article auquel elle se
25 rapporte.

Le procédé permet de mettre à jour les données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente. En cas de changement dans l'association d'un article avec l'EEG au niveau d'un emplacement, par exemple lorsqu'un article est substitué à un autre au même emplacement, il suffit à
30 l'opérateur effectuant le changement d'article d'acquérir successivement l'identifiant de l'EEG correspondant à cet emplacement, et la référence de l'article correspondant audit emplacement, et d'envoyer au système informatique des données relatives à l'association entre l'identifiant l'EEG et la référence de l'article. Les données envoyées au système informatique sont utilisées pour mettre à jour les données d'association
35 entre les articles de la surface de vente et les emplacements de ladite surface de vente,

c'est-à-dire le planogramme, puisque l'emplacement de l'EEG peut être retrouvé au moyen de l'identifiant d'étiquette de celle-ci.

La problématique de la mise à jour du planogramme se pose notamment lorsque l'agencement des EEG est modifié, en raison du déplacement d'une EEG, et plus
5 précisément lorsqu'une séquence d'EEG doit être modifiée par l'ajout d'au moins une étiquette, dans la mesure où l'enlèvement d'une étiquette ne requiert que la suppression des données qui y sont associées. Il est alors nécessaire de connaître l'emplacement de l'EEG déplacée, dont l'emplacement est inconnu. Il s'agit donc d'une EEG à localiser par rapport aux autres EEG dans la surface de vente, pour remettre à
10 jour le planogramme.

Le procédé propose ainsi la mise à jour de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente lors du déplacement d'au moins une EEG, par le biais de l'acquisition, par le dispositif de lecture 3, d'au moins deux identifiants d'étiquette dont les EEG sont adjacentes, dans
15 une direction de défilement des emplacements de la surface de vente, et dont l'un des identifiants correspond à l'EEG à localiser, et l'autre à une EEG dont l'emplacement est connu.

A titre illustratif, la présente invention est décrite en détail dans le cadre de l'ajout d'une EEG. C'est la configuration qui est illustrée par la figure 1. En choisissant
20 un sens de lecture des étiquettes électroniques de la gauche vers la droite sur la figure 1, l'étiquette ajoutée 10 est l'étiquette centrale, encadrée par l'étiquette précédente 11 et l'étiquette suivante 12. Il est à noter que la mise en place physique de l'EEG 10 à son emplacement peut être effectuée avant ou après le procédé qui va être décrit.

La figure 2 illustre un exemple non limitatif de menu 20 qui peut être présenté
25 par le dispositif de lecture 3. Plusieurs possibilités sont offertes à l'opérateur. Une première fonctionnalité 21 dite "A partir d'une étiquette associée" consiste à localiser une EEG à localiser au moyen d'une EEG associée dont l'emplacement est connu. Une deuxième fonctionnalité 22 dite "Association simple" consiste à associer une EEG dont l'emplacement est connu avec un article en acquérant un identifiant d'article. Une
30 troisième fonctionnalité 23 dite "Associations géolocalisées" consiste à associer une EEG à un emplacement en renseignant manuellement l'emplacement. Une quatrième fonctionnalité 24 dite "Mode relevé" consiste à localiser séquentiellement plusieurs EEG à localiser. Enfin, une cinquième fonctionnalité 25 dite "Dissociation" consiste à dissocier une EEG d'un article.

35 Dans la suite, on s'intéresse plus particulièrement à la première fonctionnalité 21 et à la quatrième fonctionnalité 24. Dans le cadre de la première fonctionnalité 21, une

fois que l'opérateur a choisi celle-ci, un autre menu 30 tel que celui de la figure 3 lui est présenté. Afin de déterminer l'emplacement de l'EEG ajoutée 10, l'acquisition de la séquence d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de lecture 3, d'une indication de positionnement relatif d'une étiquette
5 adjacente 11 ou 12, dont l'emplacement est déjà connu, par rapport à l'étiquette ajoutée 10.

L'opérateur utilise le dispositif de lecture 3 pour acquérir (étape S1) un identifiant d'étiquette d'une EEG adjacente 11 ou 12 à l'emplacement de l'EEG ajoutée 10, emplacement qui peut être soit déjà occupée par l'EEG ajoutée 10 soit destiné à
10 recevoir l'EEG ajoutée 10. Ainsi, l'EEG dont l'identifiant d'étiquette est acquis est l'EEG précédente 11 ou l'EEG suivante 12. Comme indiqué plus haut, cette acquisition se fait de préférence par communication sans fil de type NFC. Cette EEG adjacente devient l'étiquette de référence, dont l'identifiant apparaît dans le cadre 32 du menu 30.

L'opérateur indique également une indication de positionnement relatif de
15 l'étiquette adjacente par rapport à l'étiquette ajoutée 10 (étape S3). Dans l'exemple de la figure 3, c'est le sens de défilement, en choisissant dans le menu 30 un sens de scan 31 : de la gauche vers la droite ou de la droite vers la gauche. L'opérateur indique donc si l'EEG dont l'identifiant vient d'être acquis est l'EEG précédente 11 ou l'EEG suivante 12 en sélectionnant le champ adéquat, puis il valide son indication.

20 Le dispositif de lecture 3 peut également proposer à l'opérateur un menu lui donnant le choix,, entre la désignation de l'EEG dont l'identifiant vient d'être acquis en tant qu'EEG précédente ou EEG suivante afin de renseigner l'indication de positionnement relatif de l'étiquette adjacente par rapport à l'étiquette ajoutée 10.

Il est possible de renseigner l'indication de positionnement relatif de l'EEG
25 adjacente dont l'emplacement est connu par rapport à l'emplacement de l'EEG ajoutée 10 avant ou après l'acquisition de l'identifiant d'étiquette de ladite EEG adjacente dont l'emplacement est connu.

L'opérateur utilise le dispositif de lecture 3 pour acquérir l'identifiant d'étiquette de l'EEG ajoutée 10, de préférence par communication sans fil de type NFC, puis
30 renseigne éventuellement la référence de l'article destiné à être associé avec ladite étiquette associée, si celle-ci n'est pas encore associée avec ledit article. Cette étape peut également être effectuée avant ou après l'acquisition de l'identifiant d'étiquette de ladite EEG adjacente dont l'emplacement est connu et/ou le renseignement de l'indication de positionnement relatif de l'EEG adjacente dont l'emplacement est connu
35 par rapport à l'emplacement de l'EEG ajoutée 10.

Différentes possibilités sont possibles pour renseigner la référence de l'article. La plus courante consiste en un scannage d'un code-barres de l'article, lequel encode généralement la référence de l'article. Le dispositif de lecture 3 est à cet effet pourvu d'un lecteur de code-barres. Alternativement, l'opérateur peut rentrer manuellement la référence à l'aide des moyens d'entrée du dispositif de lecture, incluant un clavier, réel ou virtuel. Si l'article est pourvu d'un périphérique radiofréquence tel qu'une puce RFID, le dispositif de lecture 3 peut acquérir la référence de l'article en établissant une communication avec ledit périphérique radiofréquence.

Le dispositif de lecture 3 transmet (étape S2) au système informatique 2 la séquence d'identifiants d'étiquette comprenant l'identifiant de l'étiquette adjacente 11, 12 et l'identifiant d'étiquette de l'EEG ajoutée 10. Le dispositif de lecture 3 transmet également l'indication de positionnement relatif de ladite EEG adjacente 11 ou 12 par rapport à l'EEG ajoutée 10. Les données relatives à l'association entre l'identifiant de l'EEG ajoutée 10 et la référence d'un article auquel est associée ladite EEG ajoutée 10 peuvent également être transmis.

Bien que la description ci-dessus, pour des raisons de simplicité, ne traite que de la localisation d'une EEG à la fois, il est possible de localiser plusieurs EEG adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente. Il s'agit de la quatrième fonctionnalité dite "Mode relevé" du menu 20 de la figure 2. Dans ce cas, l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole ajoutées dans l'ordre de leur disposition dans la direction de défilement.

Plus précisément, l'opérateur utilise le dispositif de lecture 3 pour acquérir un identifiant d'étiquette d'une EEG adjacente à l'emplacement de l'EEG ajoutée, emplacement qui peut être soit déjà occupée par l'EEG ajoutée 10 soit destiné à recevoir l'EEG ajoutée 10. Ainsi, l'EEG dont l'identifiant d'étiquette est acquis est l'EEG précédente 11 ou l'EEG suivante 12.

Une indication de positionnement relatif de l'EEG adjacente par rapport à l'EEG ajoutée 10 est ensuite déterminée. A cet égard, l'opérateur peut renseigner l'indication de positionnement relatif par rapport à l'EEG ajoutée 10 de l'EEG adjacente 11 ou 12 dont l'emplacement est connu du système informatique, ladite indication de positionnement relatif étant transmise par le dispositif de lecture au système informatique. Cette EEG 11 ou 12 dont l'emplacement est connu sert donc de référence pour les emplacements des EEG ajoutées 10. L'indication de positionnement relatif peut également être déduite par le fait que le sens du défilement du dispositif de lecture 3

devant les EEG est prédéfini. L'ordre chronologique des références acquises détermine ainsi les positionnements relatifs des EEG auxquelles appartiennent ces références.

L'opérateur acquiert ensuite les identifiants des EEG ajoutées 10 dans l'ordre, en termes de proximité, de la disposition des emplacements des EEG ajoutées par rapport à l'EEG 11 ou 12 dont l'emplacement est connu du système informatique. Ainsi, en cas d'ajout de deux EEG entre les EEG 11 ou 12, dont l'emplacement est connu, l'opérateur acquiert l'identifiant par exemple de l'EEG précédente 11, puis indique le sens de déplacement, ou qu'il s'agit de l'EEG précédent les emplacements des EEG ajoutées 10. L'opérateur acquiert ensuite l'identifiant d'étiquette de l'EEG la plus proche de l'EEG 11, puis de celle la plus éloignée de l'EEG 11.

Il est à noter que l'information de positionnement relatif transmise au système informatique 2 peut comprendre une distance relative entre l'EEG dont l'emplacement est connu et l'EEG à localiser 10. Cette distance peut être acquise par la mesure du déplacement du dispositif de lecture 3 entre le moment où il acquiert l'identifiant de l'EEG dont l'emplacement est connu et le moment où il acquiert l'identifiant de l'EEG à localiser. A cette effet, le dispositif de lecture 3 comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture 3 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser.

Par exemple, le dispositif de lecture 3 peut être muni d'un accéléromètre, permettant de déterminer par intégration le déplacement dudit dispositif de lecture 3 entre les deux acquisitions, et donc d'en déduire la distance. La connaissance de cette distance permet de reporter fidèlement le positionnement relatif de l'EEG à localiser par rapport à l'EEG dont l'emplacement est connu. Il est également possible de considérer comme EEG dont l'emplacement est connu une EEG factice, c'est-à-dire non associée à un article, constituant un repère de référence pour localiser les autres EEG. C'est par exemple le cas d'une EEG placée à une extrémité d'une gondole pour repérer celle-ci.

Les informations acquises par le dispositif de lecture 3, à savoir les identifiants d'étiquette, les informations de positionnement relatif, et éventuellement les données d'association entre les articles de la surface de vente et les EEG, sont transmises au système informatique 2, de préférence au moyen d'une connexion sans fil.

Le système informatique 2 reçoit donc ces informations, et s'en sert pour mettre à jour (étape S3) les données d'association entre les articles de la surface de vente et les emplacements de ladite surface de vente, c'est-à-dire le planogramme. Au moyen de

la séquence d'identifiants d'étiquette, le système informatique détermine l'emplacement de l'EEG ajoutée 10. A partir de la référence de l'article transmise par le dispositif de lecture 3 en même temps que l'identifiant d'étiquette de l'EEG ajoutée 10, le système informatique 2 détermine également l'article associé à l'EEG ajoutée 10.

5 Comme il y a correspondance entre l'emplacement de l'article associé à l'EEG ajoutée 10 et l'emplacement de ladite EEG ajoutée 10, le système informatique détermine en même temps l'emplacement de l'article associé à l'EEG ajoutée 10. Le planogramme est alors modifié pour qu'à cet emplacement corresponde ledit article.

Le planogramme présente de préférence un référencement des emplacements de
10 la surface de vente prenant la forme d'un cadastre, avec une localisation desdits emplacements au moyen d'un référentiel ou d'un ensemble de coordonnées représentatives de l'organisation spatiale de la surface de vente. Par exemple, une première coordonnée peut désigner le rayon de la surface de vente, tandis qu'une deuxième peut désigner une section de la gondole, une troisième l'étage de la gondole,
15 et une quatrième l'ordre de l'emplacement sur cet étage. Une section de la gondole peut notamment être définie comme étant l'étendue de la gondole sur laquelle les étages sont continus. Une rupture dans l'étagement signifie donc le passage à une autre section.

Ainsi, à chaque emplacement est associé une EEG, et un article. Toute
20 modification de l'agencement des emplacements des EEG entraînant un ajout ou un retrait d'EEG, cette modification est immédiatement relayée au système informatique 2, et intégrée dans le planogramme. De même, en cas de changement dans l'association d'un article avec l'EEG au niveau d'un emplacement, par exemple lorsqu'un article est substitué à un autre au même emplacement, il suffit alors à l'opérateur effectuant le
25 changement d'article d'acquérir successivement l'identifiant de l'EEG correspondant à cet emplacement, et la référence de l'article correspondant audit emplacement, et d'envoyer au système informatique des données relatives à l'association entre l'identifiant l'EEG et la référence de l'article, comme expliqué lors de l'ajout d'une EEG. Il n'est cependant alors pas nécessaire d'acquérir l'identifiant d'une EEG adjacente dans
30 la mesure où l'agencement des EEG n'a pas été modifié.

Les données envoyées au système informatique sont utilisées pour mettre à jour les données d'association entre les articles de la surface de vente et les emplacements de ladite surface de vente, c'est-à-dire le planogramme, puisque l'emplacement de l'EEG peut être retrouvé au moyen de l'identifiant d'étiquette de celle-ci.

35 En outre, il peut être prévu de modifier une caractéristique spatiale d'un emplacement, et notamment le frontal, plus connu sous le terme anglais de "facing",

qui est la longueur d'étagère visible, face au client, utilisée sur un rayonnage pour la présentation d'un article. En effet, les emplacements du planogramme peuvent avoir des frontaux différents, en fonction notamment des caractéristiques des articles qui y sont placés, et des choix marchands (publicité, stockage en rayon). Ainsi, la possibilité

5 de modifier le frontal (ou "facing"), c'est-à-dire la largeur de présentation d'un emplacement, permet d'améliorer encore la représentativité et la performance du planogramme.

A cet effet, le procédé peut comprendre les étapes selon lesquelles :

- le dispositif de lecture 3 acquiert un identifiant d'étiquette d'une
- 10 étiquette électronique de gondole,
- une caractéristique de dimension de l'emplacement associé à l'étiquette électronique de gondole est renseignée dans le dispositif de lecture 3,
- ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

15 Par exemple, le dispositif de lecture 3 peut proposer un menu 40 tel qu'illustré sur la figure 4. Un premier champ 41 correspond au numéro d'étiquette, c'est-à-dire l'identifiant d'étiquette, qui est renseigné par l'opérateur ou par le dispositif de lecture 3 suite à l'acquisition de l'identifiant d'étiquette d'une EEG. Un deuxième champ 42 correspond à caractéristique de dimension de l'emplacement associé à l'EEG identifiée

20 au premier champ 41, en l'occurrence le frontal. L'opérateur peut modifier la valeur de cette caractéristique. Le bouton "Etiquette suivante" 44 sert à valider les caractéristiques associées à l'EEG (numéro d'étiquette, frontal) et permet de passer au renseignement des caractéristiques d'une autre EEG.

D'autres fonctionnalités peuvent être offertes par ce menu 40. Il est par exemple

25 possible de passer à un niveau suivant 43, c'est-à-dire à une étagère de gondole suivante. Il Le bouton 45 permet de supprimer le dernier élément scanné, il s'agit d'un bouton d'annulation. Enfin, le bouton 46 noté "Terminer" permet de valider. Le planogramme est mis à jour à chaque changement de l'agencement des articles dans la surface de vente. Il est donc représentatif de l'agencement réel de chaque surface de vente, et

30 n'est donc plus une vision théorique de ce que devrait être l'agencement de cette surface de vente.

Par ailleurs, les données relatives à l'association entre l'identifiant de l'EEG et la référence d'un article auquel est associée ladite EEG sont utilisées par le système informatique 2 pour transmettre à ladite EEG les données d'affichage en lien avec cet

35 article, par exemple par transmission radio, afin que les informations sur l'article soient affichées par l'EEG. En outre, le système informatique 2 offre également la possibilité

de modifier le planogramme manuellement, par exemple en affectant des articles à certains emplacements, notamment pour initialiser le planogramme, et on adapte alors l'association entre un article et l'EEG pour prendre en compte la modification manuelle effectuée.

5 La connaissance exacte de l'emplacement des produits, que reflète le planogramme, par le biais des emplacements des EEG, apporte plusieurs avantages :

- une localisation du consommateur, via la détermination de l'emplacement de l'EEG dont l'identifiant est communiqué par le consommateur, telle que prévue par la demande WO2013/153290, est plus précise et exacte;

10 - la possibilité d'informer sur la localisation des articles, le consommateur ou un opérateur de la surface de vente;

- une meilleure gestion des articles mis en vente, aussi bien pour gérer les stocks que pour organiser la politique commerciale,

15 - une meilleure productivité des opérations réalisées dans la surface de vente du fait d'une connaissance très précise de l'emplacement des produits, notamment pour la préparation de commande, pour un inventaire tournant, ou encore le rangement des articles abandonnés en magasin hors de leur emplacement.

Revendications

1. Procédé de mise à jour de données d'association entre des articles d'une surface de
5 vente et des emplacements de ladite surface de vente, ladite surface de vente
présentant une pluralité d'étiquettes de gondole (10, 11, 12) réparties dans ladite
surface de vente, chacune desdites étiquettes de gondole (10, 11, 12) étant associée à
un article et étant disposée à proximité d'un emplacement associé audit article,
10 chacune desdites étiquettes de gondole (10, 11, 12) étant munie d'un identifiant
d'étiquette qui lui est propre, ledit procédé comprenant les étapes selon lesquelles,
pour localiser au moins une étiquette de gondole à localiser,

- un dispositif de lecture (3) acquiert (S1) une séquence d'identifiants d'étiquette
comprenant au moins deux identifiants d'étiquettes dont les étiquettes
15 électroniques de gondoles (10, 11, 12) sont adjacentes dans une direction de
défilement des emplacements de la surface de vente, une desdites étiquettes
électroniques de gondoles adjacentes étant ladite étiquette électronique de
gondole à localiser, et une autre desdites étiquettes électroniques de gondoles
adjacentes étant une étiquette électronique de gondole dont l'emplacement est
connu,
- 20 - le dispositif de lecture (3) transmet (S2) la séquence d'identifiants à un système
informatique (2),
- le système informatique (2) met à jour (S3) les données d'association à partir de
la séquence d'identifiants d'étiquettes, en déterminant
 - les articles associés aux étiquettes de la séquence d'étiquettes,
 - 25 • les emplacements respectifs desdits articles à partir de l'ordre des
étiquettes dans la séquence d'étiquettes.

2. Procédé selon la revendication 1, dans lequel l'acquisition de la séquence
d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de
30 lecture, d'une indication de positionnement relatif, par rapport à l'emplacement de
l'étiquette à localiser, de l'étiquette adjacente dont l'emplacement est connu du
système informatique, ladite indication de positionnement relatif étant transmise par le
dispositif de lecture au système informatique.

3. Procédé selon la revendication 1, dans lequel le sens de défilement des emplacements de la surface de vente est connu, et une indication de positionnement relatif, par rapport à l'emplacement de l'étiquette localisée, de l'étiquette adjacente dont l'emplacement est connu du système informatique, est déduite de l'ordre d'acquisition des identifiants d'étiquette de la séquence d'identifiants d'étiquette.
4. Procédé selon l'une quelconque des revendications précédentes, dans lequel le dispositif de lecture transmet au système informatique des données relatives à l'association entre l'identifiant de l'étiquette électronique à localiser et la référence d'un article auquel est associée ladite étiquette électronique ajoutée.
5. Procédé selon l'une quelconque des revendications précédentes, dans lequel plusieurs étiquettes électroniques de gondole sont à localiser, lesdites étiquettes électroniques de gondole à localiser étant adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente, et l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole à localiser dans l'ordre de leur disposition par rapport à l'étiquette électronique de gondole dont l'emplacement est connu.
6. Procédé selon l'une quelconque des revendications précédentes, dans lequel chaque étiquette électronique de gondole de ladite séquence est munie d'un périphérique radiofréquence et le dispositif de lecture acquiert l'identifiant desdites étiquettes électroniques de gondole en établissant une communication par radiofréquence avec lesdites étiquettes électroniques de gondole.
7. Procédé selon l'une quelconque des revendications précédentes, dans lequel le dispositif de lecture 3 comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture 3 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser.
8. Procédé selon la revendication précédente, dans lequel une distance entre l'étiquette électronique de gondole dont l'emplacement est connu et l'étiquette électronique de gondole à localiser est déterminée à partir du déplacement du dispositif de lecture 3 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont

l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser, et le système informatique de traitement utilise ladite distance pour mettre à jour un planogramme.

- 5 9. Procédé selon l'une des revendications précédentes, comprenant les étapes selon lesquelles :
- le dispositif de lecture (3) acquiert un identifiant d'étiquette d'une étiquette électronique de gondole,
 - une caractéristique de dimension de l'emplacement associé à l'étiquette
 - 10 électronique de gondole est renseignée dans le dispositif de lecture (3),
 - ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

9. Produit programme d'ordinateur comprenant des instructions de code de programme
- 15 pour l'exécution du procédé selon l'une quelconque des revendications précédentes, lorsque ledit programme est exécuté sur un ordinateur.

