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(54) Title: METHOD AND SYSTEM FOR PROVIDING A USER WITH SERVICES IN A STORE AND FOR CONDUCTING AN ACQUISITION OF A PRODUCT

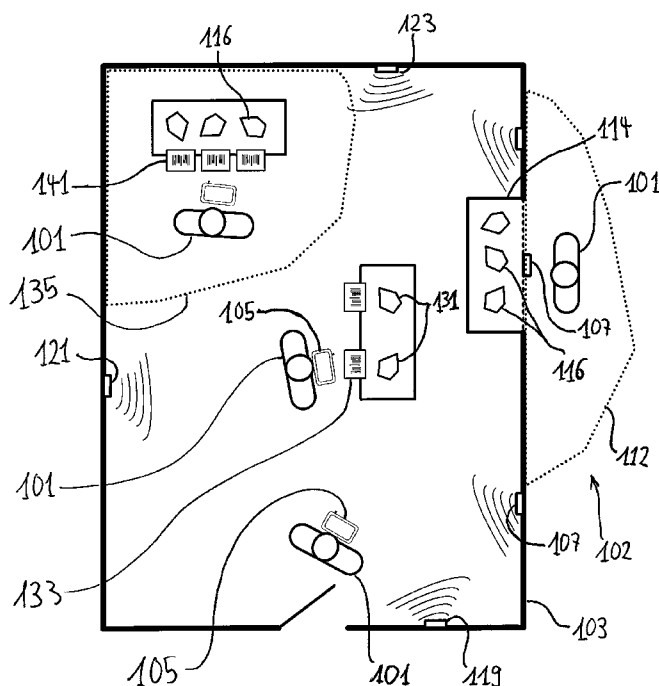


FIG. 2

(57) Abstract: The invention relates to a method and system for providing a user with services in a store. The method comprises the steps of establishing a connection between a mobile device (105) carried by a user (101) and a network access point (107; 119; 121; 123) when the user (101) enters a store (103) or a vicinity (102) of the store (103), the mobile device (105) receiving data from the network access point (107; 119; 121; 123), wherein the data represents service information relating to a predetermined activity of the user (101), and the mobile device (105) providing the user (101) with the service information relating to the predetermined activity of the user (101). The invention further relates to a method and system for conducting an acquisition of a product, wherein the method comprises the steps of providing offer data representing one or a plurality of product offers, providing preference data representing user preferences relating to potential products to be purchased by a user, and determining a product offer to be selected for purchase by comparing the offer data to the preference data.

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Method and System for providing a user with services in a store and for conducting an acquisition of a product

The invention relates to method and system for providing a user with services in a store. Furthermore, the invention relates to a method and system for conducting an acquisition of a product.

5 Methods and systems for providing a user with services based on the location of the user are generally known from the art. Such methods and systems are generally referred to as location based services, wherein the location of the user is tracked continuously over time or on a regular basis. When the user enters a predetermined area in a city or town, information is provided to the user with regard to stores located in the vicinity of the location of the user as well as with regard to products to be purchased in these stores.

10 Moreover, methods and systems for conducting an acquisition of a product are generally known from the art. Such methods include online auction services in which, based on a bidding procedure, products are sold to users which participate in the bidding procedure. In these procedures, often the concept of proxy bidding is utilized in which the winning bidder pays the price of the second-highest bid plus a defined increment.

15 It is an object of the invention to provide an enhanced method and system for providing a user with services in a store and/or to provide an enhanced method and system for conducting an acquisition of a product.

This object is achieved by a method according to the independent claim 1.

It has been discovered by the invention that existing location based services track the location of a user in a city or town, i.e. the location of a user relative to buildings located in the city. Thereby, the user is provided with information such as: "in building X, which is
5 located close to you, there is a store which sells the product Y". In contrast to this, the method according to the present invention provides the user with information relating to a predetermined activity of the user in a store and, thereby, additional information, e.g. with regard to the exact location of products within the store to be purchased by the user, etc..

The mobile device carried by the user can be a mobile computer client, e.g. a smart
10 phone and/or tablet computer. The term "mobile" can be understood in such a way that the device can be carried and used by the user without any cable connection to a communication network or energy network at least for a certain amount of time. The services can be provided by a computer program executed by the mobile device. Such a computer program is often referred to as application or shortly "app".

15 The user may preferably be a potential customer of the store, i.e. a person interested in buying products offered by the store.

The network access point can be for example a base station in a wireless communication network or a WLAN router (WLAN: Wireless Local Area Network), also referred to as Wi-Fi access point (WiFi: Wireless Fidelity). Preferably, the network access point consists of
20 a plurality of WLAN routers. Such a network access point provides access, for example, to the Internet or another communication network. The computer program executed by the mobile device may be adapted to initiate the connection establishment between the mobile device and the network access point. Alternatively, the connection establishment may be initiated by the network access point, which constantly scans the region in the
25 signal range for new mobile devices entering the region in the signal range of the network access point. When the connection is established, the service information can be accessed by the mobile device, for example, by loading the information from a database. This database can be accessed through the communication network. Furthermore, the database may be accessed by the employees of the store for configuration by means of a
30 computer device. For example, in case a new product is presented in the store, an employee of the store may configure the database to provide service information to customers entering the store with regard to the new product.

The term "store" can be understood as a building in which products and/or services are offered, also referred to as shop.

The vicinity of the store can be the region in the environment of the store, e.g. within walking distance or within the signal range of the network access point. The "region in the signal range" is to be understood as the region around the network access point in which the mobile device can be connected to and communicate with the network access point
5 with sufficient signal intensity.

The provision of service information can be achieved by showing the service information to the user on a display of the mobile device. For example, when the user walks through the store and service information shall be provided to the user, the mobile device produces an acoustic signal to inform the user that service information is shown on the display of
10 the mobile device.

According to a first preferred embodiment of the method according to the present invention the service information comprises: information relating to a product, information relating to a location of the user and/or the mobile device in the store, and/or information relating to a second product similar to a first product.

15 The product can preferably be a product present in a store and offered for purchase. Further preferably, the product can be a product predetermined by the user for purchase. The predetermination by the user can take place by selecting the product to be added to an electronic shopping list. For example, the user may generate a shopping list at home and predetermine products to be purchased during an upcoming shopping procedure.
20 When the user enters the store, in which the product is present, service information with regard to the predetermined products on the shopping list may be provided to the user.

The information relating to the product can be, for example, the name and price of the product as well as information with regard to similar products present and offered in the store. Further preferably, the information relating to the product includes stock information
25 indicating whether the product is available in a stock or warehouse designated to the store.

The information relating to a location of the user may be provided by a schematic plan view of the store including an icon representing the user and/or the mobile device reflecting the location of the user in the store. In this schematic plan view, products present in
30 the store may also be depicted by icons. This facilitates the orientation for the user in the store as well as in relation to the products to be bought. The plan view of the store may further preferably be a schematic plan view showing the product categories present in the store in a schematic way.

In case the network access point consists of a plurality of WLAN routers, the location of
35 the user in the store can be determined by evaluating the intensity of the signal of each

WLAN router, also referred to as Wi-Fi-based positioning or WPS (WPS: Wi-Fi-based positioning system).

The information relating to a second, similar product can be provided to the user as an alternative for the first product, for example, in case a first product is not available in the store. Preferably, by providing information with regard to a second product, the “up-sell” of such a second product, having higher quality and price than the first product, can be initiated and facilitated. Further preferably, in case the user has bought a first product, information of the following kind relating to a second product can be provided to the user: “customers having bought first product X also bought second product Y”. Such a proposal can be utilized to offer second products such as equipment for a first product to the user.

In a second preferred embodiment of the method according to the present invention, the predetermined activity of the user comprises: scanning a bar code assigned to a product by means of the mobile device, the user entering a predetermined area within the store, and/or the user entering a predetermined area in the vicinity of the store, in particular a show case related to the store.

