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(54) **Title:** MONITORING SYSTEM USES RFID TAGS IN UI TO REGISTER USER SELECTION

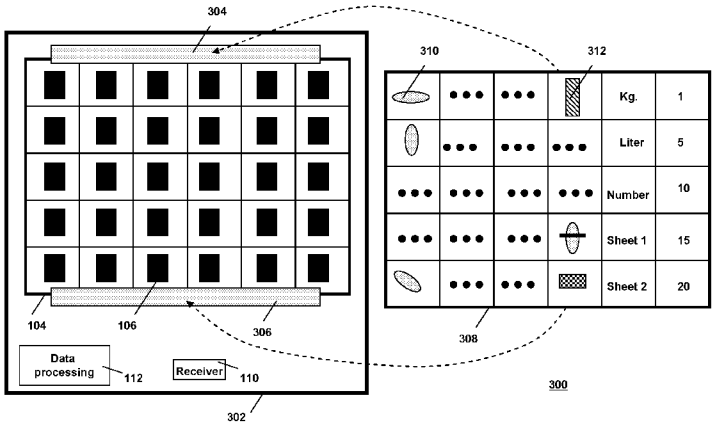

Fig. 3

(57) **Abstract:** A monitoring system has a user interface for entering data through selecting in a contactless manner a particular one of a plurality of options. The user interface comprises a plurality of transponders, each configured for transmitting, upon being activated, a signal indicative of the identity of the activated transponder. Each transponder corresponds with an option. The user interface has a handheld device for activating a transponder based on proximity of the handheld device. The user interface has means for generating a user identifier representative of the user; and a receiver for receiving a specific signal from the specific transponder. The system generates the data representative of the particular option under combined control of the specific signal received by the receiver and the specific user identifier.

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MONITORING SYSTEM USES RFID TAGS IN UI TO REGISTER USER SELECTION

FIELD OF THE INVENTION

The invention relates to a monitoring system with a user interface for enabling a user to enter, in a wireless manner, data representative of a selected one of a plurality of selectable options. The invention also relates to a user interface configured for use in such system, and to a device comprising the plurality of transponders spatially arranged in a regular grid, and a holder for holding a sheet in a spatial relationship with the grid, the combination being configured for use in such a system.

BACKGROUND ART

Such systems are well known, some examples of which are listed below within the context of diet management.

US 20050121504 discloses a system for monitoring fitness and diet programs on a portable handheld device. The known system includes a graphical user interface device and a bar code reader for electronically coupling with the graphical user interface device. The graphical user interface device includes a processor programmed to: receive data corresponding to at least one bar code as read by the bar code reader; and provide data corresponding to a graphical user interface for display on the graphical user interface device for monitoring at least one of diet, exercise or weight training, in accordance with the at least one bar code read by the bar code reader.

US 20060058586 discloses a system that stores nutritional information for a variety of foods. A user, interactively connected to the system via, e.g., the Internet, accesses the system. The system stores user characteristic data including current weight, diet characteristic information. Via a menu, the dieter inputs their daily food intake to the system. The system monitors the natural diet over a predetermined time, the length of time being sufficient to determine the natural eating patterns of the individual. The menu data are formed by food arrangements grouped as meals as determined by the system's server. This publication does not seem to specify the way wherein the user can enter data into the system.

US 20060229504 discloses a system and method for lifestyle management. The system and method can comprise selecting a lifestyle, scanning a product consumed

wherein a unique identifier associated with the product is stored, transferring the unique identifier to a database, receiving nutritional information associated with the unique identifier, and receiving dietary progress analysis based on the selected lifestyle and the product consumed. The lifestyle can be weight loss, weight gain, or weight maintenance. The unique identifier discussed in the detailed embodiments is a barcode scanner. Barcodes are found on the packaging of food items. The user may also print specific barcodes, retrieved from a database in the system, for subsequent scanning. A meal may have multiple servings of a food item or a fraction of a food item. The system provides the user with a manner to edit in the system the quantity of food whose barcode has been scanned so as to represent the amount consumed. This publication does not specify a way wherein the editing is to be carried out.