10. Système de gestion de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, comprenant:
- 20 - une pluralité d'étiquettes électroniques de gondole, chacune desdites étiquettes de gondole étant associée à un identifiant d'étiquette qui lui est propre,
- un dispositif de lecture adapté pour acquérir les identifiants d'étiquette de ladite pluralité d'étiquettes électroniques de gondole et les références des articles associés auxdites étiquettes électroniques de gondole,
 - 25 - un système informatique stockant des données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, configuré pour recevoir du dispositif de lecture les identifiants d'étiquette acquis par ledit dispositif de lecture,
- ledit système de gestion étant adapté pour mettre en œuvre le procédé selon l'une des
- 30 revendications 1 à 8, et dans lequel
- le dispositif de lecture (3) est configuré pour acquérir une séquence d'identifiants d'étiquette comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles (10, 11, 12) sont adjacentes dans une direction de défilement des emplacements de la surface de vente, une desdites étiquettes
 - 35 électroniques de gondoles adjacentes étant ladite étiquette électronique de gondole à

localiser, et une autre desdites étiquettes électroniques de gondoles adjacentes étant une étiquette électronique de gondole dont l'emplacement est connu,

- le dispositif de lecture (3) est configuré pour transmettre la séquence d'identifiants au système informatique (2),

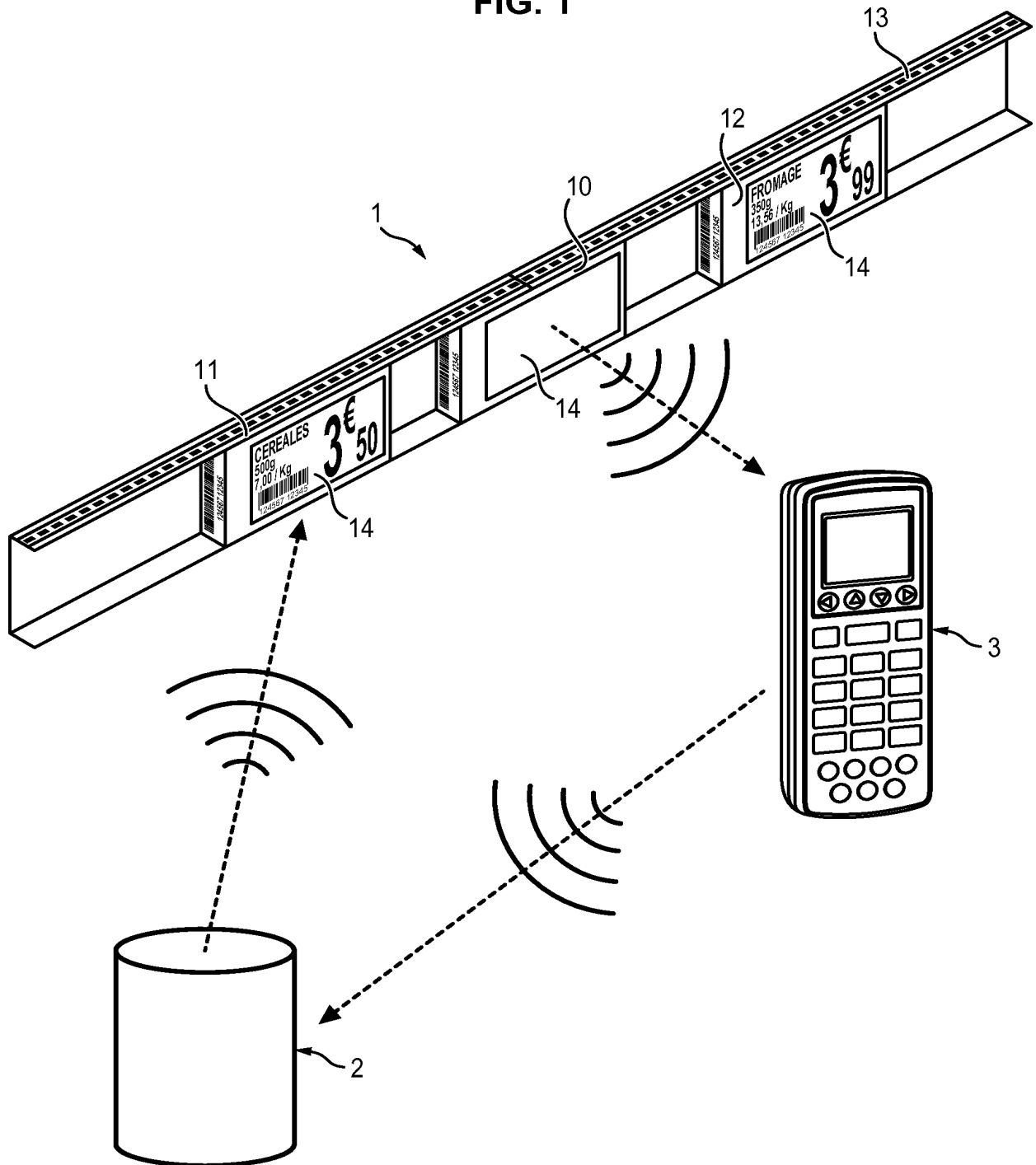
5 - le système informatique (2) est configuré pour mettre à jour les données d'association à partir de la séquence d'identifiants d'étiquettes, en déterminant

- les articles associés aux étiquettes de la séquence d'étiquettes,
- les emplacements respectifs desdits articles à partir de l'ordre des étiquettes dans la séquence d'étiquettes.

10

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FIG. 1



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FIG. 2

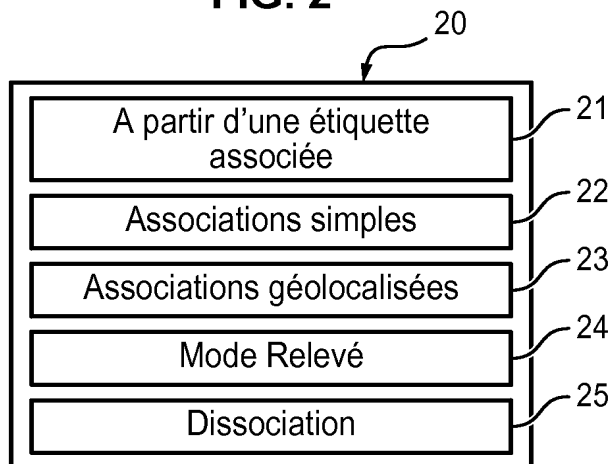


FIG. 3

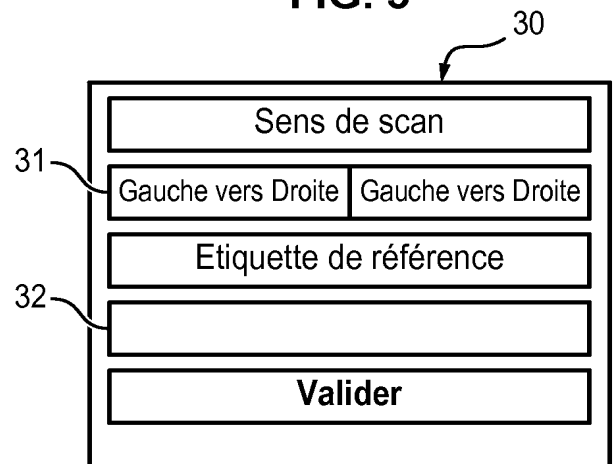
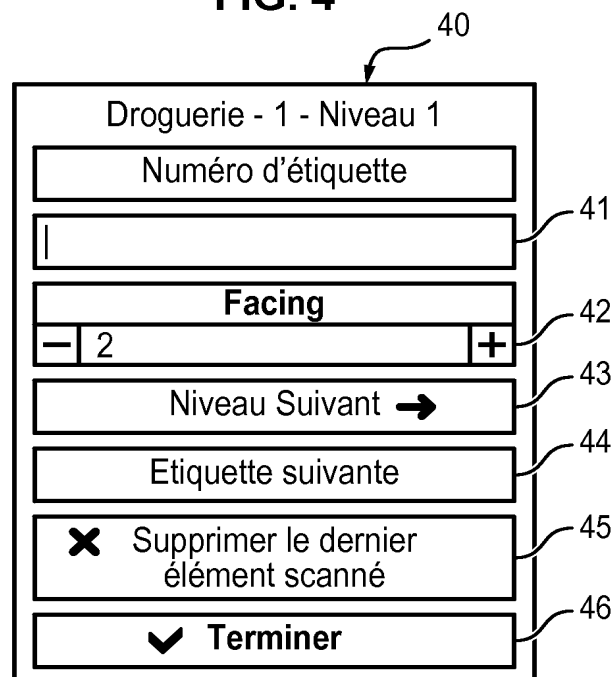
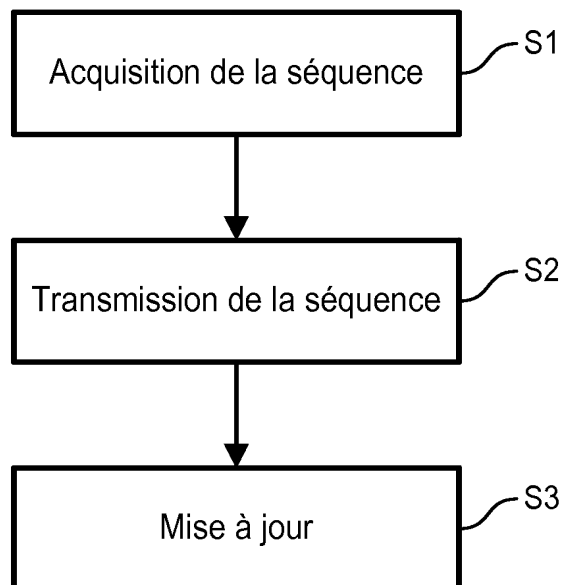


FIG. 4



3/3**FIG. 5**

INTERNATIONAL SEARCH REPORT

International application No

PCT/FR2016/051930

A. CLASSIFICATION OF SUBJECT MATTER

INV. G06Q30/02 G06Q10/08
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 June 2015 (2015-06-25) paragraphs [0006] - [0009], [0023] - [00024], [0028] paragraphs [0030] - [0038], [0051] - [0052], [0058] - [0063] -----	1-11



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

5 October 2016

Date of mailing of the international search report

14/10/2016

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
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Authorized officer

Aupiais, Brigitte

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/FR2016/051930

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2015178767 A1	25-06-2015	CN 104732174 A	24-06-2015
		TW 201525890 A	01-07-2015
		US 2015178767 A1	25-06-2015

RAPPORT DE RECHERCHE INTERNATIONALE

Demande internationale n°

PCT/FR2016/051930

A. CLASSEMENT DE L'OBJET DE LA DEMANDE
INV. G06Q30/02 G06Q10/08
ADD.

Selon la classification internationale des brevets (CIB) ou à la fois selon la classification nationale et la CIB

B. DOMAINES SUR LESQUELS LA RECHERCHE A PORTE

Documentation minimale consultée (système de classification suivi des symboles de classement)
G06Q

Documentation consultée autre que la documentation minimale dans la mesure où ces documents relèvent des domaines sur lesquels a porté la recherche

Base de données électronique consultée au cours de la recherche internationale (nom de la base de données, et si cela est réalisable, termes de recherche utilisés)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERES COMME PERTINENTS

Catégorie*	Identification des documents cités, avec, le cas échéant, l'indication des passages pertinents	no. des revendications visées
A	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 juin 2015 (2015-06-25) alinéas [0006] - [0009], [0023] - [0024], [0028] alinéas [0030] - [0038], [0051] - [0052], [0058] - [0063] -----	1-11



Voir la suite du cadre C pour la fin de la liste des documents



Les documents de familles de brevets sont indiqués en annexe

* Catégories spéciales de documents cités:

- "A" document définissant l'état général de la technique, non considéré comme particulièrement pertinent
 "E" document antérieur, mais publié à la date de dépôt international ou après cette date
 "L" document pouvant jeter un doute sur une revendication de priorité ou cité pour déterminer la date de publication d'une autre citation ou pour une raison spéciale (telle qu'indiquée)
 "O" document se référant à une divulgation orale, à un usage, à une exposition ou tous autres moyens
 "P" document publié avant la date de dépôt international, mais postérieurement à la date de priorité revendiquée

- "T" document ultérieur publié après la date de dépôt international ou la date de priorité et n'appartenant pas à l'état de la technique pertinent, mais cité pour comprendre le principe ou la théorie constituant la base de l'invention
 "X" document particulièrement pertinent; l'invention revendiquée ne peut être considérée comme nouvelle ou comme impliquant une activité inventive par rapport au document considéré isolément
 "Y" document particulièrement pertinent; l'invention revendiquée ne peut être considérée comme impliquant une activité inventive lorsque le document est associé à un ou plusieurs autres documents de même nature, cette combinaison étant évidente pour une personne du métier
 "&" document qui fait partie de la même famille de brevets

Date à laquelle la recherche internationale a été effectivement achevée

5 octobre 2016

Date d'expédition du présent rapport de recherche internationale

14/10/2016

Nom et adresse postale de l'administration chargée de la recherche internationale
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Fonctionnaire autorisé

Aupiais, Brigitte

RAPPORT DE RECHERCHE INTERNATIONALE

Renseignements relatifs aux membres de familles de brevets

Demande internationale n°

PCT/FR2016/051930

Document brevet cité au rapport de recherche	Date de publication	Membre(s) de la famille de brevet(s)	Date de publication
US 2015178767 A1	25-06-2015	CN 104732174 A	24-06-2015
		TW 201525890 A	01-07-2015
		US 2015178767 A1	25-06-2015

**Method for updating association data between articles
and locations**

GENERAL TECHNICAL FIELD AND CONTEXT OF THE INVENTION

5

The present invention relates to the association between articles of a retail area and locations of said retail area.

Information relative to articles presented for sale in a retail area is generally displayed by means of labels especially displaying the price of the article with which a
10 label is associated, as well as other information such as the price by weight, etc...

The need for displaying updated information has justified the implantation in many retail areas of electronic shelf labels, more commonly known by their acronym ESL, having a screen on which the display of information is remote-controlled.

The utility of such systems, in the region of shelving in a retail area such as a
15 supermarket, hypermarket or any other retail area, is essentially to display for the consumer, for each article presented for sale, a price corresponding reliably to the price as featured in the central registry of the site, i.e., the price to be effectively used at checkout for payment of the article.

Another advantage of these known systems is to make automated price changes
20 in much shorter times than with a manual display, whether for specific promotional periods on the site, for all or some of the articles presented for sale, to recover tariff changes, for dealing with situations of inflation where prices must be increased very frequently, etc...

The communications capacities of ESLs have recently been amplified by fitting
25 them with a short-range radiofrequency peripheral, of NFC (Near Field Communication) or RFID (Radio Frequency Identification) type, to take advantage of the equipment of clients in retail areas in intelligent communication mobile terminals. A current example of such a mobile terminal is a mobile phone of smartphone type, which offers both possibilities for connection and processing of appropriate information.

30 As a result, interaction between the ESL and the client terminal offers the latter novel services such as the display of additional information on product with which the ESL is associated. In particular, patent application WO2013/153290 describes the advantageous exploitation of these communication capacities by transmitting to the mobile terminal of the client information spatially located associated with the location
35 of said mobile terminal. The mobile terminal is located by way of identification and location of at least one shelf label with which the mobile terminal starts communicating.

Such location produces considerable precision, of the order of a few centimeters, whereas geolocation methods based on internal triangulation from beacons emitting a radio signal at best enable precision of the order of a meter only, which prevents knowing which product the client is located, and therefore greatly restricts the possibilities for interactions based on location.

But, locating the terminal from the ESLs supposes precise and correct knowledge of the location of said ESLs. The layout of a retail area is normally described by a planogram. A planogram is a set of association data among articles of a retail area and locations of said retail area. The planogram determines which products must be at which height, on which shelves and over how many linear meters.

As it is, planograms currently used are theoretical visions of what should be the retail area. In fact, they are typically defined generically, for a plurality of shops of similar size, for which the same arrangement and the same goodwill is provided. As a result, the layout of a given retail area is done based on the theoretical planogram corresponding to the size of the retail area. In fact, the reality of the organization of the retail area differs substantially from this theoretical planogram. In fact, it is common for of the order of 10 to 15 % of articles present in the retail area not to be on the planogram, for example because these articles are specific to the retail area, and have not been integrated into the planogram designed for a collection of retail areas. Also, the arrangement of articles in the retail area can vary over time, due to mismatch of products and adaptations made by the operators of the retail area, for example for seasonal products such as those put on display only at Christmas time or back-to-school time.

The result is that the planogram never complies with reality, and the location calling on this planogram suffers from incapacity of the planogram to reflect reality. But the inaccuracy of the planogram brings up other drawbacks, especially at the management level of stock and other commercial aspects, since the planogram is used for example to estimate the numbers of articles on the shelves, based on the theoretical extent of their presence, which wrongly can lead to unanticipated disruptions in stock.

PRESENTATION OF THE INVENTION

A general aim of the invention is to eliminate all or some of the defects of linking devices of the prior art by proposing a method for keeping the planogram updated and in accordance with the real arrangement of products in the retail area.

For this purpose, a method is proposed for updating association data between articles of a retail area and locations of said retail area, said retail area having a plurality of shelf labels distributed in said retail area, each of said shelf labels being associated with an article and being disposed near a location associated with said article, each of said shelf labels being fitted with a label identifier of its own, said method comprising the steps according to which, for adding at least one shelf label:

- a reading device acquires a sequence of label identifiers comprising at least two label identifiers whereof the electronic shelf labels are adjacent in a scrolling direction of the locations of the retail area, one of said adjacent electronic shelf labels being said added electronic shelf label, and another of said adjacent electronic shelf labels being an electronic shelf label whereof the location is known,
- the reading device transmits the sequence of identifiers to a computer system,
- the computer system updates the association data from the sequence of label identifiers, by determining
 - the articles associated with the labels of the sequence of labels,
 - the respective locations of said articles from the order of the labels in the sequence of labels.

This method is advantageously completed by the following features, taken singly or in any of their technically possible combinations:

- the acquisition of the sequence of label identifiers comprises the provision by an operator of the reading device, of an indication of relative positioning, relative to the location of the added label, of the adjacent label whereof the location is known to the computer system, said indication of relative positioning being transmitted by the reading device to the computer system;
- the scrolling direction of the locations of the retail area is known, and an indication of relative positioning, relative to the location of the located label, of the adjacent label whereof the location is known to the computer system, is deduced from the acquisition order of the label identifiers of the sequence of label identifiers;
- the reading device transmits to the computer system data relative to the association between the identifier of the added electronic label and the reference of an article with which said added electronic label is associated;
- several electronic shelf labels are added, said added electronic shelf labels being adjacent to each other in a scrolling direction of the locations of the retail area, and the acquisition of the sequence of label identifiers by the reading device comprises the acquisition of the label identifiers of said electronic shelf labels added in the

order of their arrangement relative to the electronic shelf label whereof the location is known;

- each electronic shelf label of said sequence is fitted with a radiofrequency peripheral and the reading device acquires the identifier of said electronic shelf labels by setting up communication via radiofrequency with said electronic shelf labels;
- the reading device comprises a displacement measuring member, and the method comprises determination of the displacement of the reading device between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located;
- a distance between the electronic shelf label whereof the location is known and the electronic shelf label to be located is determined from the displacement of the reading device between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located, and the computer processing system uses said distance to update the planogram;
- le method comprises the steps according to which:
 - the reading device acquires a label identifier of an electronic shelf label,
 - a dimension characteristic of the location associated with the electronic shelf label is entered in the reading device,
 - said dimension characteristic of the location is transmitted with the label identifier to the computer processing system.

The invention also relates to a computer program product comprising program code instructions for executing the method according to the invention, when said program is executed on a computer.

The invention also relates to a system for managing association data between articles of a retail area and locations of said retail area, comprising:

- a plurality of electronic shelf labels, each of said shelf labels being associated with a label identifier of its own,
- a reading device adapted to acquire the label identifiers of said plurality of electronic shelf labels and the references of the articles associated with said electronic shelf labels,
- a computer system storing association data between articles of a retail area and locations of said retail area, configured to receive from the reading device the label

identifiers acquired by said reading device, said management system being adapted to implement the method according to the invention.

PRESENTATION OF THE DRAWINGS

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Other features, aims and advantages of the invention will emerge from the following description which is purely illustrative and non-limiting and which must be considered in conjunction with the appended drawings, in which:

- figure 1 illustrates is a diagram showing a system according to a possible embodiment of the invention,
- figures 2, 3 and 4 are examples of menus displayed by the reading device within the scope of implementing the invention according to a possible embodiment,
- figure 5 is a diagram illustrating different steps of the method according to a possible embodiment of the invention.

15

DETAILED DESCRIPTION

Figure 1 shows, with an illustrative and non-limiting objective, a data communication system for corresponding to a possible embodiment of the invention, comprising a reading device 3, a central server 2 and a sequence 1 of electronic shelf labels (ESTs).

The reading device 3 is capable of communicating with a central server 2. This reading device 3 is preferably fitted with information display means, such as a screen, for a user of said reading device 1, and input means such as a keypad, buttons, and/or a touch screen. Communication between the reading device 3 and the central server 2 can be set up by means of any communications network, at least partially wireless, especially via a wireless network of DECT, WIFI or 3G type. So, communication can be set up by passing through the internet network to which the central server 2 is connected.

The ESLs are distributed in the retail area. The ESLs show strong spatial density, typically ten labels per square meter, on average, but with considerable variability. Each ESL is identified by a unique label identifier of its own. This label identifier therefore identifies unequivocally a single ESL only, of the retail area. Each of said shelf labels is associated with an article and is disposed near a location associated with said article.

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Figure 1 illustrates a sequence 1 of ESL 10, 11, 12 put in place along a shelf rail 13 for presentation of articles. Such an ESL comprises a display screen 14 for the display of information relative to an article with which it is associated. This information typically comprises the price of the article, and other information usually available in a retail area, for example the price per kilogram for a food product. The ESL also comprises a plastic casing containing the functional constituents of the ESL.

In particular, the electronic label comprises a radiofrequency communication module for receiving data representative of information relative to an article coming from a central station connected to the computer system 2, a memory for storing said data, and a microcontroller for controlling the display of information relative to the article. These different functional constituents are placed on a printed circuit board housed in the casing. The ESL also comprises a radiofrequency peripheral with which the reading device 3 can set up communication to acquire the label identifier of said ESL. The reading device 3 is accordingly adapted to set up wireless communication with the ESL.

The radiofrequency peripheral of the electronic label comprises an antenna and an electronic chip of NFC (Near Field Communication) or RFID (Radio Frequency Identification) type. A radiofrequency peripheral of NFC type operates for example on a frequency of 13.56 MHz such as a radiofrequency peripheral of RFID HF type.

The central server 2 comprises computer processing means including at least one processor and a memory in which association data relative to the association between articles of a retail area and locations of said retail area are stored, said association data constituting the planogram.

The memory of the central server 2 also stores data relative to the association between the label identifier and a location of the retail area which corresponds to the location of the ESL identified by said identifier, as well as to the article with which the ESL is associated. In this way, by way of the label identifier, the location of the ESL identified by said identifier and the article to which it refers can be found.

The method updates the association data between articles of a retail area and locations of said retail area. In case of change in the association of an article with the ESL in the region of a location, for example when an article is substituted by another at the same location, the operator making the change of article simply has to successively acquire the identifier of the ESL corresponding to this location and the reference of the article corresponding to this location, and send data to the computer system relative to the association between the identifier of the ESL and the reference of the article. The data sent to the computer system are used to update the association data between the

articles of the retail area and the locations of said retail area, i.e., the planogram, since the location of the ESL can be found by means of the label identifier of the latter.

The problem with updating the planogram arises especially when the arrangement of the ESLs is modified, due to displacement of an ESL, and more precisely when an ESL sequence has to be modified by addition of at least one label, to the extent where removing a label merely needs associated data to be deleted. It is then necessary to know the location of the displaced ESL, whereof the location is unknown. This is therefore an ESL to be located relative to the other ESLs in the retail area, to update the planogram.

The method thus proposes updating association data between articles of a retail area and locations of said retail area during displacement of at least one ESL, by means of acquisition, by the reading device 3, of at least two label identifiers whereof the ESLs are adjacent, in a scrolling direction of the locations of the retail area, and whereof one of the identifiers corresponds to the ESL to be located, and the other to an ESL whereof the location is known.

By way of illustration, the present invention is described in detail in terms of adding an ESL. This is the configuration which is illustrated in figure 1. By selecting a direction for reading electronic labels from left to right in figure 1, the added label 10 is the central label, framed by the preceding label 11 and the following label 12. It should be noted that physical placing of the ESL 10 in its location can be done before or after the method which to be described.

Figure 2 illustrates a non-limiting example of a menu 20 which can be presented by the reading device 3. Several possibilities are offered to the operator. A first functionality 21 called "From an associated label" consists of locating an ESL to be located by means of an associated ESL whereof the location is known. A second functionality 22 called "Simple association" consists of associating an ESL whereof the location is known with an article by acquiring its article identifier. A third functionality 23 called "Geolocated associations" consists of associating an ESL with a location by manually advising the location. A fourth functionality 24 called "Collection mode" consists of sequentially locating several ESL to be located. Finally, a fifth functionality 25 called "Dissociation" consists of dissociating an ESL from an article.