The scanning of the bar code assigned to the product can be executed by means of a camera of the mobile device. For example, when the user scans such a bar code, information relating to the product is provided to the user. The term barcode may refer to linear bar codes or two-dimensional matrix bar codes, for example quick-response-codes (QR-codes). The barcode may be printed on the product or displayed in the close vicinity of the product, e.g. on a plate or a display assigned to the product.

Moreover, for example, when the user enters a predetermined area within the store, special offers of products located in this area of the store are shown to the user on a display of the mobile device. Also, for example, when the user enters a predetermined area in the vicinity of the store, such as a show case on a street, the user is provided with information relating to products presented in the show case. If the show case is not located in the direct vicinity of the store, for example on a platform of a train station, the user may also be provided with information on the location of and direction to the store.

In a first preferred enhancement of the first and second preferred embodiment of the method according to the present invention the information relating to the product comprises: product related data, in particular price of the product and technical features of the product, further information provided as text, image, and/or video, a location of the product in the store, a proposal for an alternative product based on a user profile stored in a first database, a proposal for equipment matching the product, and/or an amount of specimen of the product present in the store.

The further information provided as text can be, for example, a description of the product, a product manual and/or test results of the product. The further information provided as an image can be, for example, pictures of the product, in particular from a certain perspective, e.g. an enlarged view. The further information provided in form of video can be,
5 for example, a video with operation instructions or an advertisement video.

The location of the product in the store can be provided by a layout plan view of all products or product categories in the store. Such a layout plan view can be provided by a schematic plan view of at least one or all of the floors of the store. In this plan view, the user may be indicated by an icon reflecting the location of the user in the store.

10 According to a further enhancement of the first preferred enhancement of the first and second preferred embodiment of the method according to the present invention, the further information comprises: a rating of the product, a result of a testing of the product, operation instructions relating to the product, and/or information relating to a use of the product.

15 A third preferred embodiment of the method according to the present invention comprises the steps of:

- scanning a bar code assigned to a product, and
- purchasing the product to which the scanned bar code is assigned to by initiating a payment of the product by means of the mobile device.

20 This provides the user with an easy-to-handle and intuitive method for buying a product without having to stand in line at a point of sale, e.g. a cash register, in the store. The purchasing of the product may comprise the step of executing a payment of the product initiated by means of the mobile device. The execution of the payment may be facilitated by a service provider for electronic payments which are executed over the Internet, also
25 referred to as "online money transfer".

A preferred enhancement of the third preferred embodiment of the method according to the present invention comprises the step of: by means of the mobile device, sending a request to the network access point for checking out of the store after the payment has been executed. Thereby, it can be ensured that the user does not leave the store with
30 products without having paid these products. I.e. if the user leaves the store without checking out, an alarm is initiated, for example an acoustic signal for informing employees of the store that the user leaves the store. Furthermore, if the user leaves the store after check-out with products which the user has not yet paid, the same alarm is initiated.

An even further preferred fourth embodiment of the method according to the present
35 invention comprises the step of ordering a product which is not present in the store by

means of the mobile device. The order may initiate a process in which the product is sent from a stock or warehouse to the store for the user to be picked up at the store. Alternatively, the order initiates a process in which the product is sent to the user's home or office.

5 Another preferred fifth embodiment of the method according to the present invention comprises the steps of:

- determining a location of the mobile device within the store or in the vicinity of the store, and
- providing the user with navigation information based on the location.

10 The determination of a location of the mobile device carried by the user at the same time determines the location of the user in the store or in the vicinity of the store. From the location of the user in the store it can be further determined which products or product categories are located close to the user. Alternatively, from the location of the user in the vicinity of the store, it can be determined which show case or shop window is located
15 close to the user.

Based of the location of the user in the store or in the vicinity of the store, information with regard to products located close to the user can be provided to the user. For example, if the user walks through a store for electronic products and enters an area in which product in the category "computer equipment" are offered, information with regard to special
20 offers for computer equipment located in this area can be provided to the user.

The navigation information may comprise information with regard to the location of the store, the location of products in the store, etc. as well as directions to such locations.

A preferred enhancement of the preferred fifth embodiment of the method according to the present invention, comprises the step of: providing the user with navigation infor-
25 mation for navigating to a predetermined product present in the store.

The predetermined product can preferably be a product to be offered to the user. Further preferably, the predetermined product can be a product selected by the user by means of the mobile device beforehand, i.e. before entering the store, e.g. by adding the product to an electronic shopping list. Moreover preferably, the predetermined product, for which
30 navigation information is provided, is a product being part of a special product offer.

The navigation information may comprise directions for navigating to the predetermined products such as: "turn left and walk to the stairs for entering the second floor; there, turn right and walk to shelf No. XX".

A further preferred sixth embodiment of the method according to the present invention comprises the step of: providing a user with an input means for rating a product, a product category and/or a store. Such an input means can be part of the mobile device carried by the user, i.e. the application executed by the mobile device provides an interface for
5 inputting information such as ratings.

The rating by the user may include a rating of a single product, a rating of a plurality of products, e.g. a product portfolio or a product category, a rating of the service in the store and/or a rating of the ambiance of the store. Data representing the rating can be stored in a database and evaluated together with ratings by other users. Information such as mean
10 rating values can be provided to further users facilitating the decision to select a product for purchase.

The above mentioned object is also achieved by a system according to independent claim 12. With respect to terms and features mentioned in claim 12 as well as preferred embodiments of such features it is referred to the preceding description of the respective
15 terms and features.

In a first preferred embodiment, the system according to the present invention comprises a scanning device, in particular as part of the mobile device, adapted to scan a bar code assigned to a product.

In a second preferred embodiment of the system according to the present invention, the
20 mobile device is a mobile computer client, in particular a portable personal computer, a tablet personal computer, a cellular telephone, a smart phone, a media player, a navigation device, a game console, or a laptop computer.

Preferably, the mobile device comprises an input means, in particular integral with the mobile device, for inputting information such as search queries or ratings and/or for
25 inputting commands such as navigation commands for navigating to a predetermined product. Further preferably, an input means can also be a separate computer client provided in the vicinity of the product for rating of the product or requesting information relating to the product.

In an even further third embodiment, the system according to the present invention is
30 adapted to execute a method of the kind described above. With respect to advantages, embodiments and details of embodiments of this further aspect of the invention, it is referred to the preceding description of the respective features and steps of the method and its embodiments.

The above mentioned object is also achieved by a method for conducting an acquisition
35 of a product according to independent claim 16.

This provides for an automated way of conducting an acquisition of a product for a user based on the user preferences. It has been discovered by the invention that the decision for a product is often complicated and requires some amount of research for the user to be done, i.e. research with regard to information relating to the product such as ingredient, etc.. The method according to the present invention automatically takes into account this information, e.g. also information which might not be accessible by the user. Therefore, the present invention not only provides an automated but also improved decision for a product to be purchased.

The provision of the offer data can be achieved by means of a computer client which receives the offer data from a supplier database. Therefore, the computer client may access the supplier database and request offer data representing one or a plurality of product offers. The access may take place over a communication network such as the Internet. The preference data can be provided by means of a computer client which receives the preference data from a user database. In this user database, each user may be assigned to a user account. The preference data represents preferences of the user with regard to certain products to be purchased.

The comparing the offer data to the preference data is executed by determining whether the offer data fulfills predetermined criteria of the preference data. The following example will illustrate the comparing process: A user may prefer products having a mean rating value of at least 3 from possible rating values of 1 to 5. This is reflected in the preference data provided by the user database. If the offered product has a mean rating value of 2.7, which is represented by the offer data provided by a supplier database, the product does not fulfill the rating requirement of the user. Therefore, the product is determined to be not selected for purchase.

According to a first preferred embodiment of the method for conducting an acquisition of a product according to the present invention the offer data represents one or a plurality of product offers from a plurality of suppliers of the product. Such product offers can then be compared to the preference data of a user. If one of the product offers fulfills the criteria of the preference data, the product offer is offered to the user, e.g. by showing the product offer to the user on a display of a computer client. Thereby, a plurality of product offers, possibly offered by different suppliers, is selected to be offered to the user for purchase, if each product offer fulfills the user preferences.

