Abstract:

METHOD AND APPARATUS TO FACILITATE PICKING UP A RETAIL ITEM

FIG. 2

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Abstract: A central computer system for a retail shopping facility automatically determines that a customer having a retail item available for pickup at the facility is currently proximal to the facility and automatically responds by sending the customer a message that includes an opportunity for the customer to indicate that they will now pick up the retail item. Upon receiving information indicating that the customer utilized the aforementioned opportunity to indicate that they will now pick up the retail item, the central computer system can instigate a transmission of a message to at least one associate of the retail shopping facility to prompt the associate to move the retail item from a first area of the retail shopping facility (such as a non-public storage area) to a second area of the retail shopping facility (such as a designated pick-up area).
METHOD AND APPARATUS TO FACILITATE PICKING UP A RETAIL ITEM

Cross-Reference To Related Application
[0001] This application claims the benefit of U.S. Provisional Application Number 62/286,751, filed January 25, 2016, and is incorporated herein by reference in its entirety.

Technical Field
[0002] These teachings relate generally to retail shopping facilities and more particularly to accommodating customers who visit the facility to pick up a previously-ordered item.

Background
[0003] In a modern retail store environment, there is a need to improve the customer experience and/or convenience for the customer. With increasing competition from non-traditional shopping mechanisms, such as online shopping provided by e-commerce merchants and alternative store formats, it can be important for "bricks and mortar" retailers to focus on improving the overall customer experience and/or convenience.

[0004] Some retailers permit a consumer to select a particular item online and to then arrange to pick up that item at a bricks-and-mortar shopping facility for that retailer. Such an approach is attractive to many consumers who prefer browsing product selections in a virtual environment. Ensuring that the selected item is suitably available at the shopping facility in a manner that is both efficient and convenient for pickup by the consumer, however, presents numerous challenges. These challenges include a need to place the item in the consumer's possession rapidly.
Brief Description of the Drawings

[0005] The above needs are at least partially met through provision of the method and apparatus to facilitate picking up a retail item described in the following detailed description, particularly when studied in conjunction with the drawings, wherein:

[0006] FIG. 1 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0007] FIG. 2 comprises a block diagram as configured in accordance with various embodiments of these teachings;

[0008] FIG. 3 comprises a flow diagram as configured in accordance with various embodiments of these teachings; and

[0009] FIG. 4 comprises a screen shot as configured in accordance with various embodiments of these teachings.

[0010] Elements in the figures are illustrated for simplicity and clarity and have not necessarily been drawn to scale. For example, the dimensions and/or relative positioning of some of the elements in the figures may be exaggerated relative to other elements to help to improve understanding of various embodiments of the present teachings. Also, common but well-understood elements that are useful or necessary in a commercially feasible embodiment are often not depicted in order to facilitate a less obstructed view of these various embodiments of the present teachings. Certain actions and/or steps may be described or depicted in a particular order of occurrence while those skilled in the art will understand that such specificity with respect to sequence is not actually required. The terms and expressions used herein have the ordinary technical meaning as is accorded to such terms and expressions by persons skilled in the technical field as set forth above except where different specific meanings have otherwise been set forth herein.

Detailed Description

[0011] Generally speaking, pursuant to these various embodiments, a central computer system for a retail shopping facility automatically determines that a customer
having a retail item available for pickup at the retail shopping facility is currently proximal to the retail shopping facility and automatically responds to that determination by sending the customer a message that includes an opportunity for the customer to indicate that they will now pick up the retail item at the retail shopping facility. The central computer system may, for example, compare a present location of the customer (as provided by a mobile communications device that is associated with the customer) to a predetermined distance threshold to thereby determined the aforementioned proximity.

[0012] By one approach the aforementioned retail item comprises an item that the customer ordered via an online shopping service.

[0013] By one approach, and upon receiving information indicating that the customer utilized the aforementioned opportunity to indicate that they will now pick up the retail item at the retail shopping facility, the central computer system can instigate a transmission of a message to at least one associate of the retail shopping facility to prompt the associate to move the retail item from a first area of the retail shopping facility (such as a non-public storage area) to a second area of the retail shopping facility (such as a designated pick-up area). If desired, the central computer system can maintain a history regarding the duration of time utilized when making the retail item available for pickup by the customer at the retail shopping facility.

[0014] These teachings are highly flexible in practice and will accommodate a variety of modifications as desired. For example, the aforementioned threshold can be selectively set to include essentially only the retail shopping facility itself and its dedicated parking area(s). By another approach the aforementioned threshold can be selectively set to include, for example, one or more nearby vehicular thoroughfares and/or other retail shopping facilities or buildings.