Hereinbelow, interest is shown more particularly in the first functionality 21 and the fourth functionality 24. In terms of the first functionality 21, once the operator has chosen the latter, another menu 30 such as that of figure 3 is presented. To determine the location of the added ESL 10, acquisition of the sequence of label identifiers comprises the information by an operator of the reading device 3, of an indication of

relative positioning of an adjacent label 11 or 12, whereof the location is already known, relative to the added label 10.

The operator uses the reading device 3 to acquire (step S1) a label identifier of an ESL 11 or 12 adjacent to the location of the added ESL 10, a location which can be
5 either already occupied by the added ESL 10 or intended to receive the added ESL 10. In this way, the ESL whereof the label identifier is acquired is the preceding ESL 11 or the following ESL 12. As indicated earlier, this acquisition is made preferably by wireless communication of NFC type. This adjacent ESL becomes the reference label, whereof the identifier appears in the scope 32 of the menu 30.

10 The operator also points out an indication of relative positioning of the adjacent label relative to the added label 10 (step S3). In the example of figure 3, this is the scrolling direction, by choosing a scan direction 31 in the menu 30: from left to right or from right to left. The operator therefore indicates whether the ESL whereof the identifier has just been acquired is the preceding ESL 11 or the following ESL 12 by
15 selecting the appropriate field, then he validates his indication.

The reading device 3 can also propose a menu to the operator giving him the choice between the designation of the ESL whereof the identifier has just been acquired as preceding ESL or following ESL to enter the indication of relative positioning of the adjacent label relative to the added label 10.

20 It is possible to enter the indication of relative positioning of the adjacent ESL whereof the location is known relative to the location of the added ESL 10 before or after acquisition of the label identifier of said adjacent ESL whereof the location is known.

The operator uses the reading device 3 to acquire the label identifier of the
25 added ESL 10, preferably by wireless communication of NFC type, then optionally advises the reference of the article intended to be associated with said associated label, if the latter is not yet associated with said article. This step can also be taken before or after acquisition of the label identifier of said adjacent ESL whereof the location is known and/or information of the indication of relative positioning of the adjacent ESL
30 whereof the location is known relative to the location of the added ESL 10.

There are different possibilities for advising the reference of the article. The most common consists of scanning a barcode of the article, which generally encodes the reference of the article. The reading device 3 is provided with a barcode reader for this purpose. Alternatively, the operator can manually input the reference by means of the
35 input means of the reading device, including a keypad, real or virtual. If the article is provided with a radiofrequency peripheral such as an RFID chip, the reading device 3

can acquire the reference of the article by setting up communication with said radiofrequency peripheral.

The reading device 3 transmits (step S2) to the computer system 2 the sequence of label identifiers comprising the identifier of the adjacent label 11, 12 and the label
5 identifier of the added ESL 10. The reading device 3 also transmits the indication of relative positioning of said adjacent ESL 11 or 12 relative to the added ESL 10. The data relative to the association between the identifier of the added ESL 10 and the reference of an article with which said added ESL 10 is associated can also be transmitted.

Although the description above deals with the location of one ESL at the same
10 time for the sake of simplicity, it is possible to locate several ESLs adjacent to each other in a scrolling direction of the locations of the retail area. This is the fourth functionality known as "Collection mode" of the menu 20 of figure 2. In this case, acquisition of the sequence of label identifiers by the reading device comprises acquisition of the label identifiers of said electronic shelf labels added in the order of
15 their arrangement in the scrolling direction.

More precisely, the operator uses the reading device 3 to acquire a label identifier of an ESL adjacent to the location of the added ESL, a location which can be either already occupied by the added ESL 10 or intended to receive the added ESL 10. In this way, the ESL whereof the label identifier is acquired is the preceding ESL 11 or the
20 following ESL 12.

An indication of relative positioning of the adjacent ESL relative to the added ESL 10 is then determined. In this respect, the operator can advise the indication of relative positioning relative to the added ESL 10 of the adjacent ESL 11 or 12 whereof the location is known to the computer system, said indication of relative positioning
25 being transmitted by the reading device to the computer system. This ESL 11 or 12 whereof the location is known therefore serves as reference for the locations of the added ESLs 10. The indication of relative positioning can also be deduced because the scrolling direction of the reading device 3 before the ESLs is predefined. The chronological order of the acquired references determines the relative positioning of
30 the ESL to which these references belong.

The operator then acquires the identifiers of the added ESL 10 in the order, in terms of proximity, of the arrangement of locations of the added ESLs relative to the ESL 11 or 12 whereof the location of the computer system is known. In this way, with addition of two ESLs between ESLs 11 or 12, whereof the location is known, the
35 operator acquires the identifier for example of the preceding ESL 11, then indicates the direction of displacement, or this is the ESL preceding the locations of the added ESLs

10. The operator then acquires the label identifier of the ESL closest to ESL 11, then of the one farthest from the ESL 11.

It should be noted that the information of relative positioning transmitted to the computer system 2 can comprise a relative distance between the ESL whereof the location is known and the ESL to be located 10. This distance can be acquired by measuring the displacement of the reading device 3 between the moment when it acquires the identifier of the ESL whereof the location is known and the moment when it acquires the identifier of the ESL to be located. For this purpose, the reading device 3 comprises a displacement measuring member, and the method comprises determination of the displacement of the reading device 3 between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located.

For example, the reading device 3 can be fitted with an accelerometer for determining by integration the displacement from said reading device 3 between the two acquisitions, and therefore for deducing the distance. Knowing this distance faithfully reports the relative positioning of the ESL to be located relative to the ESL whereof the location is known. It is also possible to consider as an ESL the location of which is known a dummy ESL, i.e., not associated with an article, constituting a reference mark for locating the other ESLs. This is the case for example with an ESL placed at an end of a shelf for marking the latter.

The information acquired by the reading device 3, specifically the label identifiers, the information on relative positioning, and optionally the association data between the articles of the retail area and the ESLs, are transmitted to the computer system 2, preferably by means of a wireless connection.

The computer system 2 therefore receives information, and uses it to update (step S3) the association data between the articles of the retail area and the locations of said retail area, i.e., the planogram. By way of the sequence of label identifiers, the computer system determines the location of the added ESL 10. From the reference of the article transmitted by the reading device 3 at the same time as the label identifier of the added ESL 10, the computer system 2 also determines the article associated with the added ESL 10. As there is correspondence between the location of the article associated with the added ESL 10 and the location of said added ESL 10, the computer system at the same time determines the location of the article associated with the added ESL 10. The planogram is then modified so that said article corresponds to this location.

The planogram preferably presents a listing of the locations of the retail area taking the form of a cadastre, with location of said locations by means of a referential or a set of coordinates representative of the spatial organization of the retail area. For example, a first coordinate can designate the shelf of the retail area, while a second
 5 can designate a section of the shelf, a third the level of the shelf, and a fourth the order of the location on this level. A section of the shelf can especially be defined as being the extent of the shelf over which the levels are continued. A break in the tiering therefore means a shift to another section.

In this way, an ESL and an article are associated with each location. If any
 10 modification to the arrangement of locations of the ESLs causes addition or withdrawal of ESL, this modification is immediately relayed to the computer system 2, and integrated into the planogram. Similarly, in case of change in the association of an article with the ESL in the region of a location, for example when one article is substituted for another at the same location, the operator making the change of article
 15 to simply needs to successively acquire the identifier of the ESL corresponding to this location, and the reference of the article corresponding to said location, and send to the computer system data relative to the association between the identifier of the ESL and the reference of the article, as explained during addition of an ESL. But it may not be necessary to acquire the identifier of an adjacent ESL to the extent where the
 20 arrangement of the ESLs has not been modified.

The data sent to the computer system are used to update the association data between the articles of the retail area and the locations of said retail area, i.e., the planogram, since the location of the ESL can be found by means of the label identifier of the latter.

25 Also, it can be provided to modify a spatial characteristic of a location, and especially the fronting or "facing", which is the visible shelving length, facing the client, used on shelving for presentation of an article. In fact, the locations of the planogram can have different facings, as a function especially of the characteristics of the articles which are placed there, and dealer choices (publicity, shelf storage). In this way, the
 30 possibility of modifying the fronting or "facing", i.e., the presentation width of a location, further improves the representativeness and performance of the planogram.

For this purpose, the method can comprise the steps according to which:

- the reading device 3 acquires a label identifier of an electronic shelf label,
- 35 - a dimension characteristic of the location associated with the electronic shelf label is entered in the reading device 3,

- said dimension characteristic of the location is transmitted with the label identifier to the computer processing system.

For example, the reading device 3 can propose a menu 40 such as illustrated in figure 4. A first field 41 corresponds to the label number, i.e., the label identifier, which is entered by the operator or by the reading device 3 following acquisition of the label identifier of an ESL. A second field 42 corresponds to the dimension characteristic of the location associated with the ESL identified in the first field 41, in this case the facing. The operator can modify the value of this characteristic. The button "Next label" 44 serves to validate the characteristics associated with the ESL (label number, facing) and moves to information of the characteristics of another ESL.

Other functionalities can be offered by this menu 40. It is for example possible to move to the following level 43, i.e., to the next shelving level. The button 45 deletes the last scanned element, which is a cancel button. Finally, the button 46 noted "End" validates. The planogram is updated with each change in the arrangement of the articles in the retail area. It is therefore representative of the real arrangement of each retail area, and therefore is no longer a theoretical vision of what should be the arrangement of this retail area.

Also, the data relative to the association between the identifier of the ESL and the reference of an article with which said ESL is associated are used by the computer system 2 to transmit to said ESL the display data linked to this article, for example by radio transmission so that the information on the article is displayed by the ESL. Also, the computer system 2 offers the possibility of modifying the planogram manually, for example by assigning articles to some locations, especially to initialize the planogram, and the association between an article and the ESL is adapted to take into account the manual modification made.

Exact knowledge of the location of products, reflected by the planogram, by means of the locations of the ESLs, contributes several advantages:

- location of the consumer, via determination of the location of the ESL whereof the identifier is communicated by the consumer, such as provided by application WO2013/153290, is more precise and exact;
- the possibility of advising the location of articles, the consumer or an operator of the retail area;
- better management of articles for sale, both for managing stock and for organizing sales policy,

- better productivity of operations undertaken in the retail area due to highly precise knowledge of the location of products, especially for order picking, for a cycle counting, or even tidying away articles left around the shop out of their location.

Claims

1. A method for updating association data between articles of a retail area and locations of said retail area, said retail area having a plurality of shelf labels (10, 11, 12) distributed in said retail area, each of said shelf labels (10, 11, 12) being associated with an article and being disposed near a location associated with said article, each of said shelf labels (10, 11, 12) being fitted with a label identifier of its own, said method comprising the steps according to which, to locate at least one shelf label to be located,
 - a reading device (3) acquires (S1) a sequence of label identifiers comprising at least two label identifiers whereof the electronic shelf labels (10, 11, 12) are adjacent in a scrolling direction of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said adjacent electronic shelf labels being an electronic shelf label whereof the location is known,
 - the reading device (3) transmits (S2) the sequence of identifiers to a computer system (2),
 - the computer system (2) updates (S3) the association data from the sequence of label identifiers, by determining
 - the articles associated with the labels of the sequence of labels,
 - the respective locations of said articles from the order of the labels in the sequence of labels.
2. The method according to claim 1, wherein the acquisition of the sequence of label identifiers comprises the provision, by an operator of the reading device, of an indication of relative positioning, relative to the location of the label to be located, of the adjacent label whereof the location is known to the computer system, said indication of relative positioning being transmitted by the reading device to the computer system.
3. The method according to claim 1, wherein the scrolling direction of the locations of the retail area is known, and an indication of relative positioning, relative to the location of the located label, of the adjacent label whereof the location is known to the computer system, is deduced from the acquisition order of the label identifiers of the sequence of label identifiers.

4. The method according to any one of the preceding claims, wherein the reading device transmits to the computer system data relative to the association between the identifier of the electronic label to be located and the reference of an article with which said added electronic label is associated.

5

5. The method according to any one of the preceding claims, wherein several electronic shelf labels are to be located, said electronic shelf labels to be located being adjacent to each other in a scrolling direction of the locations of the retail area, and the acquisition of the sequence of label identifiers by the reading device comprises the acquisition of the label identifiers of said electronic shelf labels to be located in the order of their arrangement relative to the electronic shelf label whereof the location is known.

6. The method according to any one of the preceding claims, wherein each electronic shelf label of said sequence is fitted with a radiofrequency peripheral and the reading device acquires the identifier of said electronic shelf labels by setting up communication via radiofrequency with said electronic shelf labels.

7. The method according to any one of the preceding claims, wherein the reading device (3) comprises a displacement measuring member, and the method comprises determination of the displacement of the reading device (3) between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located.

8. The method according to the preceding claim, wherein a distance between the electronic shelf label whereof the location is known and the electronic shelf label to be located is determined from the displacement of the reading device (3) between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located, and the computer processing system uses said distance to update a planogram.

9. The method according to one of the preceding claims, comprising the steps according to which:

- the reading device (3) acquires a label identifier of an electronic shelf label,
- a dimension characteristic of the location associated with the electronic shelf label is entered in the reading device (3),

- said dimension characteristic of the location is transmitted with the label identifier to the computer processing system.

10. A computer program product comprising program code instructions for executing the method according to any one of the preceding claims, when said program is executed on a computer.

11. A system for managing association data between articles of a retail area and locations of said retail area, comprising:

- 10 - a plurality of electronic shelf labels, each of said shelf labels being associated with a label identifier of its own,
- a reading device adapted to acquire the label identifiers of said plurality of electronic shelf labels and the references of the articles associated with said electronic shelf labels,
- 15 - a computer system storing association data between articles of a retail area and locations of said retail area, configured to receive from the reading device the label identifiers acquired by said reading device, said management system being adapted to implement the method according to one of claims 1 to 8, and wherein
- 20 - the reading device (3) is configured to acquire a sequence of label identifiers comprising at least two label identifiers whereof the electronic shelf labels (10, 11, 12) are adjacent in a scrolling direction of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said adjacent electronic shelf labels being an electronic shelf label whereof
- 25 the location is known,
- the reading device (3) is configured to transmit the sequence of identifiers to the computer system (2),
- the computer system (2) is configured to update the association data from the sequence of label identifiers, by determining
- 30 • the articles associated with the labels of the sequence of labels,
- the respective locations of said articles from the order of the labels in the sequence of labels.

FIG. 1

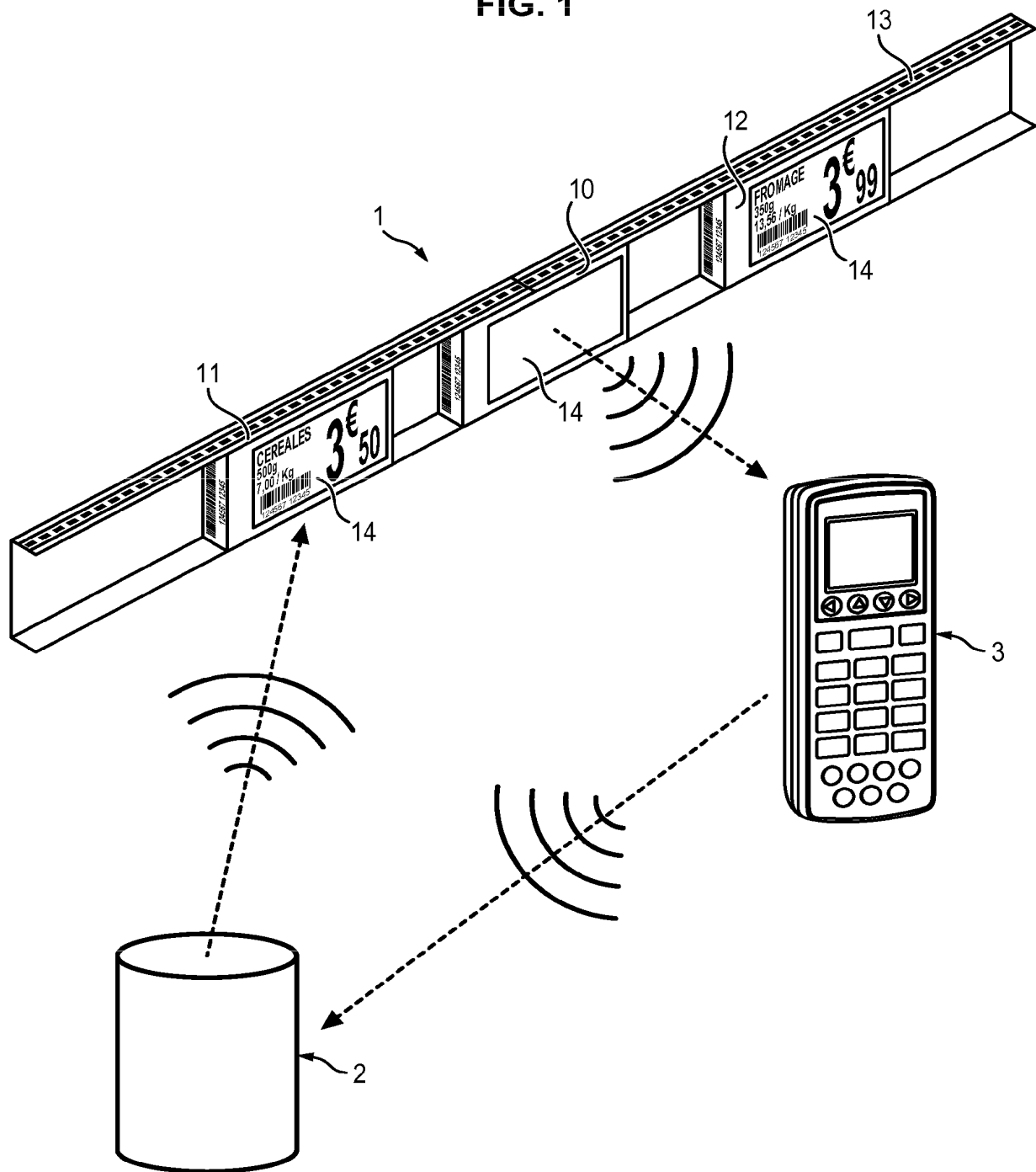


FIG. 2

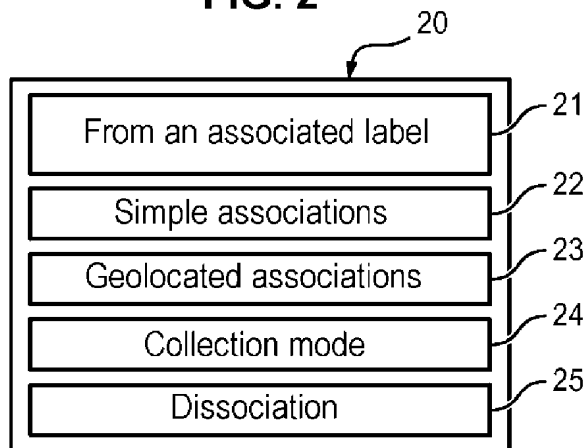


FIG. 3

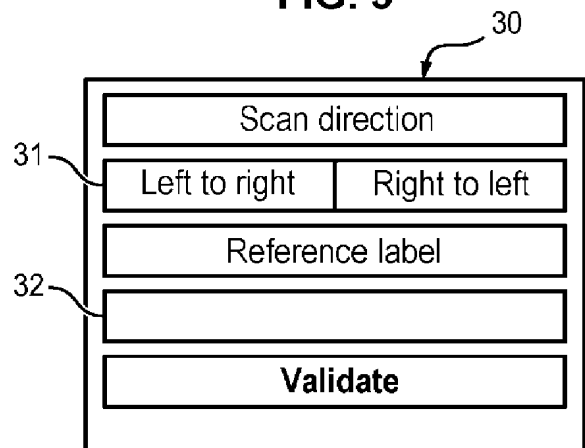


FIG. 4

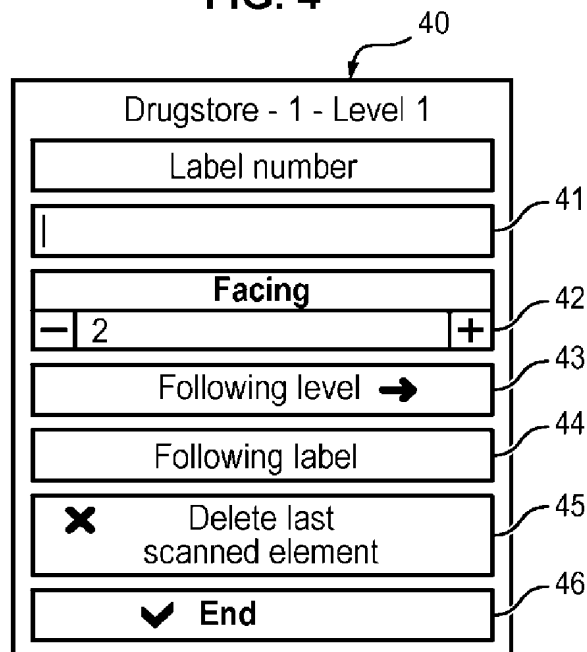
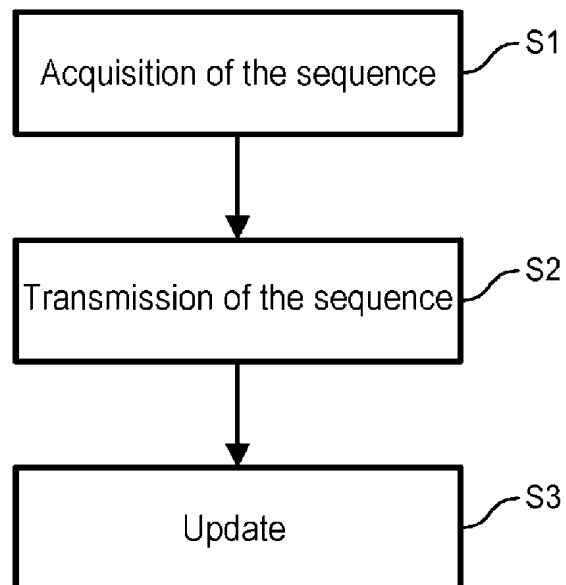


FIG. 5



I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: January 25, 2018

Electronic Signature for Thomas M. Palisi: /Thomas M. Palisi/

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Art Unit: N/A

For: **METHOD FOR UPDATING ASSOCIATION
DATA BETWEEN ARTICLES AND
LOCATIONS**

Examiner: Not Yet Assigned

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

Prior to initiation of the prosecution of the above-identified pending U.S. patent application, the following amendments and remarks are respectfully submitted.

IN THE SPECIFICATION

Please insert the following heading and paragraph on Page 1 following the title:

CROSS REFERENCE TO RELATED APPLICATIONS

The present application is a national phase entry under 35 U.S.C. § 371 of International Application No. PCT/FR2016/051930, filed July 25, 2016, published in French, which claims priority from French Patent Application No. 1557153, filed July 27, 2015, all of which are incorporated herein by reference.