In a further preferred second embodiment of the method for conducting an acquisition of a product according to the present invention, the preference data comprises:

- a substance criterion for exclusion of a product, in particular a chemical product, which contains a predetermined substance,
- an ingredient criterion for exclusion of a food product which contains a predetermined ingredient,
- 5 - an ingredient limit criterion for exclusion of a food product which does not fulfill a predetermined concentration limit of a predetermined ingredient,
- a nutrition criterion for exclusion of a food product which does not fulfill a predetermined concentration limit of a predetermined nutrient,
- a rating criterion for exclusion of a product having a rating as a result of a predetermined rating procedure which does not fulfill a predetermined rating,
- 10 - a certificate criterion for exclusion of a product which does not have assigned to it a predetermined product certificate, in particular an organic certificate, a fair trade certificate, and/or environmental certificate,
- a best price indicator, which indicates that the product offer with the lowest product price is to be selected for purchase, and/or
- 15 - a best rating indicator, which indicates that the product offer with the best rating as a result of a predetermined rating procedure is to be selected for purchase.

This provides for a plurality of criteria by which it can be determined whether a product offer fits the user's preferences represented by the preference data.

- 20 The ingredient criterion can be based on intolerances and/or allergies of the user, e.g. gluten, lactose, peanut, glutamate, etc.. For example, if a product contains lactose, it is not offered to a user suffering from an allergy to lactose.

- The nutrition criterion can be, for example, a maximum fat concentration, maximum sugar concentration, maximum calorie density, etc.. For example, if a product exceeds a predetermined fat concentration defined in the preference data of the user, it is not offered to the user.
- 25

The term "exclusion" is to be understood in such a way that a respective product is excluded from purchase by the user. For example, if the offered product does not fulfill the rating criterion, the product is not offered to the user.

- 30 A further preferred seventh embodiment of the method for providing a user with services in a store according to the present invention as well as according to the method for conducting an acquisition of a product according to the present invention comprises the steps of:

- determining a location of the mobile device within the store or in the vicinity of the store, and,
- based on the location, providing the user with navigation information for navigating to a product present in the store which matches the user preferences.

5 This provides for a convenient and time-saving method in which a customer is directed to a product which matches user preferences of the customer. Preferably, the customer is provided with navigation information for navigating to the product which best matches the user preferences.

10 According to a further preferred eighth embodiment of the method for providing a user with services in a store according to the present invention, the predetermined activity comprises scanning a bar code assigned to a product by means of the mobile device, wherein the method comprises the steps of the method for conducting an acquisition of a product according to the present invention as well as the step of providing the user with information whether the product to which the scanned bar code is assigned to matches
15 the user preferences. This also makes the selection of products present in a store easy for the user. The user may just walk through the store and randomly scan products he is attracted to, e.g. by the pure optical display of the product. If the scanned product matches the user's preferences, it is indicated to the user through the mobile device. The user may refrain from reading complex nutrition facts as well as search technical information
20 such as ratings, etc..

Further preferably, it is indicated to the user to which extent the product to which the scanned bar code is assigned to matches the user preferences.

An enhancement of the preceding eighth embodiment of the method for providing a user with services in a store according to the present invention and according to the method
25 for conducting an acquisition of a product according to the present invention, comprises the step of: providing the user with information on further products present in the store which match the user preferences, in particular if the product to which the scanned bar code is assigned to does not match the user preferences.

In case the product to which the scanned bar code is assigned to matches the user
30 preferences to a certain extent, the user is preferably provided with information on further products which better match the user preferences.

In another preferred ninth embodiment of the method for providing a user with services in a store according to the present invention, the predetermined activity comprises the user entering a predetermined area within the store or the user entering a predetermined area
35 in the vicinity of the store, in particular a show case related to the store, wherein the

method comprises the steps of the method for conducting an acquisition of a product according to the present invention as well as the steps of:

- providing the user with information whether a product located in the predetermined area matches the user preferences, or
- 5 - providing the user with information whether a product located in the predetermined area in the vicinity of the store matches the user preferences.

This makes the presentation of products present in a store easy for the store operator and the search of the presented products convenient for the user. For example, while the user walks through the store, he may enter different areas of the store, in which different
10 products are offered. When the user enters a predetermined area in the store, in which products are located matching the user preferences, information is provided to the user indicating that such products are close to the user. Thereby, certain products are called to the attention of the user which would have not been observed by just looking around in the store or which would have only been observed by the user after extensive searching
15 in the store. Therefore, this solution is also time-saving for the user.

A further preferred third embodiment of the method for conducting an acquisition of a product according to the present invention comprises the steps of:

- selecting a product to be purchased by a user,
- receiving offer data representing one or a plurality of product offers relating to the
20 selected product,
- providing preference data representing user preferences relating to potential products to be purchased by the user, and
- determining a product offer to be selected for purchase of the selected product or a product relating to the selected product by comparing the offer data to the preference
25 data.

Thereby, the user is provided with a selection means for preselecting a product to be purchased. Such a selection may be based on the observation of the product on the Internet when searching the Internet for products of a predetermined category. After selection, the user is provided with an information whether the selected product matches
30 the user preferences.

An enhancement of the first preferred embodiment of the method for conducting an acquisition of a product according to the present invention, comprises the steps of: determining a product offer to be selected for purchase by

- a) comparing the offer data with the preference data, wherein the preference data
35 comprises the best price indicator,

- b) sending to the suppliers an interim decision on the product offer to be selected for purchase, wherein the interim decision is based on the lowest product price,
 - c) receiving adjusted offer data representing one or a plurality of adjusted product offers from the plurality of suppliers of the product,
- 5 if the adjusted offer data corresponds to the offer data and/or a predetermined time duration has lapsed, then selecting for purchase the adjusted product offer with the lowest product price,

if the adjusted offer data does not correspond to the offer data, then returning to step b).

This provides for an "inverted" bidding procedure, in which not the customer bids for a product offer but, instead, the product offer "bids" for a customer to purchase the offered product. I.e. in contrast to the known bidding procedures, the method according to the present invention provides for a bidding procedure in which product offers are adjusted in a way to be adapted for bidding to be purchased. In other words, the bidding is not initiated by the customer but instead by the supplier who offers products. Thereby, a plurality of suppliers can bid by making product offers and adjusting these product offers with the goal to be the "winner" of the bidding procedure and, in turn, sell the product to the customer.

It is of great advantage that this solution saves time and cost for the user. Furthermore, it can be assured that the user purchases the product offered with the lowest price from all the products offered in the procedure. The procedure can be automated by utilizing a server computer device and databases connected to each other via a communication network such as the Internet. The databases may provide the offer data as well as preference data.

According to a further preferred enhancement of the further preferred third embodiment of the method for conducting an acquisition according to the present invention, the selecting is executed by generating a product list comprising one or a plurality of products to be purchased by a user. This provides for an easy-to-handle method for managing products to be purchased. Such a product list can be an electronic shopping list, to which the user adds products to be purchased. Products added to the shopping list can be part of the bidding procedure and, thereby, purchased automatically for the user.

In another preferred enhancement of the further preferred third embodiment of the method for conducting an acquisition according to the present invention, the selecting is executed by the user by utilizing an input means as part of a mobile device.

According to a further preferred eleventh embodiment of the method for providing a user with services in a store according to the present invention and according to the further preferred third embodiment of the method for conducting an acquisition according to the present invention, the predetermined activity of the user comprises the step of selecting a
5 product to be purchased, and the offer data represents one or a plurality of product offers for products present in the store.

The object mentioned above is also achieved by a system for conducting an acquisition of a product, comprising: a computer device, in particular a mobile device, adapted to provide offer data representing one or a plurality of product offers and provide preference
10 data representing user preferences relating to potential products to be purchased by a user, wherein the computer device is adapted to compare the offer data to the preference data and, based on the comparison, determine which product offer is to be selected for purchase, and wherein the computer device is adapted to provide an indication to the user which product is to be selected for purchase. With respect to terms and features
15 mentioned with regard to this system as well as preferred embodiments of such features it is referred to the preceding description of the respective terms and features.