US 20050113649 discloses a method and apparatus for managing a user's health. In one embodiment, a diet designer for designing a dietary plan, a diet director for directing a user towards a particular meal, and a diet dissector for ascertaining the nutritional content if a user's meal choices are combined in order to provide a robust health management system that operates in real time by evaluating past diet and behavior, to recommend future diet, behavior, and health management. In some embodiments, the invention includes managing a user's health by receiving the user's diet plan, receiving user input about a meal, determining the nutritional content of the meal, and determining how that nutritional content fits into the user's target diet. The system comprises a health management input module. This input module enables a user to transmit information about the foods the user consumes to the system’s server for analysis. The input module can be a digital camera, a scanner, a mouse, a keyboard, a trackball, a mobile phone keypad, a user's voice, and the like. For example, if the input module is a digital camera, the user can take a digital picture of the meal that the user is going to eat and then transmit the picture to the server for real time analysis. Moreover, if the input module is for example a scanner, the user can scan nutritional information or a product code and transmit the scanned information to the server. The user may also photo-scan a Universal Product Code (UPC) of a food item to the input module.

WO01/73541 relates to personal data monitoring systems, and more particularly, to capturing personal data using a data reading element. The data reading element may be a bar code reader, a magnetic stripe reader, an optical reader, a charge coupled device (CCD) video capturing element, or an audible data capturing element.

US 5,478,989 discloses an apparatus and method for providing personalized nutritional information to consumers in a simplified manner. In a preferred embodiment, the method of the present invention comprises the following steps: inputting personal data relating to an individual; inputting data identifying the food products which the individual intends to purchase or consume; accessing pre-stored information relating to the food products which the individual intends to purchase or consume; outputting nutritional information pertinent to the individual's personal data. This publication also discloses a system means for inputting data which identifies at least one food product the individual intends to purchase or consume. This means may also comprise a key pad entry system or touch activated screen input mechanism. Means is utilized by the individual customer to input the various foods and items which the customer intends to purchase or consume. The individual may key in either the brand name of the product or food to be purchased or consumed. With the aid of a barcode reader, the customer may read in the barcode of the package or processed food good.

US 20060041452 discloses a system that can be used for managing many different health related issues including diseases, diet program, physical exercise programs, etc. An example of the system enables to track one's daily nutrients calories, but details are not given about how the data is entered into the system.

SUMMARY OF THE INVENTION

The inventors have realized that a more user-friendly user interface is needed in a monitoring system for enabling a user to enter, in a wireless or contactless manner, data representative of a selected one of a plurality of selectable options. The inventors have also realized that the user-interface is preferably also personalized, at least with regard to the options to choose from, as in a diet monitoring system, wherein different users consume different types and different amounts of food. It is also preferred that the user-interface is inexpensive and yet can be personalized.

An embodiment of the invention is a monitoring system with a user interface for enabling a user to enter data through selecting in a wireless manner a particular one of a plurality of options. The user interface comprises a plurality of transponders. Each respective one of the transponders is configured for transmitting, upon being activated, a respective signal indicative of a respective identity of the respective transponder. Each respective transponder corresponds with a respective one of the plurality of the options. The user

interface further comprises a handheld device for activating a specific one of the transponders based on proximity of the handheld device. The user interface also comprises means for generating a user identifier representative of the user, and a receiver for receiving a specific signal from the specific transponder. The system is configured for generating the data representative of the particular option under combined control of the specific signal received by the receiver and the specific user identifier.

Accordingly, a component for this user interface can be marketed with a plurality of transponders in a uniform configuration. The actual option chosen in operational use by a specific user is determined under combined control of transponder identifier and user identifier. Some of the additional advantages of the transponders in the invention over the barcode readers in the known systems are the following.

Barcodes are usually fixed per food item. If the user decides to consume only a fraction of the item, or multiple servings of the same item, the user has to enter this data into the system as well to accurately represent his/her selection. Therefore, the user has to use different input devices to enter both the type of food and the amount per meal: the barcode reader for the type of item, and, e.g., an alphanumeric keyboard to specify the amount in units of weight or of volume. In the invention, a specific food item is represented to a particular user by means of a specific transponder identity, and the amount is represented by another transponder identity. That is, the selectable options include food items as well as amounts.

Another problem of barcodes relates to the resolution required for reading. As a result, the area per barcode is relatively large, so that the number of different barcodes that can be accommodated on an A4-sized area or a letter-sized area, is rather small. The invention uses transponders, e.g., RFID tags, instead. The area required per RFID tag is much smaller than that of a barcode. Accordingly, when using RFID tags, a larger number of selectable options can be given per unit of surface than when using barcodes.

Barcode readers tend to be swiped across a barcode while physically contacting the barcode tag, thus resulting in wear of the tag, possibly to the extent that it becomes unreadable. The contactless manner of selecting an option in the invention does not cause any wear of the transponder.

In a further embodiment, the means for generating the user identifier is accommodated in the receiver. The receiver then has the transponder identifier for combining it with the user identifier for further processing.