IN THE CLAIMS

1. (currently amended) A method for updating association data between articles of a retail area and locations of said retail area, said retail area having a plurality of shelf labels ~~(10, 11, 12)~~ distributed in said retail area, each of said shelf labels ~~(10, 11, 12)~~ being associated with an article and being disposed near a location associated with said article, each of said shelf labels ~~(10, 11, 12)~~ being fitted with a label identifier of its own, said method comprising the steps according to which, to locate at least one shelf label to be located,

- a reading device ~~(3)~~ acquires ~~(S1)~~ a sequence of label identifiers comprising at least two label identifiers whereof the electronic shelf labels ~~(10, 11, 12)~~ are adjacent in a scrolling direction of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said adjacent electronic shelf labels being an electronic shelf label whereof the location is known,
- the reading device ~~(3)~~ transmits ~~(S2)~~ the sequence of identifiers to a computer system ~~(2)~~,
- the computer system ~~(2)~~ updates ~~(S3)~~ the association data from the sequence of label identifiers, by determining
 - the articles associated with the labels of the sequence of labels,
 - the respective locations of said articles from the order of the labels in the sequence of labels.

2. (original) The method according to claim 1, wherein the acquisition of the sequence of label identifiers comprises the provision, by an operator of the reading device, of an indication of relative positioning, relative to the location of the label to be located, of the adjacent label whereof the location is known to the computer system, said indication of relative positioning being transmitted by the reading device to the computer system.

3. (original) The method according to claim 1, wherein the scrolling direction of the locations of the retail area is known, and an indication of relative positioning, relative to the location of the located label, of the adjacent label whereof the location is known to the computer system, is deduced from the acquisition order of the label identifiers of the sequence of label identifiers.

4. (currently amended) The method according to ~~any one of the preceding claims~~claim 1, wherein the reading device transmits to the computer system data relative to the association between the identifier of the electronic label to be located and the reference of an article with which said added electronic label is associated.

5. (currently amended) The method according to claim 1~~any one of the preceding claims~~, wherein several electronic shelf labels are to be located, said electronic shelf labels to be located being adjacent to each other in a scrolling direction of the locations of the retail area, and the acquisition of the sequence of label identifiers by the reading device comprises the acquisition of the label identifiers of said electronic shelf labels to be located in the order of their arrangement relative to the electronic shelf label whereof the location is known.

6. (currently amended) The method according to claim 1~~any one of the preceding claims~~, wherein each electronic shelf label of said sequence is fitted with a radiofrequency peripheral and the reading device acquires the identifier of said electronic shelf labels by setting up communication via radiofrequency with said electronic shelf labels.

7. (currently amended) The method according to claim 1~~any one of the preceding claims~~, wherein the reading device ~~(3)~~ comprises a displacement measuring member, and the method comprises determination of the displacement of the reading device ~~(3)~~ between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located.

8. (currently amended) The method according to ~~the preceding claim~~claim 7, wherein a distance between the electronic shelf label whereof the location is known and the electronic shelf label to be located is determined from the displacement of the reading device ~~(3)~~ between the acquisition of the identifier of the electronic shelf label whereof the location is known and the acquisition of the identifier of the electronic shelf label to be located, and the computer processing system uses said distance to update a planogram.

9. (currently amended) The method according to claim 1 ~~one of the preceding claims~~, comprising the steps according to which:

- the reading device ~~(3)~~ acquires a label identifier of an electronic shelf label,
- a dimension characteristic of the location associated with the electronic shelf label is entered in the reading device ~~(3)~~,
- said dimension characteristic of the location is transmitted with the label identifier to the computer processing system.

10. (currently amended) A computer program product comprising program code instructions for executing the method according to ~~any one of the preceding claims~~ claim 1, when said program is executed on a computer.

11. (currently amended) A system for managing association data between articles of a retail area and locations of said retail area, comprising:

- a plurality of electronic shelf labels, each of said shelf labels being associated with a label identifier of its own,
- a reading device adapted to acquire the label identifiers of said plurality of electronic shelf labels and the references of the articles associated with said electronic shelf labels,
- a computer system storing association data between articles of a retail area and locations of said retail area, configured to receive from the reading device the label identifiers acquired by said reading device,

said management system being adapted to implement the method according to ~~one of claims 1 to 8~~ claim 1, and wherein

- the reading device ~~(3)~~ is configured to acquire a sequence of label identifiers comprising at least two label identifiers whereof the electronic shelf labels ~~(10, 11, 12)~~ are adjacent in a scrolling direction of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said adjacent electronic shelf labels being an electronic shelf label whereof the location is known,
- the reading device ~~(3)~~ is configured to transmit the sequence of identifiers to the computer system ~~(2)~~,

– the computer system ~~(2)~~ is configured to update the association data from the sequence of label identifiers, by determining

- the articles associated with the labels of the sequence of labels,
- the respective locations of said articles from the order of the labels in the sequence of labels.

IN THE ABSTRACT

Please delete the Abstract as originally filed and substitute therefor the attached revised Abstract.

REMARKS

The above-noted amended claims, as well as the submission of a revised Abstract and/or revisions to the Specification, are respectfully submitted prior to initiation of the prosecution of this application in the U.S. Patent and Trademark Office.

The above-noted amended claims are respectfully submitted in order to more clearly and appropriately claim at least one aspect of the subject matter that applicant considers to constitute the inventive contribution. It is believed that no new matter is included in these amendments. In addition, the revisions to the application are submitted in order to clarify and correct the application and to conform them to all of the requirements of U.S. practice. No new matter is included in these amendments.

In view of the above, it is respectfully requested that these amendments now be entered, and that prosecution on the merits of this application now be initiated. If, however, for any reason the Examiner does not believe such action can be taken, it is respectfully requested that the Examiner telephone applicant's attorney at (908) 654-5000 in order to overcome any objections that the Examiner may have.

All required fees are being paid via credit card. However, please charge any additional fees not already paid via credit card, and credit any overpayments to our Deposit Account No. 12-1095.

Dated: January 25, 2018

Respectfully submitted,
Electronic signature:
/Thomas M. Palisi/
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Registration No.: 36,629
LERNER, DAVID, LITTENBERG,
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600 South Avenue West
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Attorney for Applicant

ABSTRACT OF THE DISCLOSURE

The invention concerns a method for updating association data between articles in a retail area and locations of said retail area, said method comprising the steps according to which, - a reading device acquires a sequence of tag identifiers comprising at least two tag identifiers of which the electronic shelf tags are adjacent, one of said adjacent electronic shelf tags being said electronic shelf tag to be located, and another of said adjacent electronic shelf tags being an electronic shelf tag of which the location is known, the reading device transmits the sequence of identifiers to a computer system that updates the association data from the sequence of tag identifiers, by determining: the articles associated with the tags of the sequence of tags, the respective locations of said articles from the order of the tags in the sequence of tags.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	REGIM 3.3F-369
		Application Number	
Title of Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor	1				Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
Mr. v	Philippe		Bottine		v	
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service						
City	Boulogne-Billancourt		Country of Residence ⁱ		FR	
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Address 2						
City	Boulogne-Billancourt		State/Province			
Postal Code	92100		Country ⁱ	FR		
Inventor	2				Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
Mr. v	François		Robin		v	
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service						
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City	Paris		State/Province			
Postal Code	75116		Country ⁱ	FR		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.						
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Correspondence Information:

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.

Ex. 1002 page 214

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	REGIM 3.3F-369
		Application Number	
Title of Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ An Address is being provided for the correspondence information of this application.

Customer Number	00530		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		
Attorney Docket Number	REGIM 3.3F-369	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	3	Suggested Figure for Publication (if any)	1

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	00530 HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	REGIM 3.3F-369
		Application Number	
Title of Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	a 371 of international	PCT/FR2016/051930	2016-07-25
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ^j (if applicable)
1557153	FR	2015-07-27	
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number REGIM 3.3F-369	
	Application Number	
Title of Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	REGIM 3.3F-369
		Application Number	
Title of Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant	1	Remove
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section. Clear		
☒ Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.		Person who shows sufficient proprietary interest
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:		
Name of the Deceased or Legally Incapacitated Inventor:		
If the Applicant is an Organization check here. ☒		
Organization Name	SES-imagotag	
Mailing Address Information For Applicant:		
Address 1	55 Place Nelson Mandela	
Address 2		
City	Nanterre	State/Province
Country	FR	Postal Code
Phone Number		Fax Number
Email Address		
Additional Applicant Data may be generated within this form by selecting the Add button. Add		

Assignee Information including Non-Applicant Assignee Information:

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	REGIM 3.3F-369
		Application Number	
Title of Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		

Assignee	1		
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.			
			Remove
If the Assignee or Non-Applicant Assignee is an Organization check here.			☒
Organization Name	SES-imagotag		
Mailing Address Information For Assignee including Non-Applicant Assignee:			
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Address 2			
City	Nanterre	State/Province	
Country ⁱ	FR	Postal Code	92000
Phone Number		Fax Number	
Email Address			
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.			Add

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is **not** checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Thomas M. Palisi/		Date (YYYY-MM-DD)	2018-01-25
First Name	Thomas	Last Name	Palisi	Registration Number
				36,629
Additional Signature may be generated within this form by selecting the Add button.				Add

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	REGIM 3.3F-369
		Application Number	
Title of Invention	METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS		

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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- 2 A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
- 3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- 4 A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- 5 A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- 6 A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7 A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
- 8 A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
- 9 A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

REQUÊTE PCT

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0-1	Demande internationale n°	PCT/FR2016/051930
0-2	Date du dépôt international	25 juillet 2016 (25.07.2016)
0-3	Nom de l'office récepteur et "Demande internationale PCT"	RO/FR
0-4	Formulaire PCT/RO/101 - Requête PCT	
0-4-1	Préparée avec	PCT Online Filing Version 3.5.000.244e MT/FOP 20141031/0.20.5.20
0-5	Pétition Le soussigné requiert que la présente demande internationale soit traitée conformément au Traité de coopération en matière de brevets	
0-6	Office récepteur (choisi par le déposant)	Institut national de la propriété industrielle (France) (RO/FR)
0-7	Référence du dossier du déposant ou du mandataire	370782d34325
I	Titre de l'invention	PROCÉDÉ DE MISE À JOUR DE DONNÉES D'ASSOCIATION ENTRE DES ARTICLES ET DES EMPLACEMENTS
II	Déposant	
II-1	Cette personne est :	Déposant seulement
II-2	Déposant pour :	Tous les Etats désignés
II-4	Nom :	STORE ELECTRONIC SYSTEMS
II-5	Adresse :	55 PLACE NELSON MANDELA 92000 NANTERRE France
II-6	Nationalité (nom de l'État) :	FR
II-7	Domicile (nom de l'État) :	FR
III-1	Déposant et/ou inventeur	
III-1-1	Cette personne est :	Inventeur seulement
III-1-3	Inventeur pour :	Tous les Etats désignés
III-1-4	Nom (NOM DE FAMILLE, prénom) :	BOTTINE, Philippe
III-1-5	Adresse :	6 rue des Peupliers 92100 BOULOGNE-BILLANCOURT France

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III-2	Déposant et/ou inventeur	
III-2-1	Cette personne est :	Inventeur seulement
III-2-3	Inventeur pour :	Tous les Etats désignés
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III-2-5	Adresse :	34 rue Saint-Didier 75116 PARIS France
IV-1	Mandataire ou représentant commun; ou adresse pour la correspondance	
	La personne nommée ci-dessous est/a été désignée pour agir au nom du ou des déposants auprès des autorités internationales compétentes, comme	Mandataire
IV-1-1	Nom :	Regimbeau
IV-1-2	Adresse :	REGIMBEAU 139 rue Vendôme 69477 LYON CEDEX 06 France
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IV-1-4	n° de télécopieur :	+33 4 78 24 30 78
IV-1-5	Courrier électronique :	info@regimbeau.eu
IV-1-5(a))	Autorisation de recourir au courrier électronique L'office récepteur, l'administration chargée de la recherche internationale, le Bureau international et l'administration chargée de l'examen préliminaire international sont autorisés à utiliser cette adresse électronique, si l'office ou l'administration le souhaite, pour envoyer les notifications établies en relation avec la présente demande internationale :	en tant que notifications préliminaires suivies de notifications sur papier
V	DÉSIGNATIONS	
V-1	Le dépôt de la présente requête vaut, selon la règle 4.9.a), désignation de tous les États contractants liés par le PCT à la date du dépôt international, aux fins de la délivrance de tout titre de protection disponible et, le cas échéant, aux fins de la délivrance à la fois de brevets régionaux et nationaux.	
VI-1	Revendication de priorité d'une demande nationale antérieure	
VI-1-1	Date de dépôt	27 juillet 2015 (27.07.2015)
VI-1-2	Numéro	1557153
VI-1-3	Pays ou membre de l'OMC	FR
VI-2	Demande de document de priorité	
	L'office récepteur est prié de préparer et de transmettre au Bureau international une copie certifiée conforme de la ou des demandes antérieures mentionnées ci-dessus sous la/les rubriques :	VI-1

REQUÊTE PCT

Imprimé (original sous forme électronique)

VI-3	Incorporation par renvoi : lorsqu'un élément de la demande internationale visé à l'article 11.1)iii) d) ou e) ou une partie de la description, des revendications ou des dessins visée à la règle 20.5.a) n'est pas contenu ailleurs dans cette demande internationale mais est intégralement contenu dans une demande antérieure dont la priorité est revendiquée à la date à laquelle un ou plusieurs des éléments visés à l'article 11.1)iii) ont été initialement reçus par l'office récepteur, cet élément ou cette partie est, sous réserve de la confirmation selon la règle 20.6, incorporé par renvoi dans cette demande internationale aux fins de la règle 20.6.	
VII-1	Administration chargée de la recherche internationale choisie	Office européen des brevets (OEB) (ISA/EP)
VII-2	Demande d'utilisation des résultats d'une recherche antérieure; référence à cette recherche	
VII-2-1	Date de dépôt	27 juillet 2015 (27.07.2015)
VII-2-2	Numéro de dépôt	1557153
VII-2-3	Pays (ou office régional)	EP
VII-2-4	Déclaration (règle 4.12.ii):	La présente demande internationale est identique, ou pratiquement identique à la demande pour laquelle la recherche antérieure a été effectuée, mais, le cas échéant, elle a été déposée dans une langue différente.
VII-2-5	Les documents suivants sont à la disposition de l'administration chargée de la recherche internationale sous une forme et d'une manière qu'elle accepte et, en conséquence, le déposant n'a pas à les fournir (règle 12bis.1.f):	Une copie des résultats de la recherche antérieure Une copie de la demande antérieure Une copie de tout document cité dans les résultats de la recherche antérieure
VIII	Déclarations	Nombre de déclarations
VIII-1	Déclaration relative à l'identité de l'inventeur	—
VIII-2	Déclaration relative au droit du déposant, à la date du dépôt international, de demander et d'obtenir un brevet	—
VIII-3	Déclaration relative au droit du déposant, à la date du dépôt international, de revendiquer la priorité de la demande antérieure	—
VIII-4	Déclaration relative à la qualité d'inventeur (seulement aux fins de la désignation des États-Unis d'Amérique)	—
VIII-5	Déclaration relative à des divulgations non opposables ou à des exceptions au défaut de nouveauté	—

REQUÊTE PCT

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IX	Bordereau	Nombre de feuilles	Fichier(s) électronique(s) joint(s)
IX-1	Requête (y compris les feuilles pour déclaration)	5	✓
IX-2	Description	14	✓
IX-3	Revendications	4	✓
IX-4	Abrégé	1	✓
IX-5	Dessins	3	✓
IX-7	TOTAL	27	
	Eléments joints	Document(s) papier joint(s)	Fichier(s) électronique(s) joint(s)
IX-8	Feuille de calcul des taxes	–	✓
IX-20	Figure des dessins qui doit accompagner l'abrégé	1	
IX-21	Langue de dépôt de la demande internationale	français	
X-1	Signature du déposant, du mandataire ou du représentant commun	(PKCS7 Signature Digital)	
X-1-1	Nom :	Regimbeau	
X-1-2	Nom du signataire	FR, CABINET REGIMBEAU, Jean Robert CALLON DE LAMARCK	
X-1-3	Qualité (si cela n'apparaît pas clairement à la lecture de la requête)	(Mandataire)	

RÉSERVÉ À L'OFFICE RÉCEPTEUR

10-1	Date effective de réception des pièces supposées constituer la demande internationale	25 juillet 2016 (25.07.2016)
10-2	Dessins :	
10-2-1	Reçus	
10-2-2	Non reçus	
10-3	Date effective de réception, rectifiée en raison de la réception ultérieure, mais dans les délais, de documents ou de dessins complétant ce qui est supposé constituer la demande internationale :	
10-4	Date de réception, dans les délais, des corrections demandées selon l'article 11.2) du PCT	
10-5	Administration chargée de la recherche internationale	ISA/EP
10-6	Transmission de la copie de recherche différée jusqu'au paiement de la taxe de recherche	

REQUÊTE PCT

Imprimé (original sous forme électronique)

RÉSERVÉ AU BUREAU INTERNATIONAL

11-1	Date de réception de l'exemplaire original par le Bureau international	
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Brevet d'invention

Certificat d'utilité

COPIE OFFICIELLE

Le Directeur général de l'Institut national de la propriété industrielle certifie que le document ci-annexé est la copie certifiée conforme d'une demande de titre de propriété industrielle déposée à l'Institut.

Fait à Lille, le 01/08/2016

Pour le Directeur général de l'Institut
national de la propriété industrielle
Le Directeur des brevets

Philippe CADRE

15 rue des Minimes - CS 50001 - 92677 Courbevoie Cedex

Pour vous informer : INPI Direct 0820 210 211

Pour déposer par télécopie : 33 (0)1 56 65 86 00

REQUÊTE EN DÉLIVRANCE

REMISE DES PIÈCES 27/07/2015 DATE 1557153 N° D'ENREGISTREMENT NATIONAL ATTRIBUÉ PAR L'INPI DATE DE DÉPÔT ATTRIBUÉE PAR L'INPI		1 NOM ET ADRESSE DU DEMANDEUR OU DU MANDATAIRE À QUI LA CORRESPONDANCE DOIT ÊTRE ADRESSÉE Regimbeau 139 rue Vendôme 69477 LYON CEDEX 06 FR
Vos références pour ce dossier B248352 D34325		
2 NATURE DE LA DEMANDE		
Nature	Brevet d'invention	
3 TITRE DE L'INVENTION		
Titre	PROCÉDÉ DE MISE À JOUR DE DONNÉES D'ASSOCIATION ENTRE DES ARTICLES ET DES EMPLACEMENTS	
4 PRIORITÉ		
5-1 DEMANDEUR Personne morale		
Nom	STORE ELECTRONIC SYSTEMS	
Affaire suivie par		
Rue	55 PLACE NELSON MANDELA	
Code postal et ville	92000 NANTERRE	
Pays	FR	
Nationalité	FR	
Forme juridique	Société anonyme	
N° SIREN	479 345 464	
Code APE-NAF	26.20Z	
N° de téléphone		
N° de télécopie		
Courrier électronique		
6 MANDATAIRE		
Nom	Regimbeau	
Qualité	Cabinet CPI : Damien MACE,	

Rue	139 rue Vendôme			
Code postal et ville	69477 LYON CEDEX 06			
Pays	FR			
N° de téléphone	+33 4 72 83 85 70			
N° de télécopie	+33 4 78 24 30 78			
Courrier électronique	info@regimbeau.eu			
7 RAPPORT DE RECHERCHE				
Type d'établissement	Établissement immédiat			
Type d'envoi	Envoi électronique à info@regimbeau.eu			
8 RÉDUCTION DU TAUX DES REDEVANCES				
En qualité de	PME			
9 DÉPÔT DE MATIÈRE BIOLOGIQUE				
10 SÉQUENCES DE NUCLÉOTIDES ET/OU D'ACIDES AMINÉS				
11 DOCUMENTS ET FICHIERS JOINTS	Fichier électronique	Détails		
Inventeur	Design.PDF			
Fichier corps du texte	textebrevet.pdf	page(s) 18, D 15, R 2, AB 1		
Drawings	dessins.pdf	page(s) 3, Abrégé : page 1, Fig. 1		
12 EXTENSION DE LA PROTECTION				
En cochant la case ci-après, le(s) demandeur(s) manifestent l'intention d'étendre les effets de la demande de brevet et du brevet délivré sur la base de cette demande au territoire indiqué avec lequel des accords d'extension sont en vigueur à la date du dépôt de la demande. ☐ Polynésie française				
13 MODE DE PAIEMENT				
Mode de paiement	Prélèvement du compte client			
Numéro du compte	67			
14 REDEVANCES JOINTES	Devise	Taux	Quantité	Montant à payer
062R Dépôt à taux réduit	EURO	13	1	13
063R Rapport de recherche à taux réduit	EURO	260	1	260
Total	EURO			273
15 ANNOTATION				
16 DATE ET SIGNATURE				

Signé numériquement par	Subject: FR, CABINET REGIMBEAU, Damien MACE; Issuer: FR, INPI, INPI-EN-LIGNE 1.1
Date	27 July 2015
Signataire	Mandataire

Conformément aux dispositions de la loi n° 78-17 du 6.01.1978 modifiée relative à l'informatique, aux fichiers et aux libertés, vous bénéficiez d'un droit d'accès et de rectification pour les données vous concernant auprès de l'INPI. Les données à caractère personnel que vous êtes tenu(e) de nous fournir dans ce formulaire sont exclusivement utilisées pour identifier le titulaire de la demande et son éventuel mandataire.



BREVET D'INVENTION

CERTIFICAT D'UTILITE

Réception électronique de la soumission

Il est certifié par la présente qu'une demande de brevet (ou d'un certificat d'utilité) a été reçue par le biais du dépôt électronique sécurisé de l'INPI. Après réception, un numéro d'enregistrement et une date de réception ont été automatiquement attribués.

Numéro de demande	1557153	
Numéro de soumission	1000304918	
Date de réception	27 juillet 2015	
Vos références	B248352 D34325	
Demandeur	STORE ELECTRONIC SYSTEMS	
Pays	FR	
Titre de l'invention	PROCÉDÉ DE MISE À JOUR DE DONNÉES D'ASSOCIATION ENTRE DES ARTICLES ET DES EMPLACEMENTS	
Documents envoyés	package-data.xml application-body.xml requetefr.pdf (3 p.) comment.pdf (1 p.) design.pdf (1 p.) dessins.pdf (3 p.)	requetefr.xml fr-fee-sheet.xml validation-log.xml indication-bio-deposit.xml fr-office-specific-info.xml textebrevet.pdf (18 p.)
Déposé par	EMAIL=mace_d@regimbeau.eu,CN=Damien MACE,O=CABINET REGIMBEAU,C=FR	
Méthode de dépôt	Dépôt électronique	
Date et heure de réception électronique	27 juillet 2015, 16:16:09 (CEST)	
Empreinte officielle du dépôt	F4:98:E3:2A:AF:2F:7D:96:F2:E1:C7:C9:16:0B:56:85:EE:4D:21:16	

/INPI, section dépôt/

15 rue des Minimes - CS 50001 - 92677 Courbevoie Cedex

Pour vous informer : INPI Direct 0820 210 211

Pour déposer par télécopie : 33 (0)1 56 65 86 00

DÉSIGNATION D'INVENTEUR(S)

Vos références pour ce dossier	B248352 D34325
N° D'ENREGISTREMENT NATIONAL	
TITRE DE L'INVENTION	
Titre	PROCÉDÉ DE MISE À JOUR DE DONNÉES D'ASSOCIATION ENTRE DES ARTICLES ET DES EMPLACEMENTS
LE(S) DEMANDEUR(S)	STORE ELECTRONIC SYSTEMS
DÉSIGNE(NT) EN TANT QU'INVENTEUR(S)	
INVENTEUR 1	
Nom	BOTTINE
Prénom	Philippe
Rue	6 rue des Peupliers
Code postal et ville	92100 BOULOGNE-BILLANCOURT
Pays	FR
INVENTEUR 2	
Nom	ROBIN
Prénom	François
Rue	34 rue Saint-Didier
Code postal et ville	75116 PARIS
Pays	FR
DATE ET SIGNATURE	
Signé numériquement par	Subject: FR, CABINET REGIMBEAU, Damien MACE; Issuer: FR, INPI, INPI-EN-LIGNE 1.1
Date	27 July 2015
Signataire	Mandataire

Conformément aux dispositions de la loi n° 78-17 du 6.01.1978 modifiée relative à l'informatique, aux fichiers et aux libertés, vous bénéficiez d'un droit d'accès et de rectification pour les données vous concernant auprès de l'INPI. Les données à caractère personnel que vous êtes tenu(e) de nous fournir dans ce formulaire sont exclusivement utilisées pour identifier le titulaire de la demande et son éventuel mandataire.

