Additionally, consumers are currently left to fend for themselves in a sales area providing information relating solely to the items on sale. Consumers must browse through this information to find relevant data. In a sales area generally having several thousand items on offer, finding the suitable item may prove to be most complicated.

Furthermore with the emergence of electronic trade, consumers have become accustomed to information specifically given for their intention. Yet the display of information such as currently found in sales areas does not offer any interaction with consumers.

There are currently no means of disseminating information specifically intended for a consumer and related to the consumer's position in a store, or even related to a product specific to this consumer.

DESCRIPTION OF THE INVENTION

~~T~~Embodiments of the present invention ~~therefore sets out to propose~~ seek to provide means for providing consumers with spatially localized information, in relation to the place and context of a consumer, which complements the information already visually available in a sales area. ~~A further objective is to be able~~ Embodiments of the present invention also seek to provide consumers at the point of sale with information that is specifically intended and personalized for this consumer.

~~For this purpose, a~~According to a first aspect, there is provided a method ~~is proposed~~ for communicating data, representing spatially localized information, to a mobile terminal in relation to the location of said mobile terminal in a sales area equipped with a distributed series of electronic labels, each electronic label being identified by a ~~single~~ unique label identifier particular thereto,

said method comprising the steps in which:

- a mobile terminal sets up a communication via radio-frequency with a radio-frequency peripheral of an electronic label;
- the radio-frequency peripheral of said electronic label communicates to said mobile terminal a label identifier of said electronic label;
- the mobile terminal communicates said label identifier to a central server;
- the central server determines the location of said mobile terminal from the label identifier of said electronic label;

- the central server communicates data to the mobile terminal representing spatially localized information associated with the location of said mobile terminal.

~~According to the first aspect,~~ Embodiments of the invention ~~is~~ are advantageously but optionally complemented by the following characteristics taken alone or in any technical possible combination thereof:

- the radio-frequency peripheral of the electronic label has a communication range of less than 20 cm;

- the setting-up of the communication between the mobile terminal and the radio-frequency peripheral comprises the steps in which:

  - a user brings the mobile terminal close to the radio-frequency peripheral of the electronic label, so that the radio-frequency peripheral is within the range of the electromagnetic waves emitted by the mobile terminal;

  - said radio-frequency peripheral is activated by the energy of the electromagnetic waves emitted by the mobile terminal in order to set up communication via radio-frequency between the radio-frequency peripheral of the electronic label and the mobile terminal;

- the central server determines the location of said mobile terminal from the identifier of said electronic label by means of data from a planogram associating a location with the label identifier;

- the communication between the central server and the mobile terminal is set up via the internet;

- the data representing spatially localized information associated with the location of said mobile terminal take into account data specific to the user of the mobile terminal previously stored in a database accessible via a communication network.

According to a second aspect, there is provided a ~~communication~~ system ~~is also proposed to~~ for communicat~~e~~ing localized data within a sales area, comprising:

- a mobile terminal capable of communicating with a central server;

- a series of electronic labels distributed throughout the sales area, each electronic label being identified by a unique label identifier particular thereto,

in which an electronic label of said series of electronic labels also comprises a radio-frequency peripheral with which the mobile terminal is able to set up a communication to acquire the label identifier of said label,

and the system is configured to implement the method according to the first aspect.

~~The invention according to the second aspect is~~Embodiments of the invention are advantageously but optionally complemented by the following characteristics taken alone or in any possible technical combination thereof:

-said electronic label also comprises

- a radio-frequency communication module to receive data representing item-related information originating from a central server;
- a memory to store said data;
- a microcontroller to control the display of information relating to an item;
- a display screen to display said item-related information;

- the radio-frequency peripheral of the electronic label comprises an antenna and an electronic chip of NFC or RFID type;
- the chip and the antenna are arranged at different points of the electronic label, connections ensuring the link between the antenna and the chip;
- the chip is connected to a microcontroller of the electronic label, and the antenna is arranged on or in a case inside which said microcontroller is housed;
- the mobile terminal is adapted to transmit data to the electronic label via the radio-frequency peripheral of said electronic label.

PRESENTATION OF THE FIGURES

Other characteristics, objectives and advantages of the invention will become apparent from the following description which is solely illustrative and non-limiting, and is to be read with reference to the appended drawings in which:

- Figure 1 is a schematic illustrating the system according to one possible embodiment of the second aspect of the invention;
- Figure 2 is a schematic illustrating a front view of an electronic label of a system according to one possible embodiment of the second aspect of the invention;
- Figure 3 is a rear transparency view of an electronic label of a system according to one possible embodiment of the second aspect of the invention;
- Figure 4 is a schematic illustrating the implementing of the method according to the first aspect of the invention.