In a further embodiment, the receiver is accommodated in the handheld device. This scenario enables the user to exploit his/her personal trusted electronic handheld device, e.g., cellphone or personal digital assistant (PDA), to interact with the transponders. As known, these handheld devices are the focal point of converging technologies, and are provided with circuitry and interfaces for, e.g., optical (infrared) or radio-frequency communication technologies, and with enough compute-power onboard. Alternatively, the handheld is a simple device having a reader for reading the signal from the activated transponder and a memory for storing data representative of the transponder signals captured by the reader. The reader has, e.g., a USB-stick form-factor and the transponders are implemented as, e.g., RFID tags. Later on, the user can download the data from the memory to his/her PC for local processing or via a plug-in at the PC to a server of the monitoring service via a data network such as the Internet. If the selectable options represent food items consumed by the user, the local processing at the user's PC can be performed by a special software application configured to mimic a dietician who gives guidance on the basis of the information thus accumulated over a longer time period and representing the user's consumption behavior.

In a further embodiment the plurality of transponders are spatially arranged in a regular grid. The user interface comprises a holder for holding a sheet in a spatial relationship with the grid. A respective position of a respective one of the transponders corresponds with a respective location on the sheet when the sheet is in the holder. As a consequence, wielding the handheld device in the proximity of a particular location activates a particular one of the transponders whose position corresponds with the particular location. For example, in the diet-monitoring scenario, the sheet comprises pictures and/or texts to identify to the user the various types of food items as selectable options, as well as alphanumeric text to identify an amount, e.g., quantity, weight, or volume for the selected food items. The sheet can be home-made on any inkjet printer or laser printer, or can be provided by a service provider upon the user having registered his/her preferences as to the content and lay-out of the sheet. The user may also use different sheets with the same plurality of transponders. For example, the user has a sheet of lunch items and another sheet of dinner items. A particular transponder is then reserved to identify a particular sheet in operational use. For example, the user first activates the transponder indicating the relevant sheet by wielding the handheld device near a particular location on the sheet, different sheets requiring different such locations. The combination of transponder identity

and user identity defines the relevant selection, whether it be a food item, a digit in an expression of the amount, or the set of food items from which the selection is made.

The invention can also be commercially exploited in the form of a user interface configured for use in a system of the invention. The user interface comprises a plurality of transponders. Each respective one of the transponders is configured for transmitting, upon being activated, a respective signal indicative of a respective identity of the respective transponder. Each respective transponder corresponds with a respective one of the plurality of the options in operational use of the system. The user interface also has a handheld device for activating a specific one of the transponders based on proximity of the handheld device, and means for generating a user identifier representative of the user. The user interface further comprises a receiver for receiving a specific signal from the specific transponder.

The invention can also be commercially exploited as a device comprising the plurality of transponders spatially arranged in a regular grid, and a holder for holding a sheet in a spatial relationship with the grid, the combination being configured for use in the system of the invention.

BRIEF DESCRIPTION OF THE DRAWING

The invention is explained in further detail, by way of example and with reference to the accompanying drawing, wherein:

Figs.1 and 2 are block diagrams of embodiments of a system in the invention;

Fig.3 is a block diagram of a user–interface in the invention.

Throughout the Figures, similar or corresponding features are indicated by same reference numerals.

DETAILED EMBODIMENTS

Fig.1 is a block diagram of a first embodiment of a monitoring system 100 in the invention. System 100 comprises a user interface (UI) 102 for enabling a user to enter data into the system through selecting in a wireless manner a particular one of a plurality of options. The selectable options are preferably represented to the user as user-understandable items, e.g., as images or as alphanumeric items. UI 102 comprises a plurality of transponders 104. In order to not obscure the drawing only a single one of transponders 104 has been with a reference numeral, here reference numeral 106. Each

respective one of transponders 104 is configured for generating, upon being activated, a respective signal representative of a respective identity of the respective transponder. A particular one of transponders 104 corresponds with a particular one of the options. In order to activate a transponder, UI 102 comprises a handheld device 108. Activation of a particular transponder is based on spatial proximity of handheld device 108 to the particular transponder.

In an embodiment of system 100, handheld device 108 is a passive device (i.e., it has no power supply) and transponders 104 are active components (i.e., are operational when under power). The proximity of device 108 to a particular transponder is detected by the particular transponder itself, comprising a proximity sensor. For example, each transponder generates a field, e.g., an electric field, a magnetic field or an electromagnetic field, whose field properties are affected by an electrically conductive material in handheld device 108 when wielded in the vicinity of the transponder. For example, each transponder comprises a metal detector, a magnetometer or an inductive sensor. The change in the field is detected by the transponder and interpreted as its being activated. As another example, each transponder comprises a Hall-effect sensor, a capacitive sensor, etc.