Procédé de mise à jour de données d'association entre des articles et des emplacements

DOMAINE TECHNIQUE GENERAL ET CONTEXTE DE L'INVENTION

5

La présente invention concerne l'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente.

L'affichage d'informations relatives à des articles présentés à la vente dans une surface de vente se fait généralement au moyen d'étiquettes affichant notamment le prix de l'article auquel une étiquette est associée, ainsi que d'autres informations telles que le prix au poids, etc...

La nécessité de disposer d'un affichage d'informations à jour a justifié l'implantation dans de nombreuses surfaces de vente d'étiquettes électroniques de gondole, plus commodément désignées par leur acronyme EEG, disposant d'un écran sur lequel l'affichage d'informations est commandé à distance.

L'utilité de tels systèmes est essentiellement de permettre, au niveau des rayonnages d'une surface de vente telle qu'un supermarché, hypermarché ou toute autre surface de vente, de présenter au consommateur, pour chaque article présenté à la vente, un prix correspondant de façon fiable au prix tel qu'il figure dans le fichier central du site, c'est-à-dire au prix tel qu'il sera effectivement utilisé en caisse pour le paiement de l'article.

Un autre avantage de ces systèmes connus est de permettre de réaliser des changements de prix automatisés dans des délais beaucoup plus courts qu'avec un affichage manuel, que ce soit pour des périodes particulières de promotion sur le site, pour tout ou partie des articles présentés à la vente, pour répercuter des changements de tarifs, pour faire face à des situations d'inflation où les prix doivent être augmentés très fréquemment, etc...

Les capacités de communications des EEG ont récemment été amplifiées en les munissant d'un périphérique radiofréquence à courte portée, de type NFC (acronyme de l'anglais Near Field Communication pour communication en champ proche) ou RFID (acronyme de l'anglais Radio Frequency Identification pour identification radiofréquence), afin de tirer parti de l'équipement des clients des surfaces de ventes en terminaux mobile de communication intelligents. Un exemple courant d'un tel terminal mobile est un téléphone portable de type smartphone, qui offre à la fois des possibilités de connexion et de traitement d'informations appropriées.

De fait, l'interaction entre l'EEG et le terminal du client permet d'offrir à celui-ci de nouveaux services, tels que l'affichage d'informations supplémentaires sur le produit auquel est associée l'EEG. La demande de brevet WO2013/153290 décrit une exploitation particulièrement avantageuse de ces capacités de communication, en permettant de transmettre au terminal mobile du client des informations spatialement localisées associée à la localisation dudit terminal mobile. Le terminal mobile est localisé grâce à l'identification et la localisation d'au moins une étiquette de gondole avec lequel le terminal mobile entre en communication. Une telle localisation permet d'obtenir une très grande précision, de l'ordre de quelques centimètres, tandis que les procédés de géolocalisation à base de triangulation intérieur à partir de balises émettant un signal radio ne permettent au mieux qu'une précision de l'ordre du mètre, ce qui empêche de savoir devant quel produit se trouve le client, et restreint donc fortement les possibilités d'interactions basées sur la localisation.

Cependant, la localisation du terminal mobile à partir des EEG suppose une connaissance précise et correcte de l'emplacement desdites EEG. La disposition d'une surface de vente est normalement décrite par un planogramme. Un planogramme est un ensemble de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente. Le planogramme établit quels produits doivent être à telle hauteur, sur quelles étagères et sur combien de mètres linéaires.

Or, les planogrammes actuellement utilisés sont des visions théoriques de ce que devrait être la surface de vente. En effet, ils sont typiquement définis de façon générique, pour une pluralité de magasins de taille similaire, pour lesquels le même agencement et le même achalandage est prévu. De fait, l'agencement d'une surface de vente donnée est effectué sur la base du planogramme théorique correspondant à la taille de la surface de vente. Dans les faits, la réalité de l'organisation de la surface de vente s'écarte de manière non négligeable de ce planogramme théorique. En effet, il est courant que de l'ordre de 10 à 15 % des articles présents dans la surface de vente ne se retrouvent pas sur le planogramme, par exemple parce que ces articles sont propres à la surface de vente, et n'ont pas été intégrés au planogramme conçu pour un ensemble de surfaces de vente. En outre, la disposition des articles dans la surface de vente peut varier au fil du temps, en raison des décalages de produits et des adaptations effectuées par les opérateurs de la surface de vente, par exemple pour des produits saisonniers comme ceux proposés uniquement à Noël ou à la rentrée des classes.

Il en résulte que le planogramme n'est jamais conforme à la réalité, et que la localisation faisant appel à ce planogramme pâtit de l'incapacité du planogramme à

refléter la réalité. Mais l'inexactitude du planogramme présente d'autres inconvénients, notamment au niveau de la gestion des stocks et d'autres aspects commerciaux, puisque le planogramme est par exemple utilisé pour estimer les quantités d'articles sur les gondoles, sur la base de l'étendue théorique de leur présence, qui, erronée, peut mener
5 à des ruptures de stock non anticipées.

PRESENTATION DE L'INVENTION

Un but général de l'invention est de pallier tout ou partie des défauts des
10 dispositifs de liaison de l'art antérieur, en proposant un procédé permettant de maintenir le planogramme à jour et conforme à la disposition réelle des produits dans la surface de vente.

A cet effet, il est proposé un procédé de mise à jour de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de
15 vente, ladite surface de vente présentant une pluralité d'étiquettes de gondole réparties dans ladite surface de vente, chacune desdites étiquettes de gondole étant associée à un article et étant disposée à proximité d'un emplacement associé audit article, chacune desdites étiquettes de gondole étant munie d'un identifiant d'étiquette qui lui est propre, ledit procédé comprenant les étapes selon lesquelles, pour ajouter
20 au moins une étiquette de gondole :

- un dispositif de lecture acquiert une séquence d'identifiants d'étiquette comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles sont adjacentes dans une direction de défilement des emplacements de la surface de vente, une desdites étiquettes électroniques de
25 gondoles adjacentes étant ladite étiquette électronique de gondole ajoutée, et une autre desdites étiquettes électroniques de gondoles adjacentes étant une étiquette électronique de gondole dont l'emplacement est connu,
- le dispositif de lecture transmet la séquence d'identifiants à un système informatique,
- 30 - le système informatique met à jour les données d'association à partir de la séquence d'identifiants d'étiquettes, en déterminant
 - les articles associés aux étiquettes de la séquence d'étiquettes,
 - les emplacements respectifs desdits articles à partir de l'ordre des étiquettes dans la séquence d'étiquettes.

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Ce procédé est avantageusement complété par les caractéristiques suivantes, prises seules ou en une quelconque de leur combinaison techniquement possible:

- l'acquisition de la séquence d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de lecture, d'une indication de positionnement relatif par rapport à l'emplacement de l'étiquette ajoutée de l'étiquette adjacente dont l'emplacement est connu du système informatique, ladite indication de positionnement relatif étant transmise par le dispositif de lecture au système informatique;
- le sens de défilement des emplacements de la surface de vente est connu, et une indication de positionnement relatif, par rapport à l'emplacement de l'étiquette localisée, de l'étiquette adjacente dont l'emplacement est connu du système informatique, est déduite de l'ordre d'acquisition des identifiants d'étiquette de la séquence d'identifiants d'étiquette;
- le dispositif de lecture transmet au système informatique des données relatives à l'association entre l'identifiant de l'étiquette électronique ajoutée et la référence d'un article auquel est associée ladite étiquette électronique ajoutée;
- plusieurs étiquettes électroniques de gondole sont ajoutées, lesdites étiquettes électroniques de gondole ajoutées étant adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente, et l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole ajoutées dans l'ordre de leur disposition par rapport à l'étiquette électronique de gondole dont l'emplacement est connu;
- chaque étiquette électronique de gondole de ladite séquence est munie d'un périphérique radiofréquence et le dispositif de lecture acquiert l'identifiant desdites étiquettes électroniques de gondole en établissant une communication par radiofréquence avec lesdites étiquettes électroniques de gondole;
- le dispositif de lecture comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser;
- une distance entre l'étiquette électronique de gondole dont l'emplacement est connu et l'étiquette électronique de gondole à localiser est déterminée à partir du déplacement du dispositif de lecture entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant

de l'étiquette électronique de gondole à localiser, et le système informatique de traitement utilise ladite distance pour mettre à jour le planogramme;

- le procédé comprend les étapes selon lesquelles:

- le dispositif de lecture acquiert un identifiant d'étiquette d'une étiquette électronique de gondole,
- une caractéristique de dimension de l'emplacement associé à l'étiquette électronique de gondole est renseignée dans le dispositif de lecture,
- ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

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L'invention concerne également un produit programme d'ordinateur comprenant des instructions de code de programme pour l'exécution du procédé selon l'invention, lorsque ledit programme est exécuté sur un ordinateur.

15 L'invention concerne également un système de gestion de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, comprenant:

- une pluralité d'étiquettes électroniques de gondole, chacune desdites étiquettes de gondole étant associée à un identifiant d'étiquette qui lui est propre,
- un dispositif de lecture adapté pour acquérir les identifiants d'étiquette de ladite pluralité d'étiquettes électroniques de gondole et les références des articles associés auxdites étiquettes électroniques de gondole,
- un système informatique stockant des données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, configuré pour recevoir du dispositif de lecture les identifiants d'étiquette acquis par ledit dispositif de lecture, ledit système de gestion étant adapté pour mettre en œuvre le procédé selon l'invention.

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PRESENTATION DES FIGURES

D'autres caractéristiques, buts et avantages de l'invention ressortiront de la description qui suit, qui est purement illustrative et non limitative, et qui doit être lue en regard des dessins annexés parmi lesquels:

- la figure 1 illustre est un schéma illustrant un système selon un mode de réalisation possible de l'invention,

35

- les figures 2, 3 et 4 sont des exemples de menus affichés par le dispositif de lecture dans le cadre de la mise en œuvre de l'invention selon un mode de réalisation possible,

- la figure 5 est un schéma illustrant différentes étapes du procédé selon un mode de réalisation possible de l'invention.

DESCRIPTION DETAILLEE

Sur la figure 1 est représenté, dans un but illustratif et non limitatif, un système de communication de données correspondant à un mode de réalisation possible de l'invention, comprenant un dispositif de lecture 3, un serveur central 2 et une séquence 1 d'étiquettes électroniques de gondole (EEG).

Le dispositif de lecture 3 est apte à communiquer avec un serveur central 2. Ce dispositif de lecture 3 est de préférence muni de moyens d'affichage d'informations, tel qu'un écran, à destination d'un utilisateur dudit dispositif de lecture 1, et de moyens d'entrée comme un clavier, des boutons, et/ou un écran tactile. La communication entre le dispositif de lecture 3 et le serveur central 2 peut être établi au moyen de tout réseau de communication au moins partiellement sans fil, notamment via un réseau sans fil de type DECT, WIFI ou 3G. Ainsi la communication peut être établie en passant par le réseau internet auquel est relié le serveur central 2.

Les EEG sont réparties dans la surface de vente. Les EEG présentent une forte densité spatiale, typiquement une dizaine d'étiquettes par mètres carrés en moyenne, avec cependant une variabilité importante. Chaque EEG est identifiée par un unique identifiant d'étiquette qui lui est propre. Cette identifiant d'étiquette permet donc d'identifier de manière univoque une seule et unique EEG de la surface de vente. Chacune desdites étiquettes de gondole est associée à un article et est disposée à proximité d'un emplacement associé audit article.

Sur la figure 1 est illustrée une séquence 1 d'EEG 10, 11, 12 mis en place le long d'un rail 13 de gondole de présentation d'articles. Une telle EEG comporte un écran d'affichage 14 pour l'affichage d'informations relatives à un article auquel elle est associée. Typiquement, ces informations comprennent le prix de l'article, et d'autres informations habituellement disponibles dans une surface de vente, par exemple le prix par kilogramme pour un produit alimentaire. L'EEG comporte également un boîtier en plastique à l'intérieur duquel sont logés les constituants fonctionnels de l'EEG.

Notamment, l'étiquette électronique comporte un module de communication radiofréquence pour recevoir des données représentatives d'informations relatives à un

article en provenance d'une station centrale reliée au système informatique 2, une mémoire pour stocker lesdites données, et un microcontrôleur pour commander l'affichage des informations relatives à l'article. Ces différents constituants fonctionnels sont disposés sur une carte de circuit imprimé logée dans le boîtier. L'EEG
5 comporte également un périphérique radiofréquence avec lequel le dispositif de lecture 3 peut établir une communication pour acquérir l'identifiant d'étiquette de ladite EEG. De fait, le dispositif de lecture 3 est adapté pour établir une communication sans fil avec l'EEG.

Le périphérique radiofréquence de l'étiquette électronique comprend une
10 antenne et une puce électronique de type NFC (acronyme de l'anglais Near Field Communication pour communication en champ proche) ou RFID (acronyme de l'anglais Radio Frequency Identification pour identification radiofréquence). Un périphérique radiofréquence de type NFC fonctionne par exemple avec une fréquence de 13,56 Mhz comme un périphérique radiofréquence de type RFID HF.

15 Le serveur central 2 comprend des moyens informatiques de traitement incluant au moins un processeur et une mémoire dans laquelle sont stockées des données d'associations relatives à l'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, lesdites données d'association constituant le planogramme.

20 La mémoire du serveur central 2 stocke également des données relatives à l'association entre l'identifiant d'étiquette et un emplacement de la surface de vente qui correspond à la localisation de l'EEG identifiée par ledit identifiant, ainsi qu'à l'article auquel est associé l'EEG. Ainsi, grâce à l'identifiant d'étiquette, on peut retrouver l'emplacement de l'EEG identifiée par ledit identifiant et l'article auquel elle se
25 rapporte.

Le procédé permet de mettre à jour les données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente. En cas de changement dans l'association d'un article avec l'EEG au niveau d'un emplacement, par exemple lorsqu'un article est substitué à un autre au même emplacement, il suffit à
30 l'opérateur effectuant le changement d'article d'acquérir successivement l'identifiant de l'EEG correspondant à cet emplacement, et la référence de l'article correspondant audit emplacement, et d'envoyer au système informatique des données relatives à l'association entre l'identifiant l'EEG et la référence de l'article. Les données envoyées au système informatique sont utilisées pour mettre à jour les données d'association
35 entre les articles de la surface de vente et les emplacements de ladite surface de vente,

c'est-à-dire le planogramme, puisque l'emplacement de l'EEG peut être retrouvé au moyen de l'identifiant d'étiquette de celle-ci.

La problématique de la mise à jour du planogramme se pose notamment lorsque l'agencement des EEG est modifié, en raison du déplacement d'une EEG, et plus
 5 précisément lorsqu'une séquence d'EEG doit être modifiée par l'ajout d'au moins une étiquette, dans la mesure où l'enlèvement d'une étiquette ne requiert que la suppression des données qui y sont associées. Il est alors nécessaire de connaître l'emplacement de l'EEG déplacée, dont l'emplacement est inconnu. Il s'agit donc d'une EEG à localiser par rapport aux autres EEG dans la surface de vente, pour remettre à
 10 jour le planogramme.

Le procédé propose ainsi la mise à jour de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente lors du déplacement d'au moins une EEG, par le biais de l'acquisition, par le dispositif de lecture 3, d'au moins deux identifiants d'étiquette dont les EEG sont adjacentes, dans
 15 une direction de défilement des emplacements de la surface de vente, et dont l'un des identifiants correspond à l'EEG à localiser, et l'autre à une EEG dont l'emplacement est connu.

A titre illustratif, la présente invention est décrite en détail dans le cadre de l'ajout d'une EEG. C'est la configuration qui est illustrée par la figure 1. En choisissant
 20 un sens de lecture des étiquettes électroniques de la gauche vers la droite sur la figure 1, l'étiquette ajoutée 10 est l'étiquette centrale, encadrée par l'étiquette précédente 11 et l'étiquette suivante 12. Il est à noter que la mise en place physique de l'EEG 10 à son emplacement peut être effectuée avant ou après le procédé qui va être décrit.

La figure 2 illustre un exemple non limitatif de menu 20 qui peut être présenté
 25 par le dispositif de lecture 3. Plusieurs possibilités sont offertes à l'opérateur. Une première fonctionnalité 21 dite "A partir d'une étiquette associée" consiste à localiser une EEG à localiser au moyen d'une EEG associée dont l'emplacement est connu. Une deuxième fonctionnalité 22 dite "Association simple" consiste à associer une EEG dont l'emplacement est connu avec un article en acquérant un identifiant d'article. Une
 30 troisième fonctionnalité 23 dite "Associations géolocalisées" consiste à associer une EEG à un emplacement en renseignant manuellement l'emplacement. Une quatrième fonctionnalité 24 dite "Mode relevé" consiste à localiser séquentiellement plusieurs EEG à localiser. Enfin, une cinquième fonctionnalité 25 dite "Dissociation" consiste à dissocier une EEG d'un article.

35 Dans la suite, on s'intéresse plus particulièrement à la première fonctionnalité 21 et à la quatrième fonctionnalité 24. Dans le cadre de la première fonctionnalité 21, une

fois que l'opérateur a choisi celle-ci, un autre menu 30 tel que celui de la figure 3 lui est présenté. Afin de déterminer l'emplacement de l'EEG ajoutée 10, l'acquisition de la séquence d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de lecture 3, d'une indication de positionnement relatif d'une étiquette adjacente 11 ou 12, dont l'emplacement est déjà connu, par rapport à l'étiquette ajoutée 10.

L'opérateur utilise le dispositif de lecture 3 pour acquérir (étape S1) un identifiant d'étiquette d'une EEG adjacente 11 ou 12 à l'emplacement de l'EEG ajoutée 10, emplacement qui peut être soit déjà occupée par l'EEG ajoutée 10 soit destiné à recevoir l'EEG ajoutée 10. Ainsi, l'EEG dont l'identifiant d'étiquette est acquis est l'EEG précédente 11 ou l'EEG suivante 12. Comme indiqué plus haut, cette acquisition se fait de préférence par communication sans fil de type NFC. Cette EEG adjacente devient l'étiquette de référence, dont l'identifiant apparaît dans le cadre 32 du menu 30.

L'opérateur indique également une indication de positionnement relatif de l'étiquette adjacente par rapport à l'étiquette ajoutée 10 (étape S3). Dans l'exemple de la figure 3, c'est le sens de défilement, en choisissant dans le menu 30 un sens de scan 31 : de la gauche vers la droite ou de la droite vers la gauche. L'opérateur indique donc si l'EEG dont l'identifiant vient d'être acquis est l'EEG précédente 11 ou l'EEG suivante 12 en sélectionnant le champ adéquat, puis il valide son indication.

Le dispositif de lecture 3 peut également proposer à l'opérateur un menu lui donnant le choix, entre la désignation de l'EEG dont l'identifiant vient d'être acquis en tant qu'EEG précédente ou EEG suivante afin de renseigner l'indication de positionnement relatif de l'étiquette adjacente par rapport à l'étiquette ajoutée 10.

Il est possible de renseigner l'indication de positionnement relatif de l'EEG adjacente dont l'emplacement est connu par rapport à l'emplacement de l'EEG ajoutée 10 avant ou après l'acquisition de l'identifiant d'étiquette de ladite EEG adjacente dont l'emplacement est connu.

L'opérateur utilise le dispositif de lecture 3 pour acquérir l'identifiant d'étiquette de l'EEG ajoutée 10, de préférence par communication sans fil de type NFC, puis renseigne éventuellement la référence de l'article destiné à être associé avec ladite étiquette associée, si celle-ci n'est pas encore associée avec ledit article. Cette étape peut également être effectuée avant ou après l'acquisition de l'identifiant d'étiquette de ladite EEG adjacente dont l'emplacement est connu et/ou le renseignement de l'indication de positionnement relatif de l'EEG adjacente dont l'emplacement est connu par rapport à l'emplacement de l'EEG ajoutée 10.

Différentes possibilités sont possibles pour renseigner la référence de l'article. La plus courante consiste en un scannage d'un code-barres de l'article, lequel encode généralement la référence de l'article. Le dispositif de lecture 3 est à cet effet pourvu d'un lecteur de code-barres. Alternativement, l'opérateur peut rentrer manuellement la référence à l'aide des moyens d'entrée du dispositif de lecture, incluant un clavier, réel ou virtuel. Si l'article est pourvu d'un périphérique radiofréquence tel qu'une puce RFID, le dispositif de lecture 3 peut acquérir la référence de l'article en établissant une communication avec ledit périphérique radiofréquence.

Le dispositif de lecture 3 transmet (étape S2) au système informatique 2 la séquence d'identifiants d'étiquette comprenant l'identifiant de l'étiquette adjacente 11, 12 et l'identifiant d'étiquette de l'EEG ajoutée 10. Le dispositif de lecture 3 transmet également l'indication de positionnement relatif de ladite EEG adjacente 11 ou 12 par rapport à l'EEG ajoutée 10. Les données relatives à l'association entre l'identifiant de l'EEG ajoutée 10 et la référence d'un article auquel est associée ladite EEG ajoutée 10 peuvent également être transmis.

Bien que la description ci-dessus, pour des raisons de simplicité, ne traite que de la localisation d'une EEG à la fois, il est possible de localiser plusieurs EEG adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente. Il s'agit de la quatrième fonctionnalité dite "Mode relevé" du menu 20 de la figure 2. Dans ce cas, l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole ajoutées dans l'ordre de leur disposition dans la direction de défilement.

Plus précisément, l'opérateur utilise le dispositif de lecture 3 pour acquérir un identifiant d'étiquette d'une EEG adjacente à l'emplacement de l'EEG ajoutée, emplacement qui peut être soit déjà occupée par l'EEG ajoutée 10 soit destiné à recevoir l'EEG ajoutée 10. Ainsi, l'EEG dont l'identifiant d'étiquette est acquis est l'EEG précédente 11 ou l'EEG suivante 12.

Une indication de positionnement relatif de l'EEG adjacente par rapport à l'EEG ajoutée 10 est ensuite déterminée. A cet égard, l'opérateur peut renseigner l'indication de positionnement relatif par rapport à l'EEG ajoutée 10 de l'EEG adjacente 11 ou 12 dont l'emplacement est connu du système informatique, ladite indication de positionnement relatif étant transmise par le dispositif de lecture au système informatique. Cette EEG 11 ou 12 dont l'emplacement est connu sert donc de référence pour les emplacements des EEG ajoutées 10. L'indication de positionnement relatif peut également être déduite par le fait que le sens du défilement du dispositif de lecture 3

devant les EEG est prédéfini. L'ordre chronologique des références acquises détermine ainsi les positionnements relatifs des EEG auxquelles appartiennent ces références.