According to a first preferred embodiment of the system for conducting an acquisition of a product according to the present invention, the system is adapted to execute a method for conducting an acquisition as described above and/or execute a method for providing a
20 user with services in a store as described above. With respect to advantages, embodiments and details of embodiments of this further aspect of the invention, it is referred to the preceding description of the respective features and steps of the method and its embodiments.

Preferred embodiments of the invention are described in connection with the figures,
25 wherein

- FIG. 1 illustrates a flow diagram of a first embodiment of a method according to the present invention,
- FIG. 2 illustrates schematically an first embodiment of a system according to the present invention,
- 30 FIG. 3 illustrates a flow diagram of a second embodiment of a method according to the present invention,

FIG. 4 illustrates schematically a second embodiment of a system according to the present invention,

FIG. 5 illustrates a flow diagram of a third embodiment of a method according to the present invention, and

5 FIG. 6 illustrates schematically a third embodiment of a system according to the present invention.

FIG. 1 illustrates a flow diagram of an example method for providing services to a user in a store. This method will be described in reference to a system 100 for implementing the method as schematically shown in FIG. 2.

10 In a first method step A, the user 101 enters the vicinity 102 of a store 103 while carrying a mobile device 105 such as a smart phone. When entering the vicinity 102 of the store 103, the mobile device 105, in method step B, establishes a wireless connection with a network access point 107. In a further step C, the user 101 enters a predetermined area 112 in the vicinity 102 of the store 103 in front of a show case 114. In this show case 114,
15 products 116 are presented to the user 101 for purchase. While standing in front of the show case 114, in a method step D, the mobile device 105 receives data from the network access point 107, wherein the data represents service information relating to a predetermined activity of the user 101. In the embodiment depicted in FIG. 2, the predetermined activity of the user 101 is that the user 101 enters the predetermined area 112 in
20 front of the show case 114 where he observes the products 116 displayed in the show case. Based on the fact that the user 101 stands in front of the show case 114, i.e. within the predetermined area 112, the mobile device 105, in a method step E, provides the user 101 with service information such as information relating to the products 116 displayed in the show case 114.

25 If the user 101 is interested in the products 116 displayed in the show case 114, he enters the store 103, in step F. When the user 101 enters the store, the mobile device 105 carried by the user 101 establishes, in step G, a connection with network access points 119, 121 and 123. In a method step H, based on the signal intensity of the network access points 119, 121 and 123, the location of the mobile device 105 and, thereby, the
30 location of the user 101 in the store 103 is determined. Based on the determined location of the user 101 in the store 103, the user 101 is provided, in step J, with navigation information by means of the mobile device 105. The navigation information can be utilized by the user 101 to navigate to a predetermined product 116 present in the store 103. In the

example shown in FIG. 2, the navigation information helps the user 101 to navigate to the location of the products 116 within the store, which products are displayed in show case 114.

While the user 101 is on his way to the location of the products 116, he can be attracted
5 to a further product 131 located in the store 103. In such a case, in a further method step K, the user 101 may scan a bar code 133 assigned to the product 131 by means of the mobile device 105. Therefore, a camera of the mobile device 105 may be controlled by an application for bar code scanning. If the bar code 133 is a QR-code (QR: quick response), one of the known applications for reading QR-codes with mobile device cameras can be
10 utilized for reading the QR-code. When the user 101 scans the bar code 133 assigned to the product 131, the mobile device 105 provides information relating to the product to the user 101. This information may include the price of the product 131, technical features of the product 131, further information with regard to the product 131, such as a rating of the product, test results, operation instructions and information relating to the use of the
15 product, etc..

After this, the user 101 might further follow the navigation information for navigating to products 116 located in the store 103. In step L, when the user 101 enters a predetermined area 135 within the store 103, in which products 116 are located, the mobile device 105 provides information relating to the products 116, such as price of the product, technical features of the product as well as further information provided in text, image or video
20 form. Furthermore, the mobile device 105 may provide to the user 101 a proposal for an alternative product based on a user profile stored in a first database. This database may be accessed by the mobile device 105 through the network access points 119, 121 and 123.

25 In a further method step M, the user 101 scans a bar code 141 assigned to product 116 by means of the mobile device 105. The user 101 may then, in a method step N, purchase the product 116 by initiating a payment of the product 116 by means of the mobile device 105. In a further method step O, the payment is executed by a service provider for electronic payments. After having initiated and executed the payment of the product 116,
30 the user may send a request for checking out of the store 103, in a method step P. After having checked out of the store 103, the user 101 leaves the store 103 with the product. If the user 101 leaves the store 103 without having checked out, an alarm will be initiated including an acoustic signal observable by employees of the store 103.

FIG. 3 illustrates a flow diagram of an example method for conducting an acquisition of a
35 product. This method will be described in reference to a system 400 for implementing the method as schematically shown in FIG. 4.

In a first method step AA, a user 404 selects one or a plurality of products to be purchased by generating a product list 402 listing one or a plurality of products that the user 404 wants to purchase. Therefore, the user 404 utilizes an input means 410 which is part of a mobile device 412.

5 Then the mobile device 412 sends a request for product offers to databases 420 and 422, wherein each database 420 and 422 represents one of a plurality of suppliers for product offers. After the request is sent and accepted by the databases 420 and 422, in a step BB, offer data 424 is provided by the databases 420 and 422 and sent to the mobile device 412, wherein the offer data 424 represents one or a plurality of product offers
10 relating to the selected product. In step DD, the mobile device 412 receives the offer data 424.

After this or in parallel to this, the mobile device 412 sends to a user database 426 a request for preference data 428 representing preferences of the user 404. In response to the request, the user database 426 provides preference data 428 representing preferences of the user 404 relating to potential products to be purchased by the user 404, in
15 step EE. The preference data 428 comprises a substance criterion for exclusion of a product, in particular a chemical product, which contains a predetermined substance. Furthermore, the preference data 428 comprises an ingredient criterion for exclusion of a food product which contains a predetermined ingredient, an ingredient limit criterion for
20 exclusion of a food product which does not fulfill a predetermined concentration limit of a predetermined ingredient, a nutrition criterion for exclusion of a food product which does not fulfill a predetermined concentration limit of a predetermined nutrient, a rating criterion for exclusion of a product having a rating as a result of a predetermined rating procedure which does not fulfill a predetermined rating, a certificate criterion for exclusion of a
25 product which does not have assigned to it a predetermined product certificate, in particular an organic certificate, a fair trade certificate, and/or environmental certificate. Moreover, the preference data 428 comprises a best price indicator, which indicates that the product offer with the lowest product price is to be selected for purchase, and/or a best rating indicator, which indicates that the product offer with the best rating as a result of a
30 predetermined rating procedure is to be selected for purchase.

In step FF, a product offer is selected by the mobile device 412 for purchase of the selected product. The determination is achieved by comparing the offer data 424 to the preference data 428.

With regard to the best price indicator, the determination of a product offer to be selected
35 for purchase is achieved by the following method steps: In a method step GG, the offer data 424 is compared with the preference data 428. In a further step HH, an interim

decision is sent to the suppliers of the product offers, i.e. to databases 420 and 422. This interim decision represents the product offer to be selected for purchase, wherein the interim decision is based on the lowest product price. I.e. from the plurality of product offers of the different suppliers represented by databases 420 and 422 it is selected the product offer with the lowest price as an interim decision. Based on the internal requirements of the suppliers, databases 420 and 422 may then, in step JJ, send adjusted offer data representing one or a plurality of adjusted product offers from the plurality of suppliers of the product. For example, the databases may send product offers with a lower price. If the adjusted offer data corresponds to the offer data, i.e. each product offer has not been changed with regard to the price of the offered product, and further if a predetermined time duration has lapsed, i.e. a waiting time during which adjusted product offers may be received and considered, the adjusted product offer with the lowest product price is selected for purchase. If the adjusted offer data does not correspond to the offer data, i.e. if the prices of one of the previous product offers have changed and/or new product offers have been added, it is returned to the step HH of sending the suppliers an interim decision.