[0015] So configured, a customer can be apprised of when an item they have ordered is available for pickup at a time when the customer is relatively close at hand and hence the opportunity may be a highly convenient one. In addition, these teachings facilitate beginning the process of providing the ordered item for pickup by the customer prior to when the
customer physically presents himself as a designated pick-up area for this purpose. As a result the customer can save time to complete this activity.

[0016] These and other benefits may become clearer upon making a thorough review and study of the following detailed description. Referring now to the drawings, and in particular to FIG. 1, an illustrative process 100 that is compatible with many of these teachings will now be presented. For the sake of an illustrative example it will be presumed here that a central computer system of choice carries out the actions, steps, and/or functions of this process 100. FIG. 2 provides an illustrative example in these regards.

[0017] The illustrative example presented in FIG. 2 includes a retail shopping facility 200. This retail shopping facility 200 comprises a retail sales facility or any other type of bricks-and-mortar (i.e., physical) facility in which products are physically displayed and offered for sale to customers who physically visit the facility. The shopping facility may include one or more of sales floor areas, checkout locations (i.e., point of sale (POS) locations), customer service areas other than checkout locations (such as service areas to handle returns), parking locations, entrance and exit areas, stock room areas, stock receiving areas, hallway areas, common areas shared by merchants, and so on. The facility may be any size of format facility, and may include products from one or more merchants. For example, a facility may be a single store operated by one merchant or may be a collection of stores covering multiple merchants such as a mall.

[0018] In this particular example, the retail shopping facility 200 includes a control circuit 201 that serves as the aforementioned central computer system in this illustrative example. Being a "circuit," the control circuit 201 therefore comprises structure that includes at least one (and typically many) electrically-conductive paths (such as paths comprised of a conductive metal such as copper or silver) that convey electricity in an ordered manner, which path(s) will also typically include corresponding electrical components (both passive (such as resistors and capacitors) and active (such as any of a variety of semiconductor-based devices) as appropriate) to permit the circuit to effect the control aspect of these teachings.
Such a control circuit 201 can comprise a fixed-purpose hard-wired hardware platform (including but not limited to an application-specific integrated circuit (ASIC) (which is an integrated circuit that is customized by design for a particular use, rather than intended for general-purpose use), a field-programmable gate array (FPGA), and the like) or can comprise a partially or wholly-programmable hardware platform (including but not limited to microcontrollers, microprocessors, and the like). These architectural options for such structures are well known and understood in the art and require no further description here. This control circuit 201 is configured (for example, by using corresponding programming as will be well understood by those skilled in the art) to carry out one or more of the steps, actions, and/or functions described herein.

By one optional approach the control circuit 201 operably couples to a memory 202. This memory 202 may be integral to the control circuit 201 or can be physically discrete (in whole or in part) from the control circuit 201 as desired. This memory 202 can also be local with respect to the control circuit 201 (where, for example, both share a common circuit board, chassis, power supply, and/or housing) or can be partially or wholly remote with respect to the control circuit 201 (where, for example, the memory 202 is physically located in another facility, metropolitan area, or even country as compared to the control circuit 201).

In addition to other information of interest as described herein, this memory 202 can serve, for example, to non-transitorily store the computer instructions that, when executed by the control circuit 201, cause the control circuit 201 to behave as described herein. (As used herein, this reference to "non-transitorily" will be understood to refer to a non-ephemeral state for the stored contents (and hence excludes lined the stored contents merely constitute signals or waves) rather than volatility of the storage media itself and hence includes both non-volatile memory (such as read-only memory (ROM) as well as volatile memory (such as an erasable programmable read-only memory (EPROM)).)

In this example the control circuit 201 also operably couples to a network interface 203. So configured the control circuit 201 can communicate with other elements.
(both within the apparatus 200 and external thereto) via the network interface 203. Network interfaces, including both wireless and non-wireless platforms, are well understood in the art and require no particular elaboration here.

[0023] In this illustrative example the retail shopping facility 200 includes a parking area 204. Parking areas are generally well-understood in the art and may comprise, for example, a paved and lined open expanse. The present teachings are quite flexible in these regards and will accommodate other parking area paradigms including, for example, underground parking facilities as well as multilevel parking facilities.

[0024] With continued reference to both FIGS. 1 and 2, at decision block 101 the control circuit 201 automatically determines when a customer having a retail item that is available for pickup at the retail shopping facility 200 is also currently proximal to the retail shopping facility 200. Such a determination can be carried out in any of a variety of ways. FIG. 3 presents one illustrative example in these regards.