L'opérateur acquiert ensuite les identifiants des EEG ajoutées 10 dans l'ordre, en termes de proximité, de la disposition des emplacements des EEG ajoutées par rapport à l'EEG 11 ou 12 dont l'emplacement est connu du système informatique. Ainsi, en cas d'ajout de deux EEG entre les EEG 11 ou 12, dont l'emplacement est connu, l'opérateur acquiert l'identifiant par exemple de l'EEG précédente 11, puis indique le sens de déplacement, ou qu'il s'agit de l'EEG précédent les emplacements des EEG ajoutées 10. L'opérateur acquiert ensuite l'identifiant d'étiquette de l'EEG la plus proche de l'EEG 11, puis de celle la plus éloignée de l'EEG 11.

Il est à noter que l'information de positionnement relatif transmise au système informatique 2 peut comprendre une distance relative entre l'EEG dont l'emplacement est connu et l'EEG à localiser 10. Cette distance peut être acquise par la mesure du déplacement du dispositif de lecture 3 entre le moment où il acquiert l'identifiant de l'EEG dont l'emplacement est connu et le moment où il acquiert l'identifiant de l'EEG à localiser. A cette effet, le dispositif de lecture 3 comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture 3 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser.

Par exemple, le dispositif de lecture 3 peut être muni d'un accéléromètre, permettant de déterminer par intégration le déplacement dudit dispositif de lecture 3 entre les deux acquisitions, et donc d'en déduire la distance. La connaissance de cette distance permet de reporter fidèlement le positionnement relatif de l'EEG à localiser par rapport à l'EEG dont l'emplacement est connu. Il est également possible de considérer comme EEG dont l'emplacement est connu une EEG factice, c'est-à-dire non associée à un article, constituant un repère de référence pour localiser les autres EEG. C'est par exemple le cas d'une EEG placée à une extrémité d'une gondole pour repérer celle-ci.

Les informations acquises par le dispositif de lecture 3, à savoir les identifiants d'étiquette, les informations de positionnement relatif, et éventuellement les données d'association entre les articles de la surface de vente et les EEG, sont transmises au système informatique 2, de préférence au moyen d'une connexion sans fil.

Le système informatique 2 reçoit donc ces informations, et s'en sert pour mettre à jour (étape S3) les données d'association entre les articles de la surface de vente et les emplacements de ladite surface de vente, c'est-à-dire le planogramme. Au moyen de

la séquence d'identifiants d'étiquette, le système informatique détermine l'emplacement de l'EEG ajoutée 10. A partir de la référence de l'article transmise par le dispositif de lecture 3 en même temps que l'identifiant d'étiquette de l'EEG ajoutée 10, le système informatique 2 détermine également l'article associé à l'EEG ajoutée 10.

5 Comme il y a correspondance entre l'emplacement de l'article associé à l'EEG ajoutée 10 et l'emplacement de ladite EEG ajoutée 10, le système informatique détermine en même temps l'emplacement de l'article associé à l'EEG ajoutée 10. Le planogramme est alors modifié pour qu'à cet emplacement corresponde ledit article.

Le planogramme présente de préférence un référencement des emplacements de la surface de vente prenant la forme d'un cadastre, avec une localisation desdits emplacements au moyen d'un référentiel ou d'un ensemble de coordonnées représentatives de l'organisation spatiale de la surface de vente. Par exemple, une première coordonnée peut désigner le rayon de la surface de vente, tandis qu'une deuxième peut désigner une section de la gondole, une troisième l'étage de la gondole,

15 et une quatrième l'ordre de l'emplacement sur cet étage. Une section de la gondole peut notamment être définie comme étant l'étendue de la gondole sur laquelle les étages sont continus. Une rupture dans l'étagement signifie donc le passage à une autre section.

Ainsi, à chaque emplacement est associé une EEG, et un article. Toute modification de l'agencement des emplacements des EEG entraînant un ajout ou un retrait d'EEG, cette modification est immédiatement relayée au système informatique 2, et intégrée dans le planogramme. De même, en cas de changement dans l'association d'un article avec l'EEG au niveau d'un emplacement, par exemple lorsqu'un article est substitué à un autre au même emplacement, il suffit alors à l'opérateur effectuant le

25 changement d'article d'acquérir successivement l'identifiant de l'EEG correspondant à cet emplacement, et la référence de l'article correspondant audit emplacement, et d'envoyer au système informatique des données relatives à l'association entre l'identifiant l'EEG et la référence de l'article, comme expliqué lors de l'ajout d'une EEG. Il n'est cependant alors pas nécessaire d'acquérir l'identifiant d'une EEG adjacente dans

30 la mesure où l'agencement des EEG n'a pas été modifié.

Les données envoyées au système informatique sont utilisées pour mettre à jour les données d'association entre les articles de la surface de vente et les emplacements de ladite surface de vente, c'est-à-dire le planogramme, puisque l'emplacement de l'EEG peut être retrouvé au moyen de l'identifiant d'étiquette de celle-ci.

35 En outre, il peut être prévu de modifier une caractéristique spatiale d'un emplacement, et notamment le frontal, plus connu sous le terme anglais de "facing",

qui est la longueur d'étagère visible, face au client, utilisée sur un rayonnage pour la présentation d'un article. En effet, les emplacements du planogramme peuvent avoir des frontaux différents, en fonction notamment des caractéristiques des articles qui y sont placés, et des choix marchands (publicité, stockage en rayon). Ainsi, la possibilité

5 de modifier le frontal (ou "facing"), c'est-à-dire la largeur de présentation d'un emplacement, permet d'améliorer encore la représentativité et la performance du planogramme.

A cet effet, le procédé peut comprendre les étapes selon lesquelles :

- le dispositif de lecture 3 acquiert un identifiant d'étiquette d'une
- 10 étiquette électronique de gondole,
- une caractéristique de dimension de l'emplacement associé à l'étiquette électronique de gondole est renseignée dans le dispositif de lecture 3,
- ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

15 Par exemple, le dispositif de lecture 3 peut proposer un menu 40 tel qu'illustré sur la figure 4. Un premier champ 41 correspond au numéro d'étiquette, c'est-à-dire l'identifiant d'étiquette, qui est renseigné par l'opérateur ou par le dispositif de lecture 3 suite à l'acquisition de l'identifiant d'étiquette d'une EEG. Un deuxième champ 42 correspond à caractéristique de dimension de l'emplacement associé à l'EEG identifiée

20 au premier champ 41, en l'occurrence le frontal. L'opérateur peut modifier la valeur de cette caractéristique. Le bouton "Etiquette suivante" 44 sert à valider les caractéristiques associées à l'EEG (numéro d'étiquette, frontal) et permet de passer au renseignement des caractéristiques d'une autre EEG.

D'autres fonctionnalités peuvent être offertes par ce menu 40. Il est par exemple

25 possible de passer à un niveau suivant 43, c'est-à-dire à une étagère de gondole suivante. Il Le bouton 45 permet de supprimer le dernier élément scanné, il s'agit d'un bouton d'annulation. Enfin, le bouton 46 noté "Terminer" permet de valider. Le planogramme est mis à jour à chaque changement de l'agencement des articles dans la surface de vente. Il est donc représentatif de l'agencement réel de chaque surface de vente, et

30 n'est donc plus une vision théorique de ce que devrait être l'agencement de cette surface de vente.

Par ailleurs, les données relatives à l'association entre l'identifiant de l'EEG et la référence d'un article auquel est associée ladite EEG sont utilisées par le système informatique 2 pour transmettre à ladite EEG les données d'affichage en lien avec cet

35 article, par exemple par transmission radio, afin que les informations sur l'article soient affichées par l'EEG. En outre, le système informatique 2 offre également la possibilité

de modifier le planogramme manuellement, par exemple en affectant des articles à certains emplacements, notamment pour initialiser le planogramme, et on adapte alors l'association entre un article et l'EEG pour prendre en compte la modification manuelle effectuée.

5 La connaissance exacte de l'emplacement des produits, que reflète le planogramme, par le biais des emplacements des EEG, apporte plusieurs avantages :

- une localisation du consommateur, via la détermination de l'emplacement de l'EEG dont l'identifiant est communiqué par le consommateur, telle que prévue par la demande WO2013/153290, est plus précise et exacte;

10 - la possibilité d'informer sur la localisation des articles, le consommateur ou un opérateur de la surface de vente;

- une meilleure gestion des articles mis en vente, aussi bien pour gérer les stocks que pour organiser la politique commerciale,

15 - une meilleure productivité des opérations réalisées dans la surface de vente du fait d'une connaissance très précise de l'emplacement des produits, notamment pour la préparation de commande, pour un inventaire tournant, ou encore le rangement des articles abandonnés en magasin hors de leur emplacement.

Revendications

1. Procédé de mise à jour de données d'association entre des articles d'une surface de
 5 vente et des emplacements de ladite surface de vente, ladite surface de vente
 présentant une pluralité d'étiquettes de gondole (10, 11, 12) réparties dans ladite
 surface de vente, chacune desdites étiquettes de gondole (10, 11, 12) étant associée à
 un article et étant disposée à proximité d'un emplacement associé audit article,
 10 chacune desdites étiquettes de gondole (10, 11, 12) étant munie d'un identifiant
 d'étiquette qui lui est propre, ledit procédé comprenant les étapes selon lesquelles,
 pour localiser au moins une étiquette de gondole à localiser,
- un dispositif de lecture (3) acquiert (S1) une séquence d'identifiants d'étiquette
 comprenant au moins deux identifiants d'étiquettes dont les étiquettes
 15 électroniques de gondoles (10, 11, 12) sont adjacentes dans une direction de
 défilement des emplacements de la surface de vente, une desdites étiquettes
 électroniques de gondoles adjacentes étant ladite étiquette électronique de
 gondole à localiser, et une autre desdites étiquettes électroniques de gondoles
 adjacentes étant une étiquette électronique de gondole dont l'emplacement est
 connu,
 - 20 - le dispositif de lecture (3) transmet (S2) la séquence d'identifiants à un système
 informatique (2),
 - le système informatique (2) met à jour (S3) les données d'association à partir de
 la séquence d'identifiants d'étiquettes, en déterminant
 - les articles associés aux étiquettes de la séquence d'étiquettes,
 - 25 • les emplacements respectifs desdits articles à partir de l'ordre des
 étiquettes dans la séquence d'étiquettes.
2. Procédé selon la revendication 1, dans lequel l'acquisition de la séquence
 d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de
 30 lecture, d'une indication de positionnement relatif, par rapport à l'emplacement de
 l'étiquette à localiser, de l'étiquette adjacente dont l'emplacement est connu du
 système informatique, ladite indication de positionnement relatif étant transmise par le
 dispositif de lecture au système informatique.

3. Procédé selon la revendication 1, dans lequel le sens de défilement des emplacements de la surface de vente est connu, et une indication de positionnement relatif, par rapport à l'emplacement de l'étiquette localisée, de l'étiquette adjacente dont l'emplacement est connu du système informatique, est déduite de l'ordre
5 d'acquisition des identifiants d'étiquette de la séquence d'identifiants d'étiquette.

4. Procédé selon l'une quelconque des revendications précédentes, dans lequel le dispositif de lecture transmet au système informatique des données relatives à l'association entre l'identifiant de l'étiquette électronique à localiser et la référence
10 d'un article auquel est associée ladite étiquette électronique ajoutée.

5. Procédé selon l'une quelconque des revendications précédentes, dans lequel plusieurs étiquettes électroniques de gondole sont à localiser, lesdites étiquettes électroniques de gondole à localiser étant adjacentes les unes aux autres dans une direction de
15 défilement des emplacements de la surface de vente, et l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole à localiser dans l'ordre de leur disposition par rapport à l'étiquette électronique de gondole dont l'emplacement est connu.

20

6. Procédé selon l'une quelconque des revendications précédentes, dans lequel chaque étiquette électronique de gondole de ladite séquence est munie d'un périphérique radiofréquence et le dispositif de lecture acquiert l'identifiant desdites étiquettes électroniques de gondole en établissant une communication par radiofréquence avec
25 lesdites étiquettes électroniques de gondole.

7. Procédé selon l'une quelconque des revendications précédentes, dans lequel le dispositif de lecture 3 comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture 3 entre l'acquisition
30 de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser.

8. Procédé selon la revendication précédente, dans lequel une distance entre l'étiquette électronique de gondole dont l'emplacement est connu et l'étiquette électronique de gondole à localiser est déterminée à partir du déplacement du dispositif de lecture 3
35 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont

l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser, et le système informatique de traitement utilise ladite distance pour mettre à jour le planogramme.

- 5 9. Procédé selon l'une des revendications précédentes, comprenant les étapes selon lesquelles :
 - le dispositif de lecture (3) acquiert un identifiant d'étiquette d'une étiquette électronique de gondole,
 - une caractéristique de dimension de l'emplacement associé à l'étiquette
 - 10 électronique de gondole est renseignée dans le dispositif de lecture (3),
 - ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.
- 15 9. Produit programme d'ordinateur comprenant des instructions de code de programme pour l'exécution du procédé selon l'une quelconque des revendications précédentes, lorsque ledit programme est exécuté sur un ordinateur.
- 10 10. Système de gestion de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, comprenant:
 - 20 - une pluralité d'étiquettes électroniques de gondole, chacune desdites étiquettes de gondole étant associée à un identifiant d'étiquette qui lui est propre,
 - un dispositif de lecture adapté pour acquérir les identifiants d'étiquette de ladite pluralité d'étiquettes électroniques de gondole et les références des articles associés auxdites étiquettes électroniques de gondole,
 - 25 - un système informatique stockant des données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, configuré pour recevoir du dispositif de lecture les identifiants d'étiquette acquis par ledit dispositif de lecture,
 - 30 ledit système de gestion étant adapté pour mettre en œuvre le procédé selon l'une des revendications 1 à 8.

FIG. 1

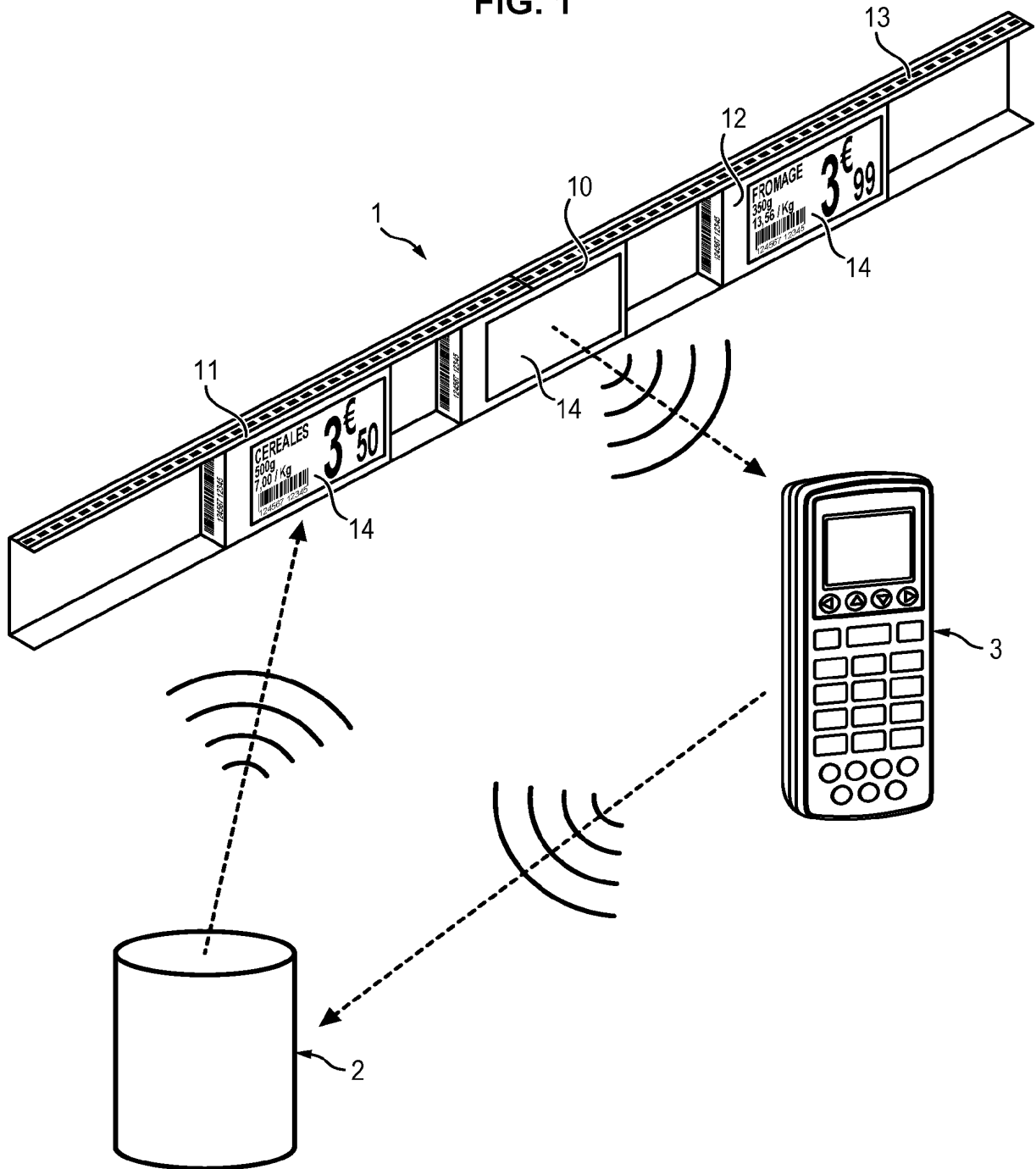


FIG. 2

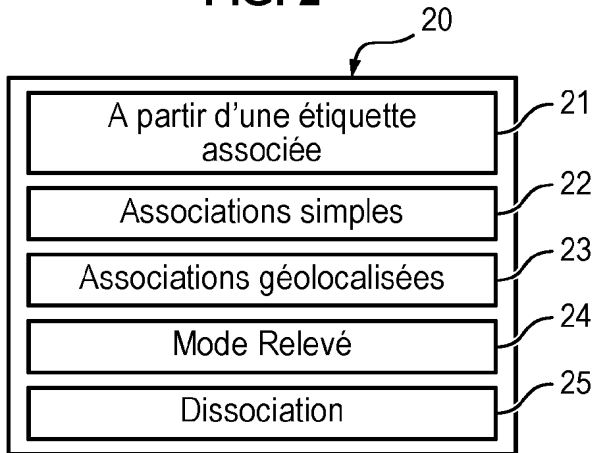


FIG. 3

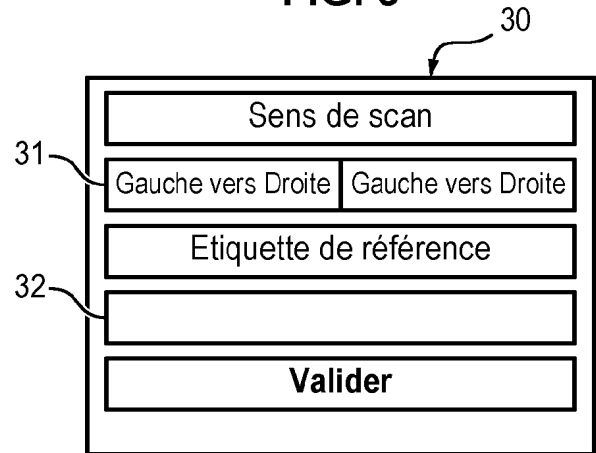


FIG. 4

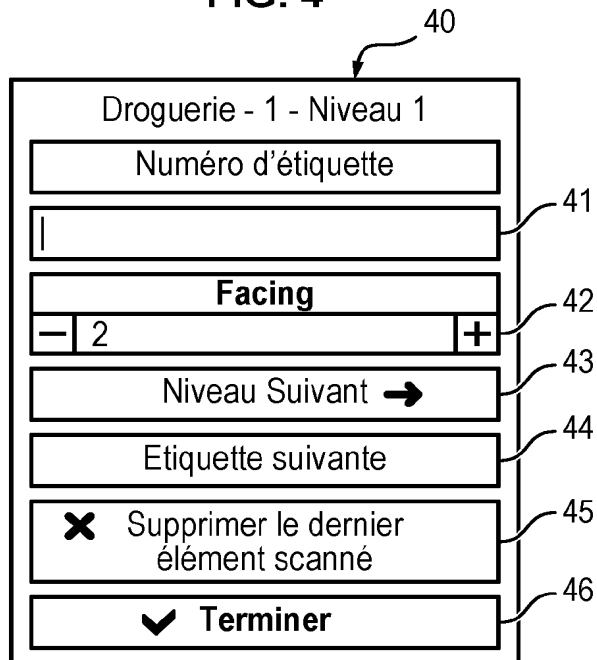
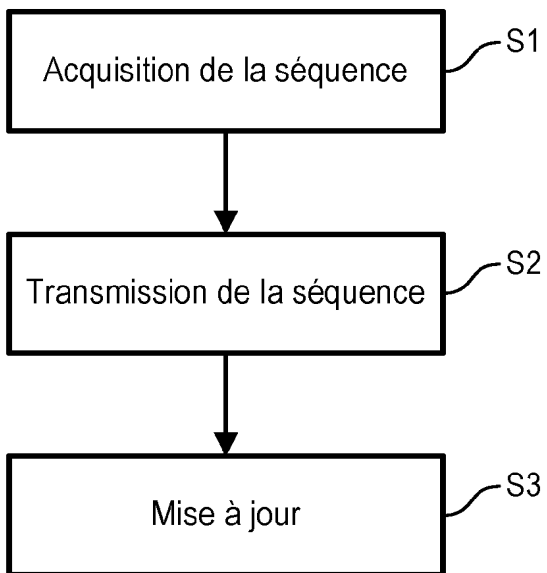


FIG. 5



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Informations sur la stratégie de recherche

Phase pilote (cf. JO OEB 2015, A86)

La nature des indications contenues sur cette feuille pourra varier au cours du projet pilote afin d'améliorer l'utilité de ce nouveau service.

Numéro de la demande

PCT/FR2016/051930

TITRE DE L'INVENTION: PROCEDE DE MISE A JOUR DE DONNEES D'ASSOCIATION ENTRE DES ARTICLES ET DES EMPLACEMENTS

DEMANDEUR: STORE ELECTRONIC SYSTEMS

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MOTS-CLÉS OU AUTRES ÉLÉMENTS FIGURANT DANS L'INVENTION:

A1: update ; mise à jour ; Aktualisierung

B1: items ; articles ; Stücke

C1: location ; emplacement ; Position

D1: shelf label ; étiquette ; Regaletikett



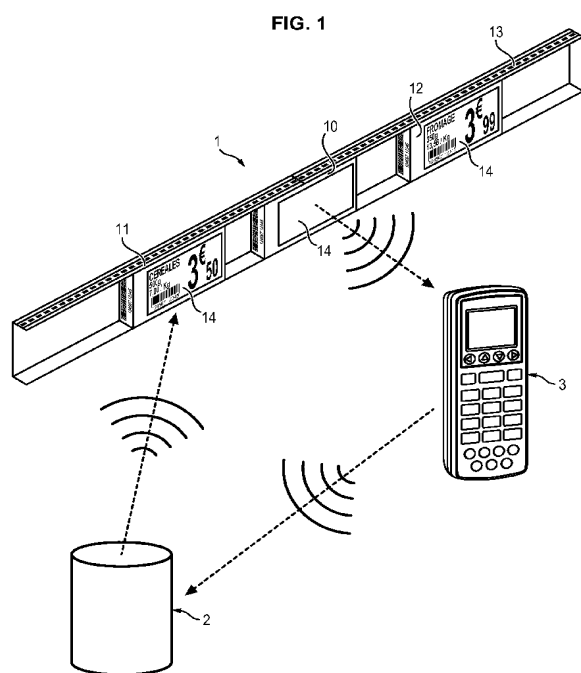
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[Suite sur la page suivante]

(54) Title : METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS

(54) Titre : PROCÉDÉ DE MISE À JOUR DE DONNÉES D'ASSOCIATION ENTRE DES ARTICLES ET DES EMPLACEMENTS



(57) Abstract : The invention concerns a method for updating association data between articles in a retail area and locations of said retail area, said method comprising the steps according to which, - a reading device (3) acquires a sequence of tag identifiers comprising at least two tag identifiers of which the electronic shelf tags (10, 11, 12) are adjacent, one of said adjacent electronic shelf tags being said electronic shelf tag to be located, and another of said adjacent electronic shelf tags being an electronic shelf tag of which the location is known, - the reading device (3) transmits the sequence of identifiers to a computer system (2) that updates the association data from the sequence of tag identifiers, by determining: the articles associated with the tags of the sequence of tags, the respective locations of said articles from the order of the tags in the sequence of tags.