System 100 further comprises a receiver 110 for receiving a specific signal from the specific transponder activated by means of device 108. System 100 is configured for generating the data representative of the particular option in a data processing component 112.

It is assumed herein that monitoring system 100 forms an interface for an individual user to a larger data processing system 114, e.g., a server on a data network, that collects the data representative of selections made by multiple users interacting with the data processing system through other monitoring systems similar to system 100. To this end, UI 102 comprises an interface (not shown) to data processing system 114, e.g., a network interface. The data generated at component 112 also comprises a user identifier so as to be able to associate the selections, made via system 100, with the individual user of this particular monitoring system 100. Accordingly, system 100 further comprises means for generating a user identifier representative of the user wielding device 108. This aspect is discussed further below.

System 100 is configured for generating the data representative of the particular option under combined control of the specific signal received by the receiver and the specific user identifier. The data thus generated is forwarded to data processing system 114. For

example, component 112 submits the data via a data network, e.g., the Internet, at the time of the user making the selection, or in batches at certain times, or under control of an explicit user input to component 112, the user him/herself accumulates the data by downloading the data to his/her PC with a network interface and then uploads the data to system 114, etc.

The means for generating the user identifier can be accommodated and implemented in monitoring system 100 in a variety of manners, depending on the configuration of the monitoring system of the invention.

One manner is the following. The signal that is generated by a specific one of transponders 104 is unique not only within monitoring system 100, but within a plurality of such monitoring systems connected to the data processing system that collects the data. That is, a specific monitoring system 100 is identifiable on the basis of the identities of the transponders used therein. Another manner is to store the user identifier in receiver 110 or in data processing component 112 of system 100 so as to associate the transponder signals with the specific user. A further manner is discussed with reference to Fig.2, and yet another manner is discussed with reference to Fig.3.

Fig.2 is a block diagram of a second embodiment of a monitoring system 200 of the invention. Transponders 104 are passive components and device 108 is an active component. For example, each of transponders 104 comprises a respective passive RFID (radio-frequency identification) tag, whereas device 108 comprises a transmitter for transmitting an RF signal that is received by the antenna of the RFID tag in the proximity of the transmitter. The signal received powers the circuitry of the RFID tag so as to be able to transmit the tag's response. Receiver 108 and component 112 can both be accommodated in handheld device 108, as shown. Alternatively, handheld device 108 comprises receiver 110 and a memory for storing data representative of the signals received, preferably with a time stamp. This data is later on downloaded to component 112, e.g., a PC in this example. The user identifier is stored at device 108 or at component 112 if the latter is external to device 108. If monitoring system 200 is being used by multiple users, device 108 preferably stores the identifiers of these multiple users and provides a suitable manner to select the proper user identifier, e.g., through a keypad or touch screen provided at device 108, or another suitable user input mechanism as are known from, e.g., cell phones, palmtop computers or personal digital assistants, personal navigation devices, etc.

Fig.3 is a block diagram of transponders 104 in a third embodiment 300 of a system of the invention. In embodiment 300, transponders 104 have been spatially arranged in a

regular grid in a housing 302 for ergonomic reasons. Fig.3 shows a two-dimensional array of cells of uniform size in a regular pattern, but the array may be one-dimensional in other applications. Housing 302 comprises holders 304 and 306 for holding a sheet 308 in a predetermined spatial relationship with the grid. Holders 304 and 306 may be configured with, e.g., clips for gripping sheet 308, as pins whose relative locations correspond with matching holes in sheet 308, fastening tape such as Velcro ™ to cooperate with a matching piece of tape on sheet 308, etc. The grid configuration is also assumed by the selectable options, e.g., options 310 and 312, illustrated on sheet 308, so that there is a spatial one-to-one relationship between transponder identity and option when the sheet is in place. The options on sheet 308 in Fig.3 are represented as abstract forms in order to not obscure the drawing. It is clear to that any suitable visual representation of a specific option, e.g., a photograph, an icon, a line-art picture, etc., can be used to inform the user about the specific option's semantic content.

Sheet 308 also illustrates some other aspects of the invention. The column on the right-hand side of sheet 308 lists numeric values, and the column on the right-hand side but one list the units (weight, volume, number, …) to be associated with the numeric values. Also, the sheet identifiers are included. The sheet identifier is a useful parameter is the user utilizes more than one sheet. Accordingly, the identity of a transponder in combination with the user identifier can be used to identify a food item, the quantity thereof, and the set from which the item is selected. Housing 302 is also configured to accommodate receiver 110 and data processing component 112 so as to provide a single module as an integrated UI 102.