FIG. 5 illustrates a flow diagram of a further example method for providing services to a user in a store 503. This method will be described in reference to a system 500 for implementing the method as schematically shown in FIG. 6.

In a first method step AAA, the user 501 enters a store 503 while carrying a mobile device 505 such as a smart phone. When the user 501 enters the store 503, the mobile device 505 carried by the user 501 establishes, in step GGG, a connection to network access points 519, 521 and 523.

After entering the store 503, the user 501 scans a bar code 533 assigned to the product 516 by means of the mobile device 505. Therefore, a camera of the mobile device 505 may be controlled by an application for bar code scanning. If the bar code is a QR-code (QR: quick response), one of the applications known from the art for reading QR-codes with mobile device cameras can be utilized. When the user 501 scans the bar code 533 assigned to the product 516, the mobile device 505 sends a request to a database 520 for offer data 524 relating to the product 516 and a further request to a database 526 for preference data 528. In step HHH, the mobile device 505 determines whether the product to which the scanned bar code 533 is assigned to matches the user preferences. This is achieved by a process similar to the one described in FIG. 3. In step JJJ, based on the determination, the user is provided with respective information indicating whether product 516 matches the user preferences. In case the product 516 to which the scanned bar code 533 is assigned to does not match the user preferences, the user 501 is provided

with information on further products present in the store 503 which match the user preferences, in step KKK.

This information relating to the further products may include the price of the product, technical features of the product, further information with regard to the product, such as a
5 rating of the product, test results, operation instructions and information relating to the use of the product, etc..

After this, the user 501 walks through the store 503, while the location of the mobile device 505 and, therewith, the location of the user 501 is determined by means of WiFi-positioning, in step LLL. Based on the location of the user 501 in the store 503, the user
10 501 is provided, in step MMM, with navigation information for navigating to a product 531 present in the store 503 which matches the user preferences.

The navigation information includes directions as well as a plan view of the store 503 in which the user 501 is shown by an icon representing the user (e.g. similar to the schematic plan view shown in FIG. 6). The directions may include information such as: “turn
15 left and walk to product shelf No. X, where you can find product Y which might be interesting for you...”.

After this, the user 501 may further walk through the store. When the user 501 enters a predetermined area 535 within the store, in step NNN, the user 501 is provided with information whether a product 550 located in the predetermined area 535 matches the
20 user preferences.

Claims

1. Method for providing a user with services in a store, comprising the steps of:
 - establishing (B; G; GGG) a connection between a mobile device (105; 505) carried
5 by a user (101; 501) and a network access point (107; 119; 121; 123; 519; 521;
523) when the user (101; 501) enters a store (103; 503) or a vicinity (102) of the
store (103; 503),
 - the mobile device (105; 505) receiving (D) data from the network access point
10 (107; 119; 121; 123; 519; 521; 523), wherein the data represents service infor-
mation relating to a predetermined activity of the user (101, 501), and
 - the mobile device (105; 505) providing (E; KKK) the user (101; 501) with the ser-
vice information relating to the predetermined activity of the user (101; 501).
2. Method according to claim 1,
15 wherein the service information comprises:
 - information relating to a product,
 - information relating to a location of the user (101; 501) and/or the mobile device
(105; 505) in the store, and/or
 - information relating to a second product similar to a first product.
- 20 3. Method according to any of the preceding claims 1 or 2,
wherein the predetermined activity of the user (101; 501) comprises:
 - scanning (K; N) a bar code (133; 533) assigned to a product (131; 516) by means
of the mobile device (105; 505),
 - 25 - the user (101; 501) entering (L; NNN) a predetermined area (135; 535) within the
store (103; 503), and/or
 - the user (101) entering (C) a predetermined area (112) in the vicinity (102) of the
store (103), in particular a show case (114) related to the store (103).
- 30 4. Method according to any of the preceding claims 2 or 3,
wherein the information relating to the product (116; 131) comprises:
 - product related data, in particular price of the product and technical features of the
product,
 - further information provided as text, image, and/or video,
 - 35 - a location of the product in the store,

- a proposal for an alternative product based on a user profile stored in a first data-base,
- a proposal for equipment matching the product, and/or
- an amount of specimen of the product present in the store.

5

5. Method according to claim 4,
wherein the further information comprises:

- a rating of the product,
- a result of a testing of the product,
- 10 - operation instructions relating to the product, and/or
- information relating to a use of the product.

6. Method according to any of the preceding claims, comprising the steps of:

- scanning (M) a bar code (141) assigned to a product (116), and
- 15 - purchasing (N) the product (116) to which the scanned bar code (141) is assigned to by initiating a payment of the product (116) by means of the mobile device (105).

7. Method according to claim 6, comprising the step of:

- by means of the mobile device (105), sending a request to the network access point (119; 121; 123) for checking out of the store (103) after the payment has been executed.

8. Method according to any of the preceding claims, comprising the step of:

- ordering a product which is not present in the store by means of the mobile device (105; 505).

9. Method according to any of the preceding claims, comprising the steps of:

- determining (H; LLL) a location of the mobile device (105; 505) within the store (103; 503) or in the vicinity of the store, and
- 30 - providing (J; MMM) the user (101; 501) with navigation information based on the location.

10. Method according to claim 9, comprising the step of:

- providing (J; MMM) the user (101; 501) with navigation information for navigating to a predetermined product (116; 531) present in the store.