(57) Abrégé : L'invention concerne un procédé de mise à jour de données

[Suite sur la page suivante]

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d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente ledit procédé comprenant les étapes selon lesquelles, -un dispositif de lecture(3)acquiert une séquence d'identifiants d'étiquette comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles (10, 11, 12) sont adjacentes,une des dites étiquettes électroniques de gondoles adjacentes étant ladite étiquette électronique de gondole à localiser,et une autre desdites étiquettes électroniques de gondoles adjacentes étant une étiquette électronique de gondole dont l'emplacement est connu, -le dispositif de lecture(3) transmet la séquence d'identifiants à un système informatique(2) qui met à jour les données d'association à partir de la séquence d'identifiants d'étiquettes, en déterminant: les articles associés aux étiquettes de la séquence d'étiquettes, les emplacements respectifs desdits articles à partir de l'ordre des étiquettes dans la séquence d'étiquettes.

Procédé de mise à jour de données d'association entre des articles et des emplacements

DOMAINE TECHNIQUE GENERAL ET CONTEXTE DE L'INVENTION

5

La présente invention concerne l'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente.

L'affichage d'informations relatives à des articles présentés à la vente dans une surface de vente se fait généralement au moyen d'étiquettes affichant notamment le
10 prix de l'article auquel une étiquette est associée, ainsi que d'autres informations telles que le prix au poids, etc...

La nécessité de disposer d'un affichage d'informations à jour a justifié l'implantation dans de nombreuses surfaces de vente d'étiquettes électroniques de gondole, plus commodément désignées par leur acronyme EEG, disposant d'un écran sur
15 lequel l'affichage d'informations est commandé à distance.

L'utilité de tels systèmes est essentiellement de permettre, au niveau des rayonnages d'une surface de vente telle qu'un supermarché, hypermarché ou toute autre surface de vente, de présenter au consommateur, pour chaque article présenté à la vente, un prix correspondant de façon fiable au prix tel qu'il figure dans le fichier
20 central du site, c'est-à-dire au prix tel qu'il sera effectivement utilisé en caisse pour le paiement de l'article.

Un autre avantage de ces systèmes connus est de permettre de réaliser des changements de prix automatisés dans des délais beaucoup plus courts qu'avec un affichage manuel, que ce soit pour des périodes particulières de promotion sur le site,
25 pour tout ou partie des articles présentés à la vente, pour répercuter des changements de tarifs, pour faire face à des situations d'inflation où les prix doivent être augmentés très fréquemment, etc...

Les capacités de communications des EEG ont récemment été amplifiées en les munissant d'un périphérique radiofréquence à courte portée, de type NFC (acronyme de
30 l'anglais Near Field Communication pour communication en champ proche) ou RFID (acronyme de l'anglais Radio Frequency Identification pour identification radiofréquence), afin de tirer parti de l'équipement des clients des surfaces de ventes en terminaux mobile de communication intelligents. Un exemple courant d'un tel terminal mobile est un téléphone portable de type smartphone, qui offre à la fois des
35 possibilités de connexion et de traitement d'informations appropriées.

De fait, l'interaction entre l'EEG et le terminal du client permet d'offrir à celui-ci de nouveaux services, tels que l'affichage d'informations supplémentaires sur le produit auquel est associée l'EEG. La demande de brevet WO2013/153290 décrit une exploitation particulièrement avantageuse de ces capacités de communication, en permettant de transmettre au terminal mobile du client des informations spatialement localisées associée à la localisation dudit terminal mobile. Le terminal mobile est localisé grâce à l'identification et la localisation d'au moins une étiquette de gondole avec lequel le terminal mobile entre en communication. Une telle localisation permet d'obtenir une très grande précision, de l'ordre de quelques centimètres, tandis que les procédés de géolocalisation à base de triangulation intérieur à partir de balises émettant un signal radio ne permettent au mieux qu'une précision de l'ordre du mètre, ce qui empêche de savoir devant quel produit se trouve le client, et restreint donc fortement les possibilités d'interactions basées sur la localisation.

Cependant, la localisation du terminal mobile à partir des EEG suppose une connaissance précise et correcte de l'emplacement desdites EEG. La disposition d'une surface de vente est normalement décrite par un planogramme. Un planogramme est un ensemble de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente. Le planogramme établit quels produits doivent être à telle hauteur, sur quelles étagères et sur combien de mètres linéaires.

Or, les planogrammes actuellement utilisés sont des visions théoriques de ce que devrait être la surface de vente. En effet, ils sont typiquement définis de façon générique, pour une pluralité de magasins de taille similaire, pour lesquels le même agencement et le même achalandage est prévu. De fait, l'agencement d'une surface de vente donnée est effectué sur la base du planogramme théorique correspondant à la taille de la surface de vente. Dans les faits, la réalité de l'organisation de la surface de vente s'écarte de manière non négligeable de ce planogramme théorique. En effet, il est courant que de l'ordre de 10 à 15 % des articles présents dans la surface de vente ne se retrouvent pas sur le planogramme, par exemple parce que ces articles sont propres à la surface de vente, et n'ont pas été intégrés au planogramme conçu pour un ensemble de surfaces de vente. En outre, la disposition des articles dans la surface de vente peut varier au fil du temps, en raison des décalages de produits et des adaptations effectuées par les opérateurs de la surface de vente, par exemple pour des produits saisonniers comme ceux proposés uniquement à Noël ou à la rentrée des classes.

Il en résulte que le planogramme n'est jamais conforme à la réalité, et que la localisation faisant appel à ce planogramme pâtit de l'incapacité du planogramme à

refléter la réalité. Mais l'inexactitude du planogramme présente d'autres inconvénients, notamment au niveau de la gestion des stocks et d'autres aspects commerciaux, puisque le planogramme est par exemple utilisé pour estimer les quantités d'articles sur les gondoles, sur la base de l'étendue théorique de leur présence, qui, erronée, peut mener
5 à des ruptures de stock non anticipées.

PRESENTATION DE L'INVENTION

Un but général de l'invention est de pallier tout ou partie des défauts des
10 dispositifs de liaison de l'art antérieur, en proposant un procédé permettant de maintenir le planogramme à jour et conforme à la disposition réelle des produits dans la surface de vente.

A cet effet, il est proposé un procédé de mise à jour de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de
15 vente, ladite surface de vente présentant une pluralité d'étiquettes de gondole réparties dans ladite surface de vente, chacune desdites étiquettes de gondole étant associée à un article et étant disposée à proximité d'un emplacement associé audit article, chacune desdites étiquettes de gondole étant munie d'un identifiant d'étiquette qui lui est propre, ledit procédé comprenant les étapes selon lesquelles, pour ajouter
20 au moins une étiquette de gondole :

- un dispositif de lecture acquiert une séquence d'identifiants d'étiquette comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles sont adjacentes dans une direction de défilement des emplacements de la surface de vente, une desdites étiquettes électroniques de
25 gondoles adjacentes étant ladite étiquette électronique de gondole ajoutée, et une autre desdites étiquettes électroniques de gondoles adjacentes étant une étiquette électronique de gondole dont l'emplacement est connu,
- le dispositif de lecture transmet la séquence d'identifiants à un système informatique,
- 30 - le système informatique met à jour les données d'association à partir de la séquence d'identifiants d'étiquettes, en déterminant
 - les articles associés aux étiquettes de la séquence d'étiquettes,
 - les emplacements respectifs desdits articles à partir de l'ordre des étiquettes dans la séquence d'étiquettes.

35

Ce procédé est avantageusement complété par les caractéristiques suivantes, prises seules ou en une quelconque de leur combinaison techniquement possible:

- 5 - l'acquisition de la séquence d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de lecture, d'une indication de positionnement relatif par rapport à l'emplacement de l'étiquette ajoutée de l'étiquette adjacente dont l'emplacement est connu du système informatique, ladite indication de positionnement relatif étant transmise par le dispositif de lecture au système informatique;
- 10 - le sens de défilement des emplacements de la surface de vente est connu, et une indication de positionnement relatif, par rapport à l'emplacement de l'étiquette localisée, de l'étiquette adjacente dont l'emplacement est connu du système informatique, est déduite de l'ordre d'acquisition des identifiants d'étiquette de la séquence d'identifiants d'étiquette;
- 15 - le dispositif de lecture transmet au système informatique des données relatives à l'association entre l'identifiant de l'étiquette électronique ajoutée et la référence d'un article auquel est associée ladite étiquette électronique ajoutée;
- 20 - plusieurs étiquettes électroniques de gondole sont ajoutées, lesdites étiquettes électroniques de gondole ajoutées étant adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente, et l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole ajoutées dans l'ordre de leur disposition par rapport à l'étiquette électronique de gondole dont l'emplacement est connu;
- 25 - chaque étiquette électronique de gondole de ladite séquence est munie d'un périphérique radiofréquence et le dispositif de lecture acquiert l'identifiant desdites étiquettes électroniques de gondole en établissant une communication par radiofréquence avec lesdites étiquettes électroniques de gondole;
- 30 - le dispositif de lecture comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser;
- 35 - une distance entre l'étiquette électronique de gondole dont l'emplacement est connu et l'étiquette électronique de gondole à localiser est déterminée à partir du déplacement du dispositif de lecture entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant

de l'étiquette électronique de gondole à localiser, et le système informatique de traitement utilise ladite distance pour mettre à jour le planogramme;

- le procédé comprend les étapes selon lesquelles:
 - le dispositif de lecture acquiert un identifiant d'étiquette d'une étiquette électronique de gondole,
 - une caractéristique de dimension de l'emplacement associé à l'étiquette électronique de gondole est renseignée dans le dispositif de lecture,
 - ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

L'invention concerne également un produit programme d'ordinateur comprenant des instructions de code de programme pour l'exécution du procédé selon l'invention, lorsque ledit programme est exécuté sur un ordinateur.

L'invention concerne également un système de gestion de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, comprenant:

- une pluralité d'étiquettes électroniques de gondole, chacune desdites étiquettes de gondole étant associée à un identifiant d'étiquette qui lui est propre,
- un dispositif de lecture adapté pour acquérir les identifiants d'étiquette de ladite pluralité d'étiquettes électroniques de gondole et les références des articles associés auxdites étiquettes électroniques de gondole,
- un système informatique stockant des données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, configuré pour recevoir du dispositif de lecture les identifiants d'étiquette acquis par ledit dispositif de lecture, ledit système de gestion étant adapté pour mettre en œuvre le procédé selon l'invention.

PRESENTATION DES FIGURES

D'autres caractéristiques, buts et avantages de l'invention ressortiront de la description qui suit, qui est purement illustrative et non limitative, et qui doit être lue en regard des dessins annexés parmi lesquels:

- la figure 1 illustre est un schéma illustrant un système selon un mode de réalisation possible de l'invention,

- les figures 2, 3 et 4 sont des exemples de menus affichés par le dispositif de lecture dans le cadre de la mise en œuvre de l'invention selon un mode de réalisation possible,
- la figure 5 est un schéma illustrant différentes étapes du procédé selon un mode de réalisation possible de l'invention.

DESCRIPTION DETAILLEE

Sur la figure 1 est représenté, dans un but illustratif et non limitatif, un système de communication de données correspondant à un mode de réalisation possible de l'invention, comprenant un dispositif de lecture 3, un serveur central 2 et une séquence 1 d'étiquettes électroniques de gondole (EEG).

Le dispositif de lecture 3 est apte à communiquer avec un serveur central 2. Ce dispositif de lecture 3 est de préférence muni de moyens d'affichage d'informations, tel qu'un écran, à destination d'un utilisateur dudit dispositif de lecture 1, et de moyens d'entrée comme un clavier, des boutons, et/ou un écran tactile. La communication entre le dispositif de lecture 3 et le serveur central 2 peut être établi au moyen de tout réseau de communication au moins partiellement sans fil, notamment via un réseau sans fil de type DECT, WIFI ou 3G. Ainsi la communication peut être établie en passant par le réseau internet auquel est relié le serveur central 2.

Les EEG sont réparties dans la surface de vente. Les EEG présentent une forte densité spatiale, typiquement une dizaine d'étiquettes par mètres carrés en moyenne, avec cependant une variabilité importante. Chaque EEG est identifiée par un unique identifiant d'étiquette qui lui est propre. Cette identifiant d'étiquette permet donc d'identifier de manière univoque une seule et unique EEG de la surface de vente. Chacune desdites étiquettes de gondole est associée à un article et est disposée à proximité d'un emplacement associé audit article.

Sur la figure 1 est illustrée une séquence 1 d'EEG 10, 11, 12 mis en place le long d'un rail 13 de gondole de présentation d'articles. Une telle EEG comporte un écran d'affichage 14 pour l'affichage d'informations relatives à un article auquel elle est associée. Typiquement, ces informations comprennent le prix de l'article, et d'autres informations habituellement disponibles dans une surface de vente, par exemple le prix par kilogramme pour un produit alimentaire. L'EEG comporte également un boîtier en plastique à l'intérieur duquel sont logés les constituants fonctionnels de l'EEG.

Notamment, l'étiquette électronique comporte un module de communication radiofréquence pour recevoir des données représentatives d'informations relatives à un

article en provenance d'une station centrale reliée au système informatique 2, une mémoire pour stocker lesdites données, et un microcontrôleur pour commander l'affichage des informations relatives à l'article. Ces différents constituants fonctionnels sont disposés sur une carte de circuit imprimé logée dans le boîtier. L'EEG
5 comporte également un périphérique radiofréquence avec lequel le dispositif de lecture 3 peut établir une communication pour acquérir l'identifiant d'étiquette de ladite EEG. De fait, le dispositif de lecture 3 est adapté pour établir une communication sans fil avec l'EEG.

Le périphérique radiofréquence de l'étiquette électronique comprend une
10 antenne et une puce électronique de type NFC (acronyme de l'anglais Near Field Communication pour communication en champ proche) ou RFID (acronyme de l'anglais Radio Frequency Identification pour identification radiofréquence). Un périphérique radiofréquence de type NFC fonctionne par exemple avec une fréquence de 13,56 Mhz comme un périphérique radiofréquence de type RFID HF.

15 Le serveur central 2 comprend des moyens informatiques de traitement incluant au moins un processeur et une mémoire dans laquelle sont stockées des données d'associations relatives à l'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, lesdites données d'association constituant le planogramme.

20 La mémoire du serveur central 2 stocke également des données relatives à l'association entre l'identifiant d'étiquette et un emplacement de la surface de vente qui correspond à la localisation de l'EEG identifiée par ledit identifiant, ainsi qu'à l'article auquel est associé l'EEG. Ainsi, grâce à l'identifiant d'étiquette, on peut retrouver l'emplacement de l'EEG identifiée par ledit identifiant et l'article auquel elle se
25 rapporte.

Le procédé permet de mettre à jour les données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente. En cas de changement dans l'association d'un article avec l'EEG au niveau d'un emplacement, par exemple lorsqu'un article est substitué à un autre au même emplacement, il suffit à
30 l'opérateur effectuant le changement d'article d'acquérir successivement l'identifiant de l'EEG correspondant à cet emplacement, et la référence de l'article correspondant audit emplacement, et d'envoyer au système informatique des données relatives à l'association entre l'identifiant l'EEG et la référence de l'article. Les données envoyées au système informatique sont utilisées pour mettre à jour les données d'association
35 entre les articles de la surface de vente et les emplacements de ladite surface de vente,

c'est-à-dire le planogramme, puisque l'emplacement de l'EEG peut être retrouvé au moyen de l'identifiant d'étiquette de celle-ci.

La problématique de la mise à jour du planogramme se pose notamment lorsque l'agencement des EEG est modifié, en raison du déplacement d'une EEG, et plus
5 précisément lorsqu'une séquence d'EEG doit être modifiée par l'ajout d'au moins une étiquette, dans la mesure où l'enlèvement d'une étiquette ne requiert que la suppression des données qui y sont associées. Il est alors nécessaire de connaître l'emplacement de l'EEG déplacée, dont l'emplacement est inconnu. Il s'agit donc d'une EEG à localiser par rapport aux autres EEG dans la surface de vente, pour remettre à
10 jour le planogramme.

Le procédé propose ainsi la mise à jour de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente lors du déplacement d'au moins une EEG, par le biais de l'acquisition, par le dispositif de lecture 3, d'au moins deux identifiants d'étiquette dont les EEG sont adjacentes, dans
15 une direction de défilement des emplacements de la surface de vente, et dont l'un des identifiants correspond à l'EEG à localiser, et l'autre à une EEG dont l'emplacement est connu.

A titre illustratif, la présente invention est décrite en détail dans le cadre de l'ajout d'une EEG. C'est la configuration qui est illustrée par la figure 1. En choisissant
20 un sens de lecture des étiquettes électroniques de la gauche vers la droite sur la figure 1, l'étiquette ajoutée 10 est l'étiquette centrale, encadrée par l'étiquette précédente 11 et l'étiquette suivante 12. Il est à noter que la mise en place physique de l'EEG 10 à son emplacement peut être effectuée avant ou après le procédé qui va être décrit.

La figure 2 illustre un exemple non limitatif de menu 20 qui peut être présenté
25 par le dispositif de lecture 3. Plusieurs possibilités sont offertes à l'opérateur. Une première fonctionnalité 21 dite "A partir d'une étiquette associée" consiste à localiser une EEG à localiser au moyen d'une EEG associée dont l'emplacement est connu. Une deuxième fonctionnalité 22 dite "Association simple" consiste à associer une EEG dont l'emplacement est connu avec un article en acquérant un identifiant d'article. Une
30 troisième fonctionnalité 23 dite "Associations géolocalisées" consiste à associer une EEG à un emplacement en renseignant manuellement l'emplacement. Une quatrième fonctionnalité 24 dite "Mode relevé" consiste à localiser séquentiellement plusieurs EEG à localiser. Enfin, une cinquième fonctionnalité 25 dite "Dissociation" consiste à dissocier une EEG d'un article.

35 Dans la suite, on s'intéresse plus particulièrement à la première fonctionnalité 21 et à la quatrième fonctionnalité 24. Dans le cadre de la première fonctionnalité 21, une

fois que l'opérateur a choisi celle-ci, un autre menu 30 tel que celui de la figure 3 lui est présenté. Afin de déterminer l'emplacement de l'EEG ajoutée 10, l'acquisition de la séquence d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de lecture 3, d'une indication de positionnement relatif d'une étiquette
5 adjacente 11 ou 12, dont l'emplacement est déjà connu, par rapport à l'étiquette ajoutée 10.

L'opérateur utilise le dispositif de lecture 3 pour acquérir (étape S1) un identifiant d'étiquette d'une EEG adjacente 11 ou 12 à l'emplacement de l'EEG ajoutée 10, emplacement qui peut être soit déjà occupée par l'EEG ajoutée 10 soit destiné à
10 recevoir l'EEG ajoutée 10. Ainsi, l'EEG dont l'identifiant d'étiquette est acquis est l'EEG précédente 11 ou l'EEG suivante 12. Comme indiqué plus haut, cette acquisition se fait de préférence par communication sans fil de type NFC. Cette EEG adjacente devient l'étiquette de référence, dont l'identifiant apparaît dans le cadre 32 du menu 30.

L'opérateur indique également une indication de positionnement relatif de
15 l'étiquette adjacente par rapport à l'étiquette ajoutée 10 (étape S3). Dans l'exemple de la figure 3, c'est le sens de défilement, en choisissant dans le menu 30 un sens de scan 31 : de la gauche vers la droite ou de la droite vers la gauche. L'opérateur indique donc si l'EEG dont l'identifiant vient d'être acquis est l'EEG précédente 11 ou l'EEG suivante 12 en sélectionnant le champ adéquat, puis il valide son indication.

20 Le dispositif de lecture 3 peut également proposer à l'opérateur un menu lui donnant le choix, entre la désignation de l'EEG dont l'identifiant vient d'être acquis en tant qu'EEG précédente ou EEG suivante afin de renseigner l'indication de positionnement relatif de l'étiquette adjacente par rapport à l'étiquette ajoutée 10.

Il est possible de renseigner l'indication de positionnement relatif de l'EEG
25 adjacente dont l'emplacement est connu par rapport à l'emplacement de l'EEG ajoutée 10 avant ou après l'acquisition de l'identifiant d'étiquette de ladite EEG adjacente dont l'emplacement est connu.

L'opérateur utilise le dispositif de lecture 3 pour acquérir l'identifiant d'étiquette de l'EEG ajoutée 10, de préférence par communication sans fil de type NFC, puis
30 renseigne éventuellement la référence de l'article destiné à être associé avec ladite étiquette associée, si celle-ci n'est pas encore associée avec ledit article. Cette étape peut également être effectuée avant ou après l'acquisition de l'identifiant d'étiquette de ladite EEG adjacente dont l'emplacement est connu et/ou le renseignement de l'indication de positionnement relatif de l'EEG adjacente dont l'emplacement est connu
35 par rapport à l'emplacement de l'EEG ajoutée 10.

Différentes possibilités sont possibles pour renseigner la référence de l'article. La plus courante consiste en un scannage d'un code-barres de l'article, lequel encode généralement la référence de l'article. Le dispositif de lecture 3 est à cet effet pourvu d'un lecteur de code-barres. Alternativement, l'opérateur peut rentrer manuellement la référence à l'aide des moyens d'entrée du dispositif de lecture, incluant un clavier, réel ou virtuel. Si l'article est pourvu d'un périphérique radiofréquence tel qu'une puce RFID, le dispositif de lecture 3 peut acquérir la référence de l'article en établissant une communication avec ledit périphérique radiofréquence.

Le dispositif de lecture 3 transmet (étape S2) au système informatique 2 la séquence d'identifiants d'étiquette comprenant l'identifiant de l'étiquette adjacente 11, 12 et l'identifiant d'étiquette de l'EEG ajoutée 10. Le dispositif de lecture 3 transmet également l'indication de positionnement relatif de ladite EEG adjacente 11 ou 12 par rapport à l'EEG ajoutée 10. Les données relatives à l'association entre l'identifiant de l'EEG ajoutée 10 et la référence d'un article auquel est associée ladite EEG ajoutée 10 peuvent également être transmis.

Bien que la description ci-dessus, pour des raisons de simplicité, ne traite que de la localisation d'une EEG à la fois, il est possible de localiser plusieurs EEG adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente. Il s'agit de la quatrième fonctionnalité dite "Mode relevé" du menu 20 de la figure 2. Dans ce cas, l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole ajoutées dans l'ordre de leur disposition dans la direction de défilement.