As discussed in the examples above, the user identifier can be generated in a variety of manners. Yet another manner is the user's activating a specific one of transponders 104, positioned at a specific location of the grid and matching a specific icon on sheet 308, to initiate the selection process for the other selectable options. The specific transponder and the specific location are different per different user. The data corresponding with the signal from the specific transponder occurring at the start of each selection process is then used to identify a particular user. In this manner, transponders 104 can be implemented as very simple inexpensive components.

The configuring of UI 102 can be made part of a monitoring service. Consider the following scenarios. A person has subscribed to the monitoring service that keeps track of the person's intake of food based on the selections made via the user interface discussed

above. The user interface includes a network interface to a server on the Internet. The server accumulates data about this person's food consumption and this data enables to derive a consumption pattern, etc. The service is then able to give guidance to the person with regard to changes to his/her diet under control of a medical practitioner or an expert on diets. The user interface is to be personalized, i.e., to be configured for this particular user. The personalizing is needed as the set of selectable options, food items in this example, is likely to be different for different users.

In order to configure the user interface, the user is given access to a web site via, e.g., the user's PC. The web site provides an interactive software application wherein the user can compose the set of selectable items, for operational use of the user interface, from a database comprising a much larger set. Each item in the database is associated with a user-perceptible representation, e.g., a piece of alphanumerical text of an image. In the interactive application, the user indicates which items are to be included in the personalized set of selectable items. The items may include not only food items but also indications for quantities, e.g., weight units, volume units, numbers to be combined with such units or with a food item to indicate the number of servings thereof, etc. Subsequently, the user interacts with the software applications to position the user-perceptible representations of the indicated items in a grid, e.g., by drag-and-drop. The grid itself represents the spatial arrangement of the selectable items on a virtual sheet, being the virtual equivalent of physical sheet 308, and their positions on the virtual sheet match the locations of transponders 104 in housing 302 when the virtual sheet is scaled to correspond in size with physical sheet 308 when fixed to housing 302. The service provider then either prints the representations on a sturdy physical sheet and sends it to the user by mail, or the user downloads the virtual sheet for having it locally printed, e.g., on a piece of paper or another material. The service provider now has information about the selectable items on sheet 308 of this particular user, and about the spatial arrangement of their representations on sheet 308. As mentioned above, each transponder in user interface 102 has a transponder identifier that is different from the identifier of another transponder in user interface 102. Accordingly, upon receipt of a transponder identifier and a user identifier, and possibly a sheet identifier if this user has multiple sheets in operational use, the service provider can determine the item selected by this user.

The invention has been illustrated above by way of scenarios within the context of monitoring the food consumption of a user. Other scenarios wherein the invention can be

used are the following. A first example is the monitoring of the intake of drugs by a patient. The patient is provided with a user interface system as discussed above, wherein the selectable options represent a variety of drugs and possibly the units representative of the amounts (e.g., number of pills, volume of the amount of fluid injected or swallowed, etc.). The patient is to enter the data into the system representative of the specific drug taken when he/she takes the drug, and the data is combined with a time stamp to create medical records. The user him/herself or a party given access to the medical records can then monitor the drug usage. Another example is the monitoring on a daily basis of medical care provided by the nurses to a hospitalized patient. The nurse on duty interacts with the user interface of the invention, wherein the selectable options represent a variety of tasks of the nurse. The nurse enters the data, representative of a task carried out, into the system via the user interface in order to log the information. Preferably, the data is combined with a time stamp. Another example is the monitoring of the orderings by a customer from a menu in a restaurant. Each customer interacts with the monitoring system through a user interface, wherein the selectable options represent a variety of courses or a variety of dishes, and the relevant units for indicating the amounts per dish or per course. In addition, the activation of a transponder associated with a specific option may trigger the playing out of a pre-recorded voice message describing the dish represented by this option. The user may have the option to select via the same interface the relevant language of the voice message. If the user wishes to order this dish, a separate action with a transponder is needed to confirm the selection. The selecting from the menu uses the customer's palmtop computer or cellphone as handheld device to interact with the transponders. If the cellphone also logs the data representative of the signal from the transponder activated, the cellphone can be used afterwards to pay electronically for the check. Yet another example is the scenario wherein a box office cashier of a theater or a customer to the theater interacts with a user interface of the type discussed above, to select from a menu of selectable options the show or movie or other performance for which the customer requests one or more tickets, plus the number of tickets requested by this customer. The data entered via the user interface can then be used to initiate a printing process for printing the tickets requested, and to keep track of the number of visitors per show or movie. The selectable options are represented at the user interface preferably as combinations of text and picture. The user interface may be a component in the billing system, as in the restaurant example, wherein the user can select the relevant show and pay the admission fee via his/her cellphone or palmtop computer.