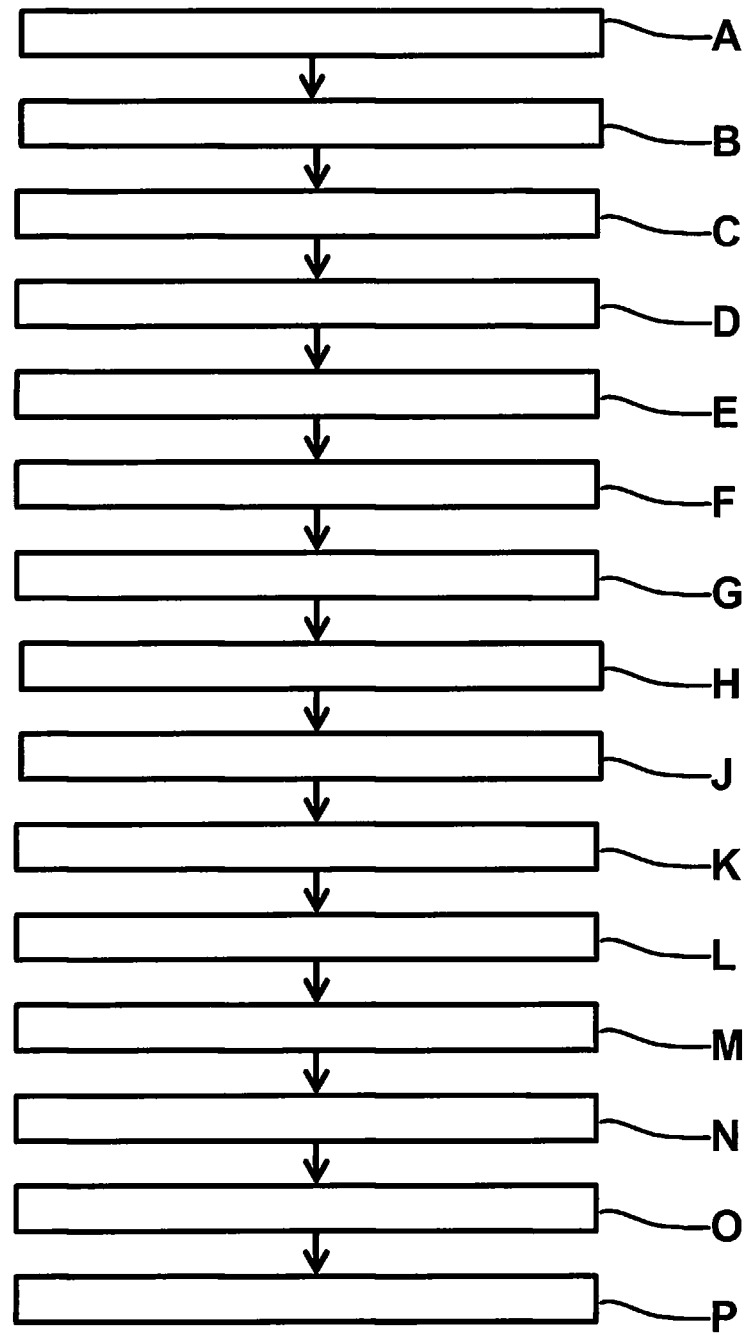
35

11. Method according to any of the preceding claims, comprising the step of:
- providing a user (101; 501) with an input means for rating a product, a product category and/or a store.
- 5 12. System for providing a user with services in a store, comprising:
- a network access point (107; 119; 121; 123; 519; 521; 523) being accessible by a mobile device (105; 505) carried by a user (101; 501),
 - the mobile device (105; 505) and/or the network access point (107; 119; 121; 123; 519; 521; 523) being adapted to establish a connection with each other when the
 - 10 user (101; 501) enters the store (103; 503) or the vicinity (102) of the store (103),
 - the mobile device (105; 505) being adapted to receive data from the network access point (107; 119; 121; 123; 519; 521; 523), wherein the data represents service information relating to a predetermined activity of the user (101; 501), and
 - wherein the mobile device (105; 505) is adapted to provide the user (101; 501) with
 - 15 service information relating to the predetermined activity of the user (101; 501).
13. System according to claim 12, comprising
- a scanning device, in particular as part of the mobile device (105; 505), adapted to scan a bar code (133; 141; 533) assigned to a product (116; 131; 516).
- 20 14. System according to any of the preceding claims 12 or 13, wherein the mobile device (105; 505) is a mobile computer client, in particular a portable personal computer, a tablet personal computer, a cellular telephone, a smart phone, a media player, a navigation device, a game console, or a laptop
- 25 computer.
15. System according to any of the preceding claims 12-14, wherein the system is adapted to execute a method according to claims 1-11.
- 30 16. Method for conducting an acquisition of a product, comprising the steps of:
- providing (BB) offer data (424) representing one or a plurality of product offers,
 - providing (EE) preference data (428) representing user preferences relating to potential products to be purchased by a user (404; 501), and
 - determining (FF) a product offer to be selected for purchase by comparing the offer
 - 35 data to the preference data (428).

17. Method according to claim 16,
wherein the offer data represents one or a plurality of product offers from a plurality
of suppliers of the product.
- 5 18. Method according to any of the preceding claims 16 or 17,
wherein the preference data (428) comprises:
- a substance criterion for exclusion of a product, in particular a chemical product,
which contains a predetermined substance,
 - an ingredient criterion for exclusion of a food product which contains a predeter-
 - 10 mined ingredient,
 - an ingredient limit criterion for exclusion of a food product which does not fulfill a
predetermined concentration limit of a predetermined ingredient,
 - a nutrition criterion for exclusion of a food product which does not fulfill a predeter-
 - 15 mined concentration limit of a predetermined nutrient,
 - a rating criterion for exclusion of a product having a rating as a result of a prede-
 - termined rating procedure which does not fulfill a predetermined rating,
 - a certificate criterion for exclusion of a product which does not have assigned to it a
predetermined product certificate, in particular an organic certificate, a fair trade
certificate and/or environmental certificate,
 - 20 - a best price indicator, which indicates that the product offer with the lowest product
price is to be selected for purchase, and/or
 - a best rating indicator, which indicates that the product offer with the best rating as
a result of a predetermined rating procedure is to be selected for purchase.
- 25 19. Method for providing a user with services in a store according to any of the preced-
ing claims 1-11 and any of the preceding claims 16-18, comprising the step of:
- determining (LLL) a location of the mobile device (505) within the store (503) or in
the vicinity of the store, and,
 - based on the location, providing (MMM) the user (501) with navigation information
 - 30 for navigating to a product (531) present in the store (503) which matches the user
preferences.
20. Method for providing a user with services in a store according to claim 3 and any of
the preceding claims 16-19, comprising the step of:
- 35 - providing (JJJ) the user (501) with information whether the product (516) to which
the scanned bar code (533) is assigned to matches the user preferences.

21. Method according to claim 20, comprising the step of:
- providing (KKK) the user (501) with information on further products present in the store which match the user preferences, in particular if the product (516) to which the scanned bar code (533) is assigned to does not match the user preferences.
- 5
22. Method for providing a user with services in a store according to claim 3 and any of the preceding claims 16-21, comprising the steps of:
- providing the user (501) with information whether a product (550) located in the predetermined area (535) matches the user preferences, or
 - 10 - providing the user (501) with information whether a product located in the predetermined area in the vicinity of the store matches the user preferences.
23. Method according to any of the preceding claims 16-22, comprising the steps of:
- selecting (AA) a product to be purchased by a user (404),
 - 15 - receiving (DD) offer data representing one or a plurality of product offers relating to the selected product,
 - providing (EE) preference data representing user preferences relating to potential products to be purchased by the user (404), and
 - determining (FF) a product offer to be selected for purchase of the selected product or a product relating to the selected product by comparing the offer data (424) to the preference data (428).
- 20
24. Method according to claim 17, 18 and any of the preceding claims 19-23, comprising the steps of:
- 25 determining a product offer to be selected for purchase by
- a) comparing (GG) the offer data with the preference data, wherein the preference data comprises the best price indicator,
 - b) sending (HH) to the suppliers an interim decision on the product offer to be selected for purchase, wherein the interim decision is based on the lowest product price,
 - 30 c) receiving (JJ) adjusted offer data representing one or a plurality of adjusted product offers from the plurality of suppliers of the product,
- if the adjusted offer data corresponds to the offer data and/or a predetermined time duration has lapsed, then selecting for purchase the adjusted product offer with the lowest product price,
- 35 if the adjusted offer data does not correspond to the offer data, then returning to step b).

25. Method according to any of the preceding claims 23 or 24,
wherein the selecting is executed by generating a product list comprising one or a
plurality of products to be purchased by a user (404).
- 5
26. Method according to any of the preceding claims 23-25,
wherein the selecting is executed by the user (404) by utilizing an input means as
part of a mobile device.
- 10
27. Method for providing a user with services in a store according to any of the preced-
ing claims 1-11 and any of the preceding claims 23-26,
wherein the predetermined activity of the user (404; 501) comprises the step of se-
lecting a product to be purchased, and
wherein the offer data represents one or a plurality of product offers for products
15 present in the store.
28. System for conducting an acquisition of a product, comprising:
- a computer device (412), in particular a mobile device, adapted to
 - o provide offer data (424) representing one or a plurality of product offers and
 - 20 o provide preference data (428) representing user preferences relating to poten-
tial products to be purchased by a user (404),
 - wherein the computer device (412) is adapted to
 - o compare the offer data to the preference data and,
 - o based on the comparison, determine which product offer is to be selected for
 - 25 purchase, and
 - wherein the computer device is adapted to provide an indication to the user (404)
which product is to be selected for purchase.
29. System according to claim 28,
30 wherein the system is adapted to
 - o execute a method according to claims 16-27 and/or
 - o execute a method according to claims 1-11.