Plus précisément, l'opérateur utilise le dispositif de lecture 3 pour acquérir un identifiant d'étiquette d'une EEG adjacente à l'emplacement de l'EEG ajoutée, emplacement qui peut être soit déjà occupée par l'EEG ajoutée 10 soit destiné à recevoir l'EEG ajoutée 10. Ainsi, l'EEG dont l'identifiant d'étiquette est acquis est l'EEG précédente 11 ou l'EEG suivante 12.

Une indication de positionnement relatif de l'EEG adjacente par rapport à l'EEG ajoutée 10 est ensuite déterminée. A cet égard, l'opérateur peut renseigner l'indication de positionnement relatif par rapport à l'EEG ajoutée 10 de l'EEG adjacente 11 ou 12 dont l'emplacement est connu du système informatique, ladite indication de positionnement relatif étant transmise par le dispositif de lecture au système informatique. Cette EEG 11 ou 12 dont l'emplacement est connu sert donc de référence pour les emplacements des EEG ajoutées 10. L'indication de positionnement relatif peut également être déduite par le fait que le sens du défilement du dispositif de lecture 3

devant les EEG est prédéfini. L'ordre chronologique des références acquises détermine ainsi les positionnements relatifs des EEG auxquelles appartiennent ces références.

L'opérateur acquiert ensuite les identifiants des EEG ajoutées 10 dans l'ordre, en termes de proximité, de la disposition des emplacements des EEG ajoutées par rapport à l'EEG 11 ou 12 dont l'emplacement est connu du système informatique. Ainsi, en cas d'ajout de deux EEG entre les EEG 11 ou 12, dont l'emplacement est connu, l'opérateur acquiert l'identifiant par exemple de l'EEG précédente 11, puis indique le sens de déplacement, ou qu'il s'agit de l'EEG précédent les emplacements des EEG ajoutées 10. L'opérateur acquiert ensuite l'identifiant d'étiquette de l'EEG la plus proche de l'EEG 11, puis de celle la plus éloignée de l'EEG 11.

Il est à noter que l'information de positionnement relatif transmise au système informatique 2 peut comprendre une distance relative entre l'EEG dont l'emplacement est connu et l'EEG à localiser 10. Cette distance peut être acquise par la mesure du déplacement du dispositif de lecture 3 entre le moment où il acquiert l'identifiant de l'EEG dont l'emplacement est connu et le moment où il acquiert l'identifiant de l'EEG à localiser. A cette effet, le dispositif de lecture 3 comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture 3 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser.

Par exemple, le dispositif de lecture 3 peut être muni d'un accéléromètre, permettant de déterminer par intégration le déplacement dudit dispositif de lecture 3 entre les deux acquisitions, et donc d'en déduire la distance. La connaissance de cette distance permet de reporter fidèlement le positionnement relatif de l'EEG à localiser par rapport à l'EEG dont l'emplacement est connu. Il est également possible de considérer comme EEG dont l'emplacement est connu une EEG factice, c'est-à-dire non associée à un article, constituant un repère de référence pour localiser les autres EEG. C'est par exemple le cas d'une EEG placée à une extrémité d'une gondole pour repérer celle-ci.

Les informations acquises par le dispositif de lecture 3, à savoir les identifiants d'étiquette, les informations de positionnement relatif, et éventuellement les données d'association entre les articles de la surface de vente et les EEG, sont transmises au système informatique 2, de préférence au moyen d'une connexion sans fil.

Le système informatique 2 reçoit donc ces informations, et s'en sert pour mettre à jour (étape S3) les données d'association entre les articles de la surface de vente et les emplacements de ladite surface de vente, c'est-à-dire le planogramme. Au moyen de

la séquence d'identifiants d'étiquette, le système informatique détermine l'emplacement de l'EEG ajoutée 10. A partir de la référence de l'article transmise par le dispositif de lecture 3 en même temps que l'identifiant d'étiquette de l'EEG ajoutée 10, le système informatique 2 détermine également l'article associé à l'EEG ajoutée 10.

5 Comme il y a correspondance entre l'emplacement de l'article associé à l'EEG ajoutée 10 et l'emplacement de ladite EEG ajoutée 10, le système informatique détermine en même temps l'emplacement de l'article associé à l'EEG ajoutée 10. Le planogramme est alors modifié pour qu'à cet emplacement corresponde ledit article.

Le planogramme présente de préférence un référencement des emplacements de
10 la surface de vente prenant la forme d'un cadastre, avec une localisation desdits emplacements au moyen d'un référentiel ou d'un ensemble de coordonnées représentatives de l'organisation spatiale de la surface de vente. Par exemple, une première coordonnée peut désigner le rayon de la surface de vente, tandis qu'une deuxième peut désigner une section de la gondole, une troisième l'étage de la gondole,
15 et une quatrième l'ordre de l'emplacement sur cet étage. Une section de la gondole peut notamment être définie comme étant l'étendue de la gondole sur laquelle les étages sont continus. Une rupture dans l'étagement signifie donc le passage à une autre section.

Ainsi, à chaque emplacement est associé une EEG, et un article. Toute
20 modification de l'agencement des emplacements des EEG entraînant un ajout ou un retrait d'EEG, cette modification est immédiatement relayée au système informatique 2, et intégrée dans le planogramme. De même, en cas de changement dans l'association d'un article avec l'EEG au niveau d'un emplacement, par exemple lorsqu'un article est substitué à un autre au même emplacement, il suffit alors à l'opérateur effectuant le
25 changement d'article d'acquérir successivement l'identifiant de l'EEG correspondant à cet emplacement, et la référence de l'article correspondant audit emplacement, et d'envoyer au système informatique des données relatives à l'association entre l'identifiant l'EEG et la référence de l'article, comme expliqué lors de l'ajout d'une EEG. Il n'est cependant alors pas nécessaire d'acquérir l'identifiant d'une EEG adjacente dans
30 la mesure où l'agencement des EEG n'a pas été modifié.

Les données envoyées au système informatique sont utilisées pour mettre à jour les données d'association entre les articles de la surface de vente et les emplacements de ladite surface de vente, c'est-à-dire le planogramme, puisque l'emplacement de l'EEG peut être retrouvé au moyen de l'identifiant d'étiquette de celle-ci.

35 En outre, il peut être prévu de modifier une caractéristique spatiale d'un emplacement, et notamment le frontal, plus connu sous le terme anglais de "facing",

qui est la longueur d'étagère visible, face au client, utilisée sur un rayonnage pour la présentation d'un article. En effet, les emplacements du planogramme peuvent avoir des frontaux différents, en fonction notamment des caractéristiques des articles qui y sont placés, et des choix marchands (publicité, stockage en rayon). Ainsi, la possibilité

5 de modifier le frontal (ou "facing"), c'est-à-dire la largeur de présentation d'un emplacement, permet d'améliorer encore la représentativité et la performance du planogramme.

A cet effet, le procédé peut comprendre les étapes selon lesquelles :

- le dispositif de lecture 3 acquiert un identifiant d'étiquette d'une
- 10 étiquette électronique de gondole,
- une caractéristique de dimension de l'emplacement associé à l'étiquette électronique de gondole est renseignée dans le dispositif de lecture 3,
- ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

15 Par exemple, le dispositif de lecture 3 peut proposer un menu 40 tel qu'illustré sur la figure 4. Un premier champ 41 correspond au numéro d'étiquette, c'est-à-dire l'identifiant d'étiquette, qui est renseigné par l'opérateur ou par le dispositif de lecture 3 suite à l'acquisition de l'identifiant d'étiquette d'une EEG. Un deuxième champ 42 correspond à caractéristique de dimension de l'emplacement associé à l'EEG identifiée

20 au premier champ 41, en l'occurrence le frontal. L'opérateur peut modifier la valeur de cette caractéristique. Le bouton "Etiquette suivante" 44 sert à valider les caractéristiques associées à l'EEG (numéro d'étiquette, frontal) et permet de passer au renseignement des caractéristiques d'une autre EEG.

D'autres fonctionnalités peuvent être offertes par ce menu 40. Il est par exemple

25 possible de passer à un niveau suivant 43, c'est-à-dire à une étagère de gondole suivante. Il Le bouton 45 permet de supprimer le dernier élément scanné, il s'agit d'un bouton d'annulation. Enfin, le bouton 46 noté "Terminer" permet de valider. Le planogramme est mis à jour à chaque changement de l'agencement des articles dans la surface de vente. Il est donc représentatif de l'agencement réel de chaque surface de vente, et

30 n'est donc plus une vision théorique de ce que devrait être l'agencement de cette surface de vente.

Par ailleurs, les données relatives à l'association entre l'identifiant de l'EEG et la référence d'un article auquel est associée ladite EEG sont utilisées par le système informatique 2 pour transmettre à ladite EEG les données d'affichage en lien avec cet

35 article, par exemple par transmission radio, afin que les informations sur l'article soient affichées par l'EEG. En outre, le système informatique 2 offre également la possibilité

de modifier le planogramme manuellement, par exemple en affectant des articles à certains emplacements, notamment pour initialiser le planogramme, et on adapte alors l'association entre un article et l'EEG pour prendre en compte la modification manuelle effectuée.

5 La connaissance exacte de l'emplacement des produits, que reflète le planogramme, par le biais des emplacements des EEG, apporte plusieurs avantages :

- une localisation du consommateur, via la détermination de l'emplacement de l'EEG dont l'identifiant est communiqué par le consommateur, telle que prévue par la demande WO2013/153290, est plus précise et exacte;

10 - la possibilité d'informer sur la localisation des articles, le consommateur ou un opérateur de la surface de vente;

- une meilleure gestion des articles mis en vente, aussi bien pour gérer les stocks que pour organiser la politique commerciale,

15 - une meilleure productivité des opérations réalisées dans la surface de vente du fait d'une connaissance très précise de l'emplacement des produits, notamment pour la préparation de commande, pour un inventaire tournant, ou encore le rangement des articles abandonnés en magasin hors de leur emplacement.

Revendications

1. Procédé de mise à jour de données d'association entre des articles d'une surface de
5 vente et des emplacements de ladite surface de vente, ladite surface de vente
présentant une pluralité d'étiquettes de gondole (10, 11, 12) réparties dans ladite
surface de vente, chacune desdites étiquettes de gondole (10, 11, 12) étant associée à
un article et étant disposée à proximité d'un emplacement associé audit article,
10 chacune desdites étiquettes de gondole (10, 11, 12) étant munie d'un identifiant
d'étiquette qui lui est propre, ledit procédé comprenant les étapes selon lesquelles,
pour localiser au moins une étiquette de gondole à localiser,

- un dispositif de lecture (3) acquiert (S1) une séquence d'identifiants d'étiquette
comprenant au moins deux identifiants d'étiquettes dont les étiquettes
15 électroniques de gondoles (10, 11, 12) sont adjacentes dans une direction de
défilement des emplacements de la surface de vente, une desdites étiquettes
électroniques de gondoles adjacentes étant ladite étiquette électronique de
gondole à localiser, et une autre desdites étiquettes électroniques de gondoles
adjacentes étant une étiquette électronique de gondole dont l'emplacement est
connu,
- 20 - le dispositif de lecture (3) transmet (S2) la séquence d'identifiants à un système
informatique (2),
- le système informatique (2) met à jour (S3) les données d'association à partir de
la séquence d'identifiants d'étiquettes, en déterminant
 - les articles associés aux étiquettes de la séquence d'étiquettes,
 - 25 • les emplacements respectifs desdits articles à partir de l'ordre des
étiquettes dans la séquence d'étiquettes.

2. Procédé selon la revendication 1, dans lequel l'acquisition de la séquence
d'identifiants d'étiquette comprend le renseignement par un opérateur du dispositif de
30 lecture, d'une indication de positionnement relatif, par rapport à l'emplacement de
l'étiquette à localiser, de l'étiquette adjacente dont l'emplacement est connu du
système informatique, ladite indication de positionnement relatif étant transmise par le
dispositif de lecture au système informatique.

3. Procédé selon la revendication 1, dans lequel le sens de défilement des emplacements de la surface de vente est connu, et une indication de positionnement relatif, par rapport à l'emplacement de l'étiquette localisée, de l'étiquette adjacente dont l'emplacement est connu du système informatique, est déduite de l'ordre d'acquisition des identifiants d'étiquette de la séquence d'identifiants d'étiquette.
4. Procédé selon l'une quelconque des revendications précédentes, dans lequel le dispositif de lecture transmet au système informatique des données relatives à l'association entre l'identifiant de l'étiquette électronique à localiser et la référence d'un article auquel est associée ladite étiquette électronique ajoutée.
5. Procédé selon l'une quelconque des revendications précédentes, dans lequel plusieurs étiquettes électroniques de gondole sont à localiser, lesdites étiquettes électroniques de gondole à localiser étant adjacentes les unes aux autres dans une direction de défilement des emplacements de la surface de vente, et l'acquisition de la séquence d'identifiants d'étiquette par le dispositif de lecture comprend l'acquisition des identifiants d'étiquette desdites étiquettes électroniques de gondole à localiser dans l'ordre de leur disposition par rapport à l'étiquette électronique de gondole dont l'emplacement est connu.
6. Procédé selon l'une quelconque des revendications précédentes, dans lequel chaque étiquette électronique de gondole de ladite séquence est munie d'un périphérique radiofréquence et le dispositif de lecture acquiert l'identifiant desdites étiquettes électroniques de gondole en établissant une communication par radiofréquence avec lesdites étiquettes électroniques de gondole.
7. Procédé selon l'une quelconque des revendications précédentes, dans lequel le dispositif de lecture 3 comprend un organe de mesure de déplacement, et le procédé comprend la détermination du déplacement du dispositif de lecture 3 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser.
8. Procédé selon la revendication précédente, dans lequel une distance entre l'étiquette électronique de gondole dont l'emplacement est connu et l'étiquette électronique de gondole à localiser est déterminée à partir du déplacement du dispositif de lecture 3 entre l'acquisition de l'identifiant de l'étiquette électronique de gondole dont

l'emplacement est connu et l'acquisition de l'identifiant de l'étiquette électronique de gondole à localiser, et le système informatique de traitement utilise ladite distance pour mettre à jour un planogramme.

- 5 9. Procédé selon l'une des revendications précédentes, comprenant les étapes selon lesquelles :
- le dispositif de lecture (3) acquiert un identifiant d'étiquette d'une étiquette électronique de gondole,
 - une caractéristique de dimension de l'emplacement associé à l'étiquette
 - 10 électronique de gondole est renseignée dans le dispositif de lecture (3),
 - ladite caractéristique de dimension de l'emplacement est transmise avec l'identifiant d'étiquette au système informatique de traitement.

9. Produit programme d'ordinateur comprenant des instructions de code de programme
- 15 pour l'exécution du procédé selon l'une quelconque des revendications précédentes, lorsque ledit programme est exécuté sur un ordinateur.

10. Système de gestion de données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, comprenant:
- 20 - une pluralité d'étiquettes électroniques de gondole, chacune desdites étiquettes de gondole étant associée à un identifiant d'étiquette qui lui est propre,
- un dispositif de lecture adapté pour acquérir les identifiants d'étiquette de ladite pluralité d'étiquettes électroniques de gondole et les références des articles associés auxdites étiquettes électroniques de gondole,
 - 25 - un système informatique stockant des données d'association entre des articles d'une surface de vente et des emplacements de ladite surface de vente, configuré pour recevoir du dispositif de lecture les identifiants d'étiquette acquis par ledit dispositif de lecture,
- ledit système de gestion étant adapté pour mettre en œuvre le procédé selon l'une des
- 30 revendications 1 à 8, et dans lequel
- le dispositif de lecture (3) est configuré pour acquérir une séquence d'identifiants d'étiquette comprenant au moins deux identifiants d'étiquettes dont les étiquettes électroniques de gondoles (10, 11, 12) sont adjacentes dans une direction de défilement des emplacements de la surface de vente, une desdites étiquettes
 - 35 électroniques de gondoles adjacentes étant ladite étiquette électronique de gondole à

localiser, et une autre desdites étiquettes électroniques de gondoles adjacentes étant une étiquette électronique de gondole dont l'emplacement est connu,

- le dispositif de lecture (3) est configuré pour transmettre la séquence d'identifiants au système informatique (2),

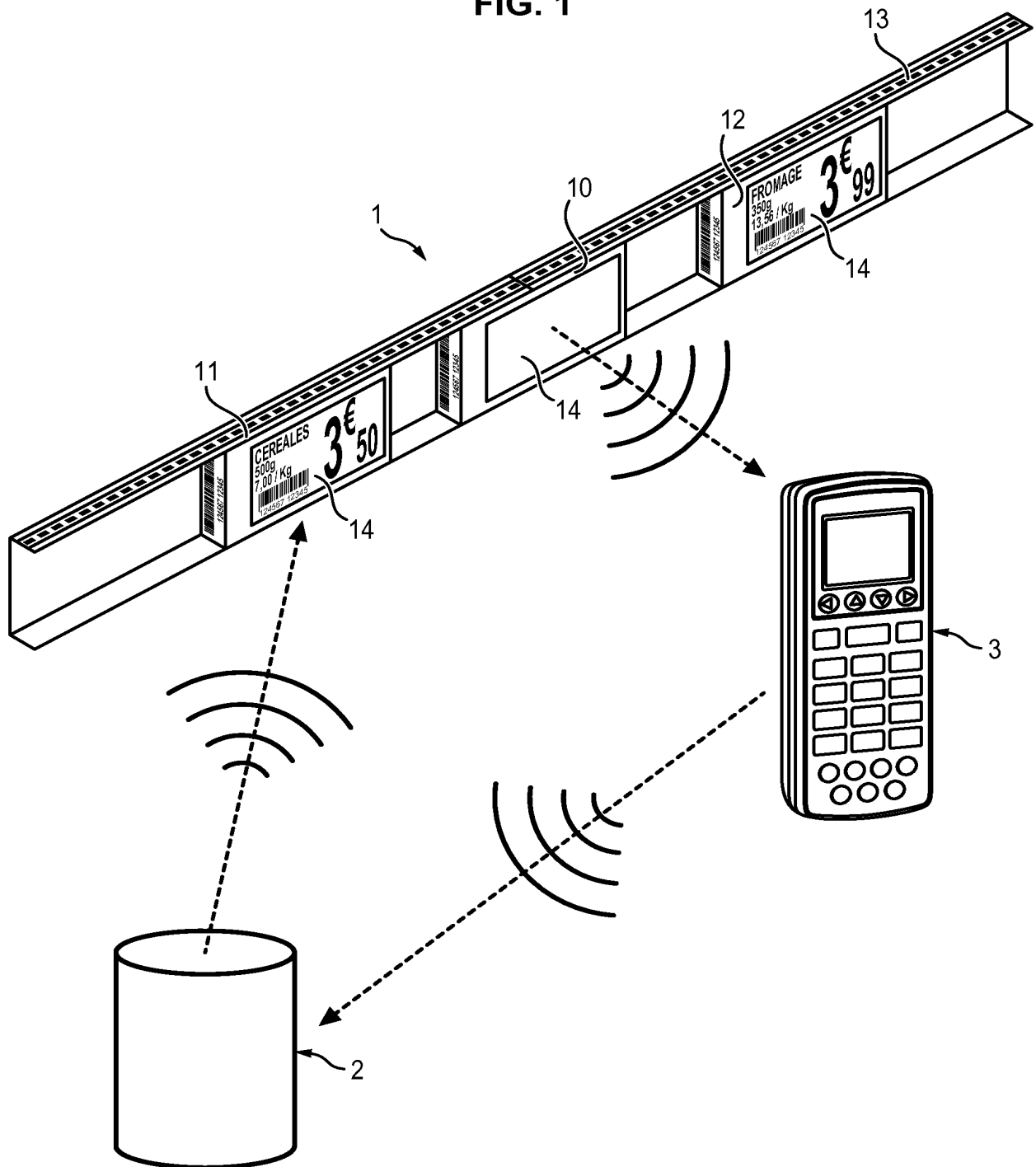
5 - le système informatique (2) est configuré pour mettre à jour les données d'association à partir de la séquence d'identifiants d'étiquettes, en déterminant

- les articles associés aux étiquettes de la séquence d'étiquettes,
- les emplacements respectifs desdits articles à partir de l'ordre des étiquettes dans la séquence d'étiquettes.

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FIG. 1



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FIG. 2

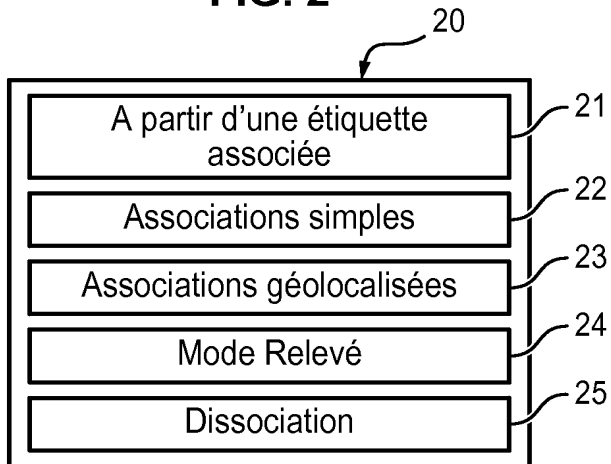


FIG. 3

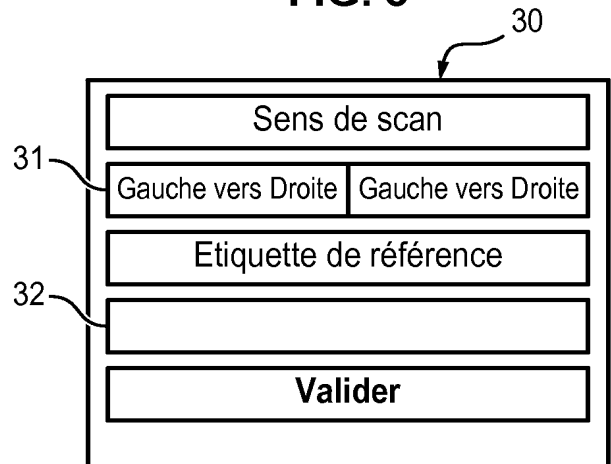
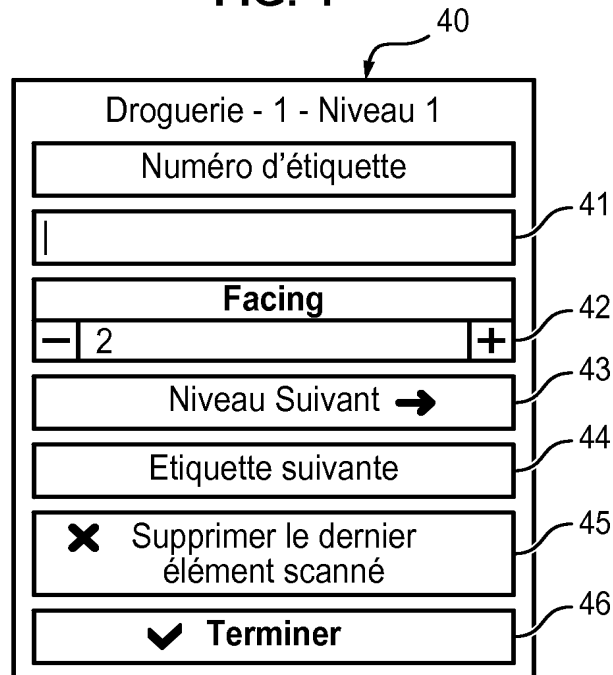


FIG. 4



3/3**FIG. 5**