CLAIMS

1. A monitoring system with a user interface (102) for enabling a user to enter data through selecting in a contactless manner a particular one of a plurality of options; wherein:

the user interface comprises:

a plurality of transponders (104), each respective one thereof being configured for transmitting, upon being activated, a respective signal indicative of a respective identity of the respective transponder; and each respective transponder corresponding with a respective one of the plurality of the options;

a handheld device (108) for activating a specific one of the transponders based on proximity of the handheld device;

means for generating a user identifier representative of the user; and

a receiver (110) for receiving a specific signal from the specific transponder; and

the system is configured for generating the data representative of the particular option under combined control of the specific signal received by the receiver and the specific user identifier.

2. The system of claim 1, wherein the receiver comprises the means for generating the user identifier.

3. The system of claim 2, wherein the receiver is accommodated in the handheld device.

4. The system of claim 1, wherein:

the plurality of transponders are spatially arranged in a regular grid;

the user interface comprises a holder (304, 306) for holding a sheet (308) in a spatial relationship with the grid;

a respective position of a respective one of the transponders corresponds with a respective location on the sheet when the sheet is in the holder, so that wielding the handheld device in the proximity of a particular location activates a particular one of the transponders whose position corresponds with the particular location.

5. A user interface configured for use in the system of claim 1, 2, 3 or 4.

6. A device comprising the plurality of transponders (104) spatially arranged in a regular grid, and a holder (304, 306) for holding a sheet (308) in a spatial relationship with the grid, the combination being configured for use in the system of claim 4.

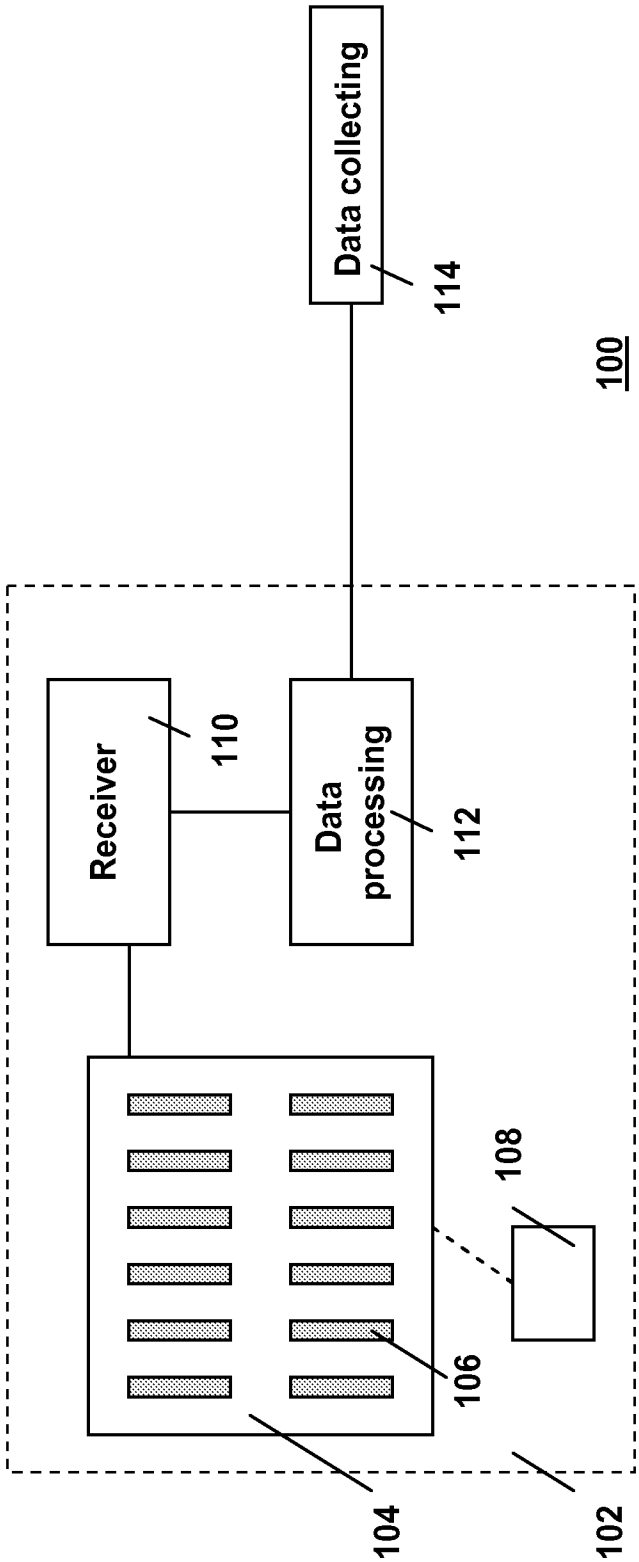
Data collecting
114
100
Receiver
110
Data processing
112
108
106
104
102