[0025] At block 301 the control circuit 201 receives information regarding the present location of a customer (reference numeral 205 in FIG. 2). By one approach, and as illustrated, the control circuit 201 receives this information specifically from a mobile communications device 206 (such as a so-called smart phone) that is associated with the customer. That mobile communications device 206 may be equipped with a Global Positioning System (GPS) capability by which the device 206 then ascertains its own present location and/or which provides location information that the mobile communications device 206 can simply forward (for example, to the control circuit 201). As another approach in these regards, the mobile communications device 206 may have a Wi-Fi capability by which the device 206 can again either ascertain its own location and/or utilize for attachment purposes, where the attachment itself provides inherent information regarding a general location of the device 206. These teachings will support other approaches in these regards as well.

[0026] At decision block 302 the control circuit 201 can compare the aforementioned present location of the customer 205 against a predetermined distance threshold. That
threshold can be set as appropriate to given application setting. By one approach the predetermined distance threshold can comprise a radius from a central reference point. By another approach the predetermined distance threshold can comprise a distance from the periphery of a predetermined area.

[0027] By one approach, for example, that threshold (or thresholds) can serve to determine when the customer 205 is within the retail shopping facility 200 including the aforementioned parking area 204. Such an approach can be useful, for example, when it is appropriate to limit the application of the present teachings to only the local environs and boundaries of the retail shopping facility 200 itself. When such is not the case, this process can accommodate any of a variety of responses. Examples of responses can include temporal multitasking (pursuant to which the control circuit 201 conducts other tasks before returning to again monitor for these described events) as well as continually looping back to essentially continuously monitor for the described event(s). These teachings also accommodate supporting this activity via a real-time interrupt capability.

[0028] Upon determining that the customer 205 is within the predetermined distance and/or within a particular prescribed area, at decision block 303 the control circuit 201 determines whether there is a retail item available at the retail shopping facility 200 for pickup by the customer 205. Generally speaking, such a retail item will be one that was previously ordered on behalf of the customer (for example, via an online shopping service operated by or on behalf of the retail shopping facility 200).

[0029] When both of the foregoing considerations are true (i.e., that the customer 205 has a retail item available for pickup at the retail shopping facility 200 and that the customer 205 is sufficiently proximal to the retail shopping facility 200), at block 304 the control circuit 201 determines that a customer having a retail item available for pickup at the retail shopping facility is currently proximal to the retail shopping facility 200.

[0030] Referring again to FIGS. 1 and 2, in this illustrative example the customer 205 is within the parking area 204 of the retail shopping facility 200 and a retail item 207 as previously ordered on behalf of the customer 205 is presently available at the retail shopping
facility 200. In that case, at block 102 the control circuit 201 sends a message (for example, as an email, a text message, and/or as an in-app alert) to the customer's mobile communications device 206. That message includes an opportunity- for the customer to indicate that they will now pick up the retail item 207 at the retail shopping facility 200. By one approach the message includes within itself the specifics of that opportunity. By another approach the message includes that opportunity by including a trigger mechanism that prompts the customer's mobile communications device 206 to present that opportunity.

[0031] Referring momentarily to FIG. 4, by one approach the foregoing can comprise presenting the customer 205, via a display as comprises a part of the mobile communications device 206, with a simple choice between a first user-assertable button 401 to indicate that the customer 205 will pick up the item at this time and a second user-assertable button 402 to indicate that the customer 205 will not pick up the item at this time. By asserting one of these buttons 401 and 402, the customer 205 can provide a simple selection as between these two options.

[0032] These teachings will accommodate other approaches in these regards. For example, a third option can be provided to permit the customer 205 to indicate that they will pick up the item, but in a delayed manner. For example, that optional response can include a field to permit the customer to enter a relevant timeframe. As a simple example in those regards, such an option could permit the customer to indicate that they will pick up the item within 30 minutes.

[0033] Presuming the customer 205 provides a response to the aforementioned opportunity, at optional block 103 the control circuit 201 receives information indicating that the customer utilized the opportunity to indicate that they (i.e., the customer 205) will now pick up the retail item 207 at the retail shopping facility 200. (If the customer 205 responds to the opportunity with an alternative response, these teachings will of course accommodate having the control circuit 201 take an appropriate corresponding action. For example, when the customer 205 elects to not pick up the retail item 207 at this time, the control circuit 201
can flag this customer 205 to not receive further opportunities in these regards for some predetermined amount of time such as 30 minutes, one hour, or the remainder of the day.)