**FIG. 1**

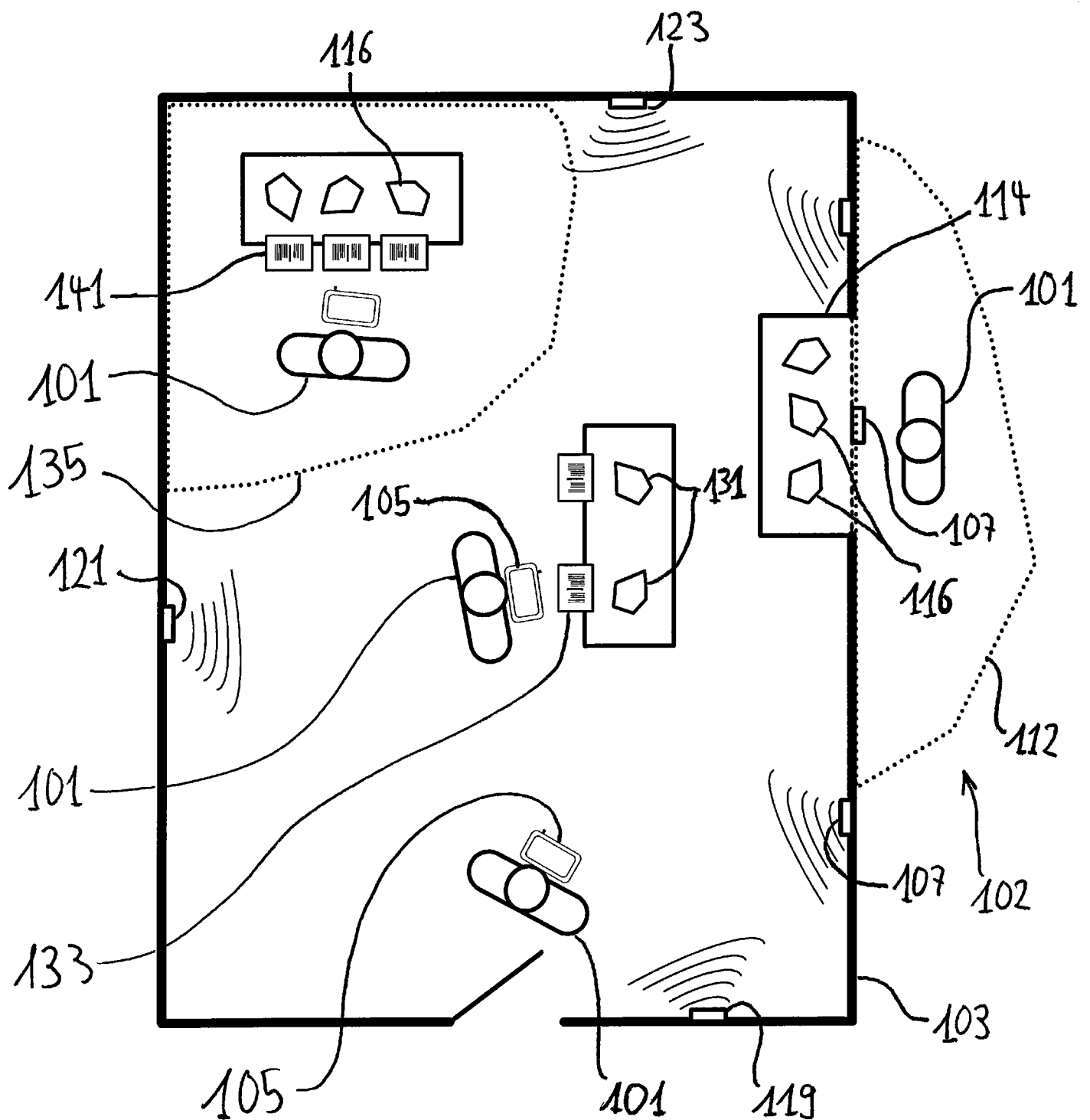
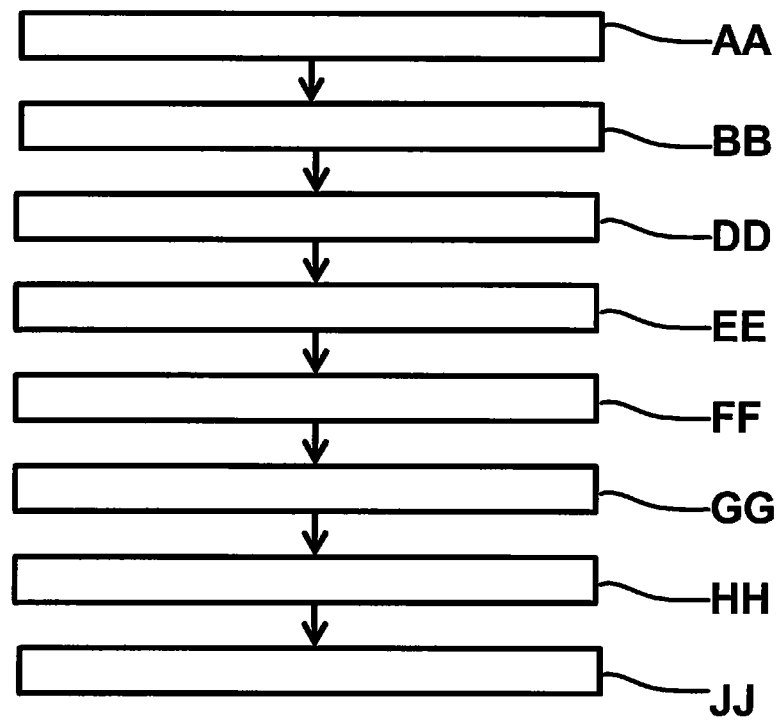