Fig. 1

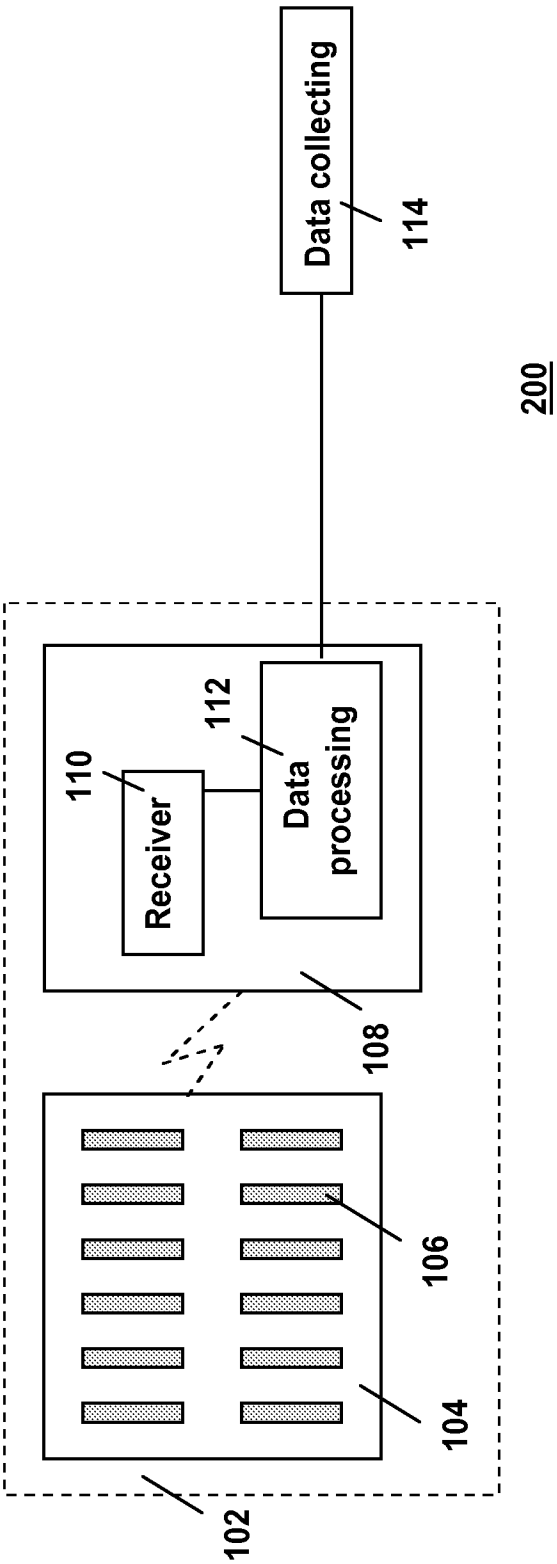
Data collecting
114
200
112
110
Data processing
Receiver
108
106
104
102