[0034] When the customer 205 responds to the aforementioned opportunity by indicating that they will pick up the retail item 207 at this time, at optional block 104 the control circuit 201 can transmit a message (via, for example, a wireless capability 209 available thereto) to at least one associate 211 (via the associate’s corresponding mobile communications device 210) to prompt the associate 211 to move the retail item 207 from a first area of the retail shopping facility 200 (such as, for example, a non-public storage area 208 where the retail item 207 has been stored) to a second area of the retail shopping facility 200 (such as a designated-area 212). The aforementioned message can comprise, for example, a voice message (such as a pre-recorded voice message or a text-to-speak synthesized-voice message), a text message, an email message, or the like.

[0035] So configured, as a customer 205 approaches the retail shopping facility 200, with or without a present intent to receive the ordered retail item 207, the control circuit 201 can be triggered to automatically provide the customer 205 with an opportunity to begin the item-retrieval process before the customer 205 arrives at, for example, a designated pick-area 212. The control circuit 201 can also automatically prompt an associate 211 to retrieve the retail item 207, again before the customer 205 has presented themselves at the pick-up area 212 or even before the customer 205 has necessarily entered the building itself. Accordingly, wait times during which the customer 205 must wait for their retail item 207 can, at least in many instances, be reduced or even essentially eliminated.

[0036] By one approach, at optional block 105 the control circuit 201 can maintain a history (for example, in the aforementioned memory 202) regarding performance in the above-described regards. For example, this history can include information regarding at least one duration of time pertaining to making the retail item 207 available for pickup by the customer 205 at the retail shopping facility 200. By one approach this duration of time can pertain to the time between when the associate 211 receives the above-described prompt and when the retail item 207 arrives in the pick-up area 212. Metrics in these regards can then be
leveraged as desired to improve performance of the process. For example, it may he ascertained through experience that waiting time for the customer at a particular retail shopping facility 200 can be significantly reduced by making only a small adjustment to the aforementioned predetermined distance threshold.

[0037] Those skilled in the art will recognize that a wide variety of modifications, alterations, and combinations can be made with respect to the above described embodiments without departing from the scope of the invention, and that such modifications, alterations, and combinations are to be viewed as being within the ambit of the inventive concept. As one example in these regards, a customer can be provided with an opportunity to participate in the above described notification practice when initially ordering the retail item. Accordingly, the customer can elect to opt out if they so wish.
What is claimed is:

1. An apparatus comprising:
   a retail shopping facility;
   a network interface;
   a central computer system operably coupled to the network interface and configured to:
   - automatically determine that a customer having a retail item available for pickup at the retail shopping facility is currently proximal to the retail shopping facility and automatically responding to that determination by sending the customer a message wherein the message includes an opportunity for the customer to indicate that they will now pick up the retail item at the retail shopping facility.

2. The apparatus of claim 1 wherein the central computer system is configured to automatically determine that the customer is currently proximal to the retail shopping facility by comparing a present location of the customer to a predetermined distance threshold.

3. The apparatus of claim 2 wherein the central computer system is configured to receive, via the network interface, the information regarding the present location of the customer from a mobile communications device associated with the customer.

4. The apparatus of claim 1 wherein the retail item available for pickup at the retail shopping facility was ordered on behalf of the customer.

5. The apparatus of claim 4 wherein the retail item available for pickup at the retail shopping facility was ordered via an online shopping service.
6. The apparatus of claim 1 wherein the opportunity for the customer to indicate that they will now pick up the retail item at the retail shopping facility comprises a touch-based user interface on a mobile communications device associated with the customer.

7. The apparatus of claim 1 wherein the central computer system is further configured to:

   receive information indicating that the customer utilized the opportunity to indicate that they will now pick up the retail item at the retail shopping facility.

8. The apparatus of claim 7 wherein the central computer system is further configured to:

   transmit a message to at least one associate of the retail shopping facility to prompt the associate to move the retail item from a first area of the retail shopping facility to a second area of the retail shopping facility.

9. The apparatus of claim 8 wherein the first area of the retail shopping facility comprises a non-public storage area.

10. The apparatus of claim 8 wherein the central computer system is further configured to:

    maintain a history regarding at least one duration of time pertaining to making the retail item available for pickup by the customer at the retail shopping facility.

11. A method comprising:

    by a central computer system for a retail shopping facility that is operably coupled to the network interface:

    automatically determining that a customer having a retail item available for pickup at the retail shopping facility is currently proximal to the retail shopping facility and automatically responding to that determination by sending the customer a message wherein
the message includes an opportunity for the customer to indicate that they will now pick up the retail item at the retail shopping facility.