FIG. 2

**FIG. 3**

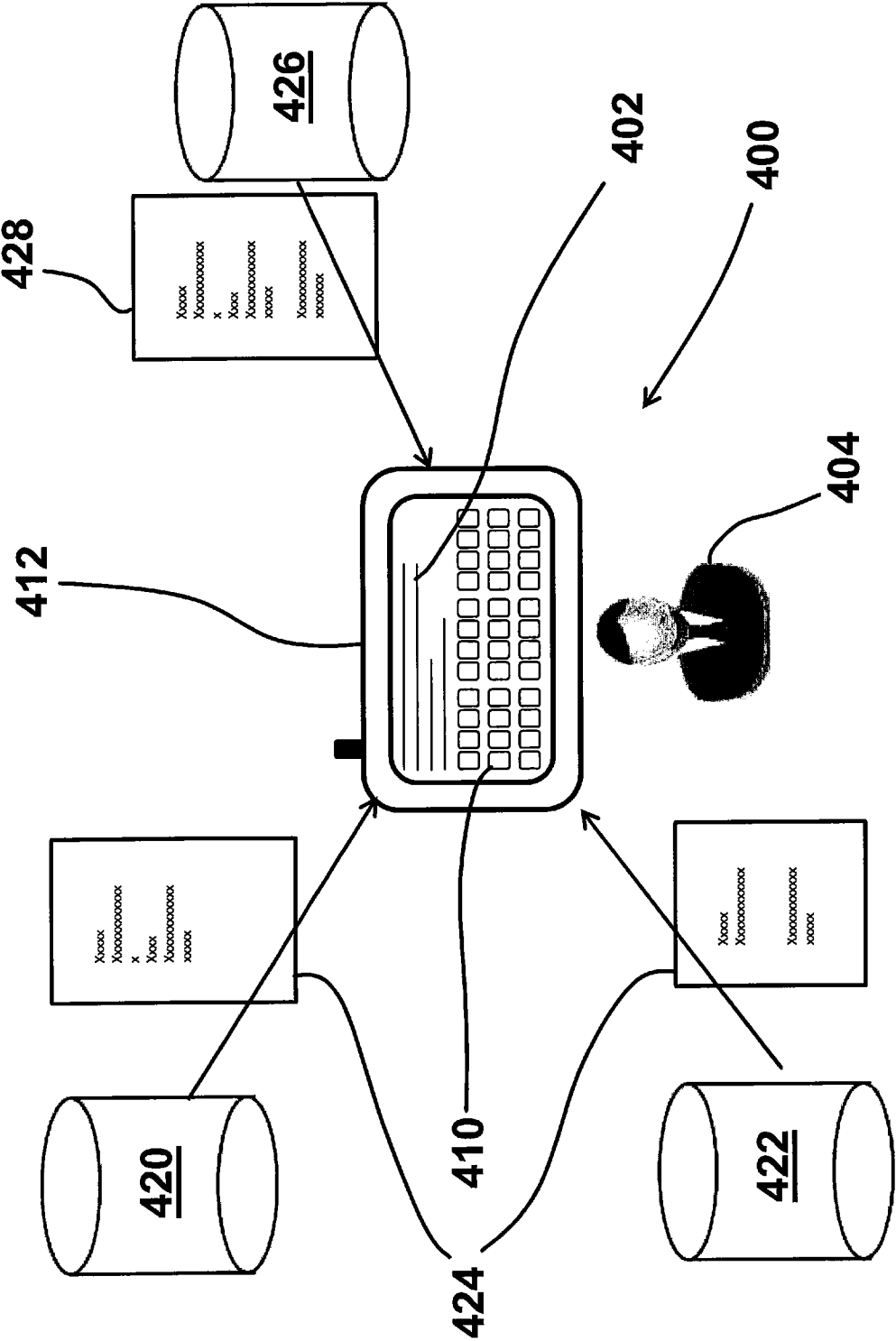
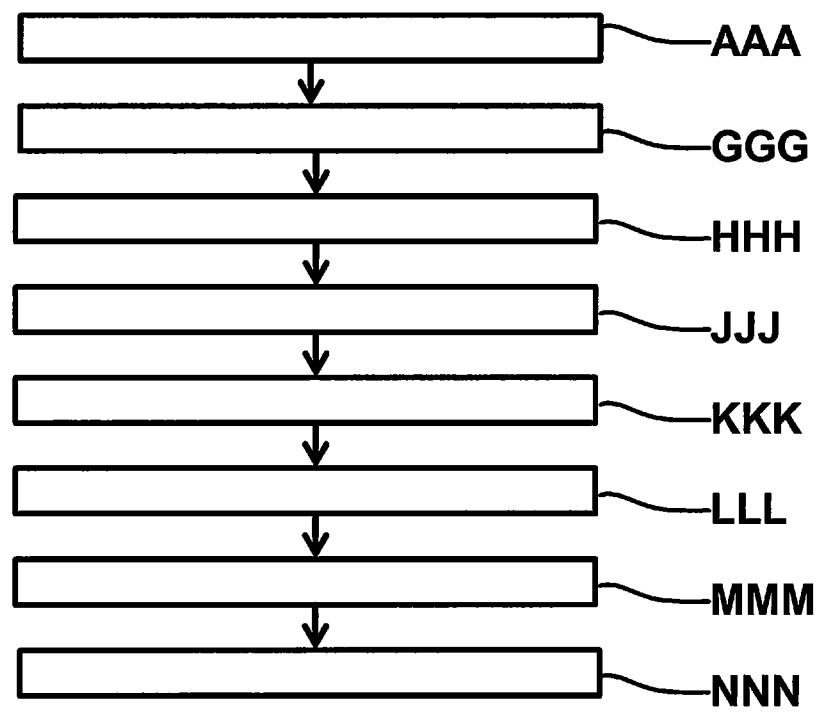


FIG. 4

**FIG. 5**

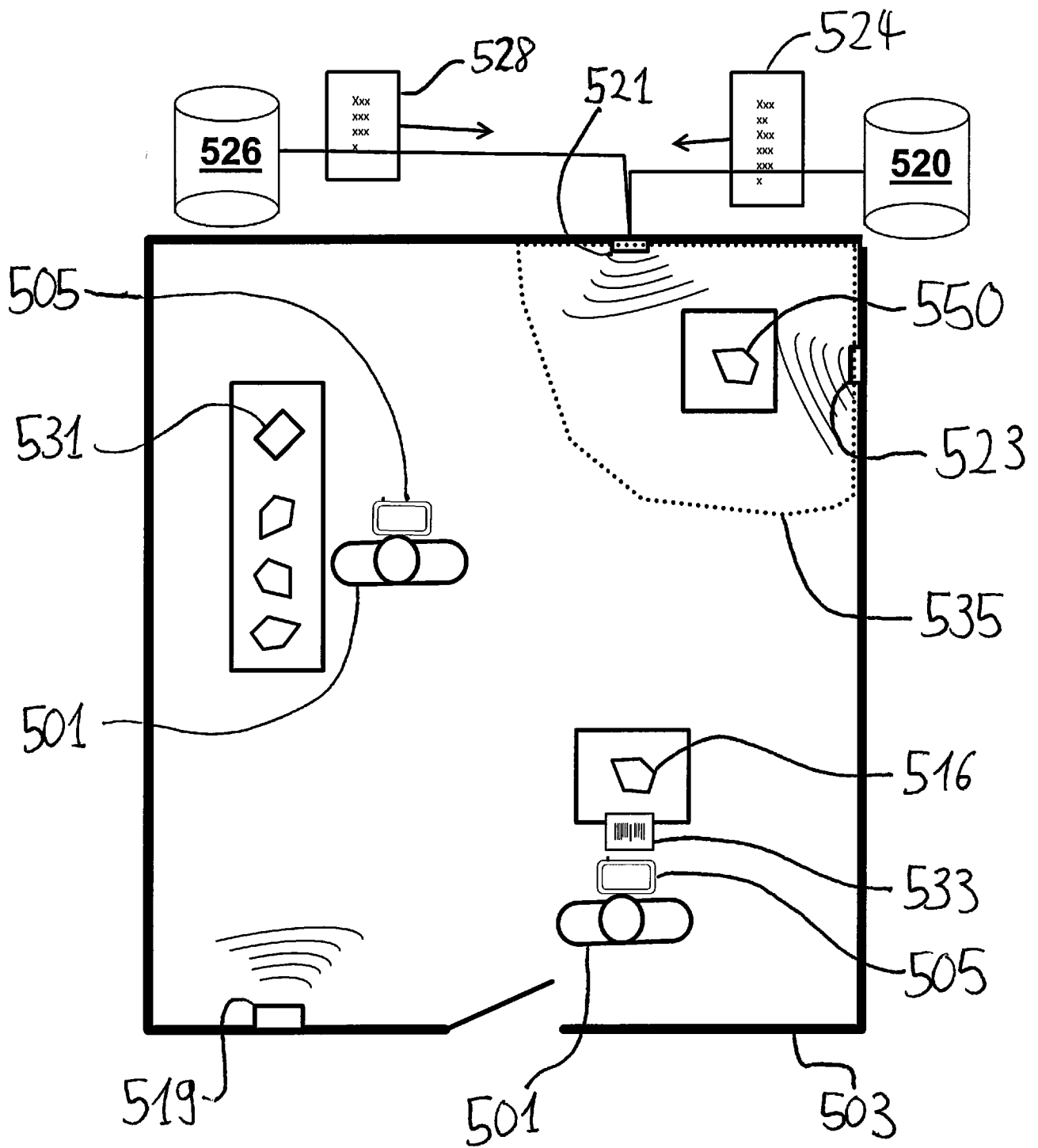


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/052648

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04L29/08 H04W4/04
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)
H04L H04W

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, COMPENDEX, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2007/149726 A2 (APPLE INC [US]; FADELL ANTHONY M [US]) 27 December 2007 (2007-12-27) abstract paragraphs [0011], [0036], [0039], [0041], [0044] - [0047], [0049], [0053] - [0054], [0056] - [0057], [0059], [0062] - [0064], [0069] ----- -/--	1-29



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

27 March 2013

Date of mailing of the international search report

08/04/2013

Name and mailing address of the ISA/

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Authorized officer

Kesting, Volker

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2013/052648

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PENTTILA K ET AL: "Use and interface definition of mobile RFID reader integrated in a smart phone", CONSUMER ELECTRONICS, 2005. (ISCE 2005). PROCEEDINGS OF THE NINTH INTE RNATIONAL SYMPOSIUM ON MACAU SAR 14-16 JUNE 2005, PISCATAWAY, NJ, USA, IEEE, 14 June 2005 (2005-06-14), pages 353-358, XP010832175, DOI: 10.1109/ISCE.2005.1502402 ISBN: 978-0-7803-8920-5 the whole document -----	1-29
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Information on patent family members

International application No

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