Fig. 2

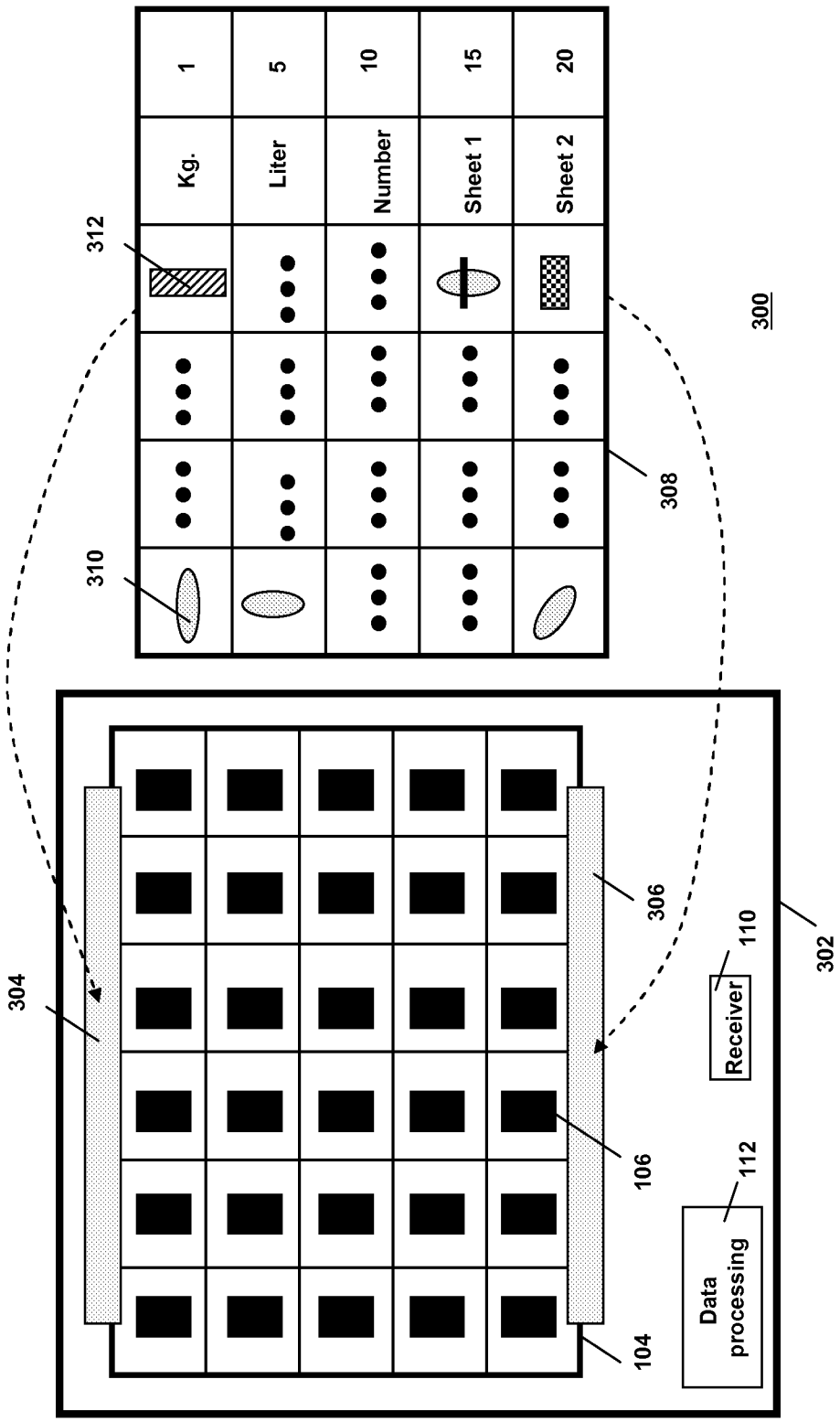
1
5
10
15
20
Kg.
Liter
Number
Sheet 1
Sheet 2
312
310
308
300
304
306
106
104
110
Receiver
112
Data processing
302

Fig. 3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2008/061292

A. CLASSIFICATION OF SUBJECT MATTER
INV. G06F3/00

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)
G06F

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 practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/267879 A1 (SMITH MARC A [US] ET AL) 30 December 2004 (2004-12-30) paragraphs [0013] - [0032] figures 1,2	1-6
X	WO 2006/094086 A (HARRIS DAVID N [US]; HARRIS SONJA J [US]; GIBSON GREGORY P [US]; HENNE) 8 September 2006 (2006-09-08) page 12, line 4 - page 32, line 8 figures 1-10	1-6
X	EP 1 630 716 A (WOLTER MICHAEL [DE]) 1 March 2006 (2006-03-01) the whole document	1-6

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
23 December 2008	08/01/2009

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Baldan, Marco

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2008/061292

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/080785 A1 (SON MYUNG-HEE [KR] ET AL) 12 April 2007 (2007-04-12) the whole document	1-3,5
A		4,6
X	US 2007/032261 A1 (BOYER DAVID G [US] ET AL) 8 February 2007 (2007-02-08) the whole document	1-3,5
A		4,6
A	JP 2006 031734 A (TOSHIBA TEC KK) 2 February 2006 (2006-02-02) abstract	1-6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2008/061292

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004267879 A1	30-12-2004	NONE	
WO 2006094086 A	08-09-2006	AU 2006218537 A1	08-09-2006
		CA 2599692 A1	08-09-2006
		EP 1875369 A2	09-01-2008
		JP 2008537614 T	18-09-2008
		KR 20070116037 A	06-12-2007
		US 2006200480 A1	07-09-2006
EP 1630716 A	01-03-2006	AT 370459 T	15-09-2007
		DE 102004041491 A1	09-03-2006
		ES 2292029 T3	01-03-2008
US 2007080785 A1	12-04-2007	NONE	
US 2007032261 A1	08-02-2007	NONE	
JP 2006031734 A	02-02-2006	NONE	