12. The method of claim 11 wherein automatically determining that the customer is currently proximal to the retail shopping facility comprises, at least in part, comparing a present location of the customer to a predetermined distance threshold.

13. The method of claim 12 wherein automatically determining that the customer is currently proximal to the retail shopping facility comprises, at least in part, receiving information regarding the present location of the customer from a mobile communications device associated with the customer.

14. The method of claim 11 wherein the retail item available for pickup at the retail shopping facility was ordered on behalf of the customer.

15. The method of claim 14 wherein the retail item available for pickup at the retail shopping facility was ordered via an online shopping service.

16. The method of claim 11 wherein the opportunity for the customer to indicate that they will now pick up the retail item at the retail shopping facility comprises a touch-based user interface on a mobile communications device associated with the customer.

17. The method of claim 11 further comprising:
   receiving information indicating that the customer utilized the opportunity to indicate that they will now pick up the retail item at the retail shopping facility.

18. The method of claim 17 further comprising:
transmitting a message to at least one associate of the retail shopping facility to prompt the associate to move the retail item from a first area of the retail shopping facility to a second area of the retail shopping facility.

19. The method of claim 18 wherein the first area of the retail shopping facility comprises a non-public storage area.

20. The method of claim 18 further comprising:
   maintaining a history regarding at least one duration of time pertaining to making the retail item available for pickup by the customer at the retail shopping facility.
BY A CENTRAL COMPUTER SYSTEM FOR A RETAIL SHOPPING FACILITY THAT IS OPERABLY COUPLED TO A NETWORK INTERFACE

101

CUSTOMER PROXIMAL

Y

SEND A MESSAGE THAT INCLUDES AN OPPORTUNITY FOR THE CUSTOMER TO INDICATE THAT THEY WILL NOW PICK UP THE RETAIL ITEM AT THE RETAIL SHOPPING FACILITY

102

RECEIVE INFORMATION INDICATING THAT THE CUSTOMER UTILIZED THE OPPORTUNITY TO INDICATE THAT THEY WILL NOW PICK UP THE RETAIL ITEM AT THE RETAIL SHOPPING FACILITY

103

TRANSMIT A MESSAGE TO AT LEAST ONE ASSOCIATE OF THE RETAIL SHOPPING FACILITY TO PROMPT THE ASSOCIATE TO MOVE THE RETAIL ITEM FROM A FIRST AREA OF THE RETAIL SHOPPING FACILITY TO A SECOND AREA OF THE RETAIL SHOPPING FACILITY

104

MAINTAINING A HISTORY REGARDING AT LEAST ONE DURATION OF TIME PERTAINING TO MAKING THE RETAIL ITEM AVAILABLE FOR PICKUP BY THE CUSTOMER AT THE RETAIL SHOPPING FACILITY

105

FIG. 1
RECEIVE INFORMATION REGARDING THE PRESENT LOCATION (PL) OF THE CUSTOMER FROM A MOBILE COMMUNICATIONS DEVICE ASSOCIATED WITH THE CUSTOMER

PL < THRESHOLD

Y

RETAIL ITEM

N

DETERMINE THAT A CUSTOMER HAVING A RETAIL ITEM AVAILABLE FOR PICKUP AT THE RETAIL SHOPPING FACILITY IS CURRENTLY PROXIMAL TO THE RETAIL SHOPPING FACILITY

FIG. 3
INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 17/14706

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06Q 30/00 (2017.01)
CPC - G06Q 10/08, G06Q 10/0836, G06Q 30/0601, G07F 11/007, G07F 17/12

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)
See Search History Document
Document searched other than minimum documentation to the extent that such documents are included in the fields searched
See Search History Document
Document consulted during the international search (name of data base and, where practicable, search terms used)
See Search History Document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>X</td>
<td>US 2013/0346237 A1 (Redemaker) 26 December 2013 (26.12.2013) entire document (especially Para [0005]-[0006], [0014]-[0015], [0019]-[0020], [0022], [0039], [0042]-[0043], [0048], [0060]-[0062], [0084], [0087])</td>
<td>1-7, 11-17</td>
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<tr>
<td>X</td>
<td>US 2014/0074743 A1 (Redemaker) 13 March 2014 (13.03.2014) entire document (especially para [0016], [0035], [0067], [0061]-[0064], [0077]-[0081], [0089], [0107], [0131]-[0134], [0145]).</td>
<td>1, 7-11, 17-20</td>
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Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
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Date of the actual completion of the international search: 25 March 2017
Date of mailing of the international search report: 8 April 2017

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Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-8300

Authorized officer: Lee W. Young
PCT Helpdesk: 271-272-4300
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