Claims

1. A method for communicating data representing spatially localized information to a mobile terminal (1) in relation to the location of said mobile terminal (1) in a sales area equipped with a distributed series of electronic labels (3), each electronic label (3) being identified by a unique label identifier particular thereto; said method comprising the steps in which:

- a mobile terminal (1) sets up a communication (S1) via radio-frequency with a radio-frequency peripheral (36) of an electronic label (3),
- the radio-frequency peripheral (36) of said electronic label (3) communicates (S2) a label identifier of said electronic label (3) to said mobile terminal (1),
- the mobile terminal (1) communicates (S3) said label identifier to a central server (2),
- the central server (2) determines (S4) the location of said mobile terminal (1) from the label identifier of said electronic label (3),
- the central server (2) communicates (S5) data to the mobile terminal (1) representing spatially localized information associated with the location of said mobile terminal (1).

2. The method according to claim 1 wherein the radio-frequency peripheral (36) of the electronic label (36) has a communication range of less than 20 cm.

3. The method according to one of claims 1 to 2 wherein the setting-up of the communication between the mobile terminal (1) and the radio-frequency peripheral (36) comprises the steps in which:

- a user brings the mobile terminal (1) close to the radio-frequency peripheral (36) of the electronic label (3), so that the radio-frequency peripheral (36) is within the range of the electromagnetic waves emitted by the mobile terminal (1),
- said radio-frequency peripheral (36) is activated by the energy of the electromagnetic waves emitted by the mobile terminal (1) to set up communication via radio-frequency between the radio-frequency peripheral (36) of the electronic label (3) and the mobile terminal (1).

4. The method according to one of claims 1 to 3 wherein the central server (2) determines the location of said mobile terminal (1) from the identifier of said electronic label (3) using data from a planogram associating a location with the label identifier.

5. The method according to one of claims 1 to 4 wherein the communication between the central server (2) and the mobile terminal mobile (1) is set up via the internet.

6. The method according to one of claims 1 to 5 wherein the data representing spatially localized information associated with the location of said mobile terminal (1) take into account data specific to the user of the mobile terminal (1), previously stored in a database (41, 44) accessible via a communication network.

7. A system for communicating localized data within a sales area, comprising:

- a mobile terminal (1) capable of communicating with a central server (2),
- a series of electronic labels (3) distributed throughout the sales area, each electronic label (3) being identified by a unique label identifier particular thereto,

characterized in that an electronic label (3) of said series of electronic labels (3) also comprises a radio-frequency peripheral (36) with which the mobile terminal (1) is able to set up a communication to acquire the label identifier of said electronic label (3),
and in that the system is configured to implement the method according to any of the preceding claims.

8. The system according to the preceding claim wherein said electronic label (3) also comprises:

- a radio-frequency communication module (32) to receive data representing information relating to an item from a central station (2);
- a memory (33) to store said data;
- a microcontroller (34) to control the display of information relating to an item;
- a display screen (31) to display said item-related information.

9. The system according to one of claims 7 to 8 wherein the radio-frequency peripheral (36) of the electronic label (3) comprises an antenna (38) an electronic chip (37) of NFC or RFID type.

10. The system according to the preceding claim wherein the chip (37) and the antenna (38) are arranged at different points of the electronic label (3), connections (39) ensuring the link between the antenna (38) and the chip (37).

11. The system according to the preceding claim wherein the chip (37) is connected to a microcontroller (34) of the electronic label (3), and the antenna (38) is arranged on or in a case (30) inside which said microcontroller (34) is housed.

12. The system according to one of claims 7 to 11 wherein the mobile terminal (1) is adapted to transmit data to the electronic label (3) via the radio-frequency peripheral (36) of said electronic label (3).

~~Amended~~ Claims

1. A method for communicating data representing spatially localized information to a mobile terminal ~~(1)~~ in relation to the location of said mobile terminal ~~(1)~~ in a sales area equipped with a distributed series of electronic labels ~~(3)~~, each electronic label ~~(3)~~ being identified by a unique label identifier particular thereto; said method comprising the steps in which:

- a mobile terminal ~~(1)~~ sets up a communication ~~(S1)~~ via radio-frequency with a radio-frequency peripheral ~~(36)~~ of an electronic label ~~(3)~~,
- the radio-frequency peripheral ~~(36)~~ of said electronic label ~~(3)~~ communicates ~~(S2)~~ a label identifier of said electronic label ~~(3)~~ to said mobile terminal ~~(1)~~,
- the mobile terminal ~~(1)~~ communicates ~~(S3)~~ said label identifier to a central server ~~(2)~~,
- the central server ~~(2)~~ determines ~~(S4)~~ the location of said mobile terminal ~~(1)~~ from the label identifier of said electronic label ~~(3)~~,
- the central server ~~(2)~~ communicates ~~(S5)~~ data to the mobile terminal ~~(1)~~ representing spatially localized information associated with the location of said mobile terminal ~~(1)~~.

2. The method according to claim 1 wherein the radio-frequency peripheral ~~(36)~~ of the electronic label ~~(36)~~ has a communication range of less than 20 cm.

3. The method according to one of claims 1 to 2 wherein the setting-up of the communication between the mobile terminal ~~(1)~~ and the radio-frequency peripheral ~~(36)~~ comprises the steps in which:

- a user brings the mobile terminal ~~(1)~~ close to the radio-frequency peripheral ~~(36)~~ of the electronic label ~~(3)~~, so that the radio-frequency peripheral ~~(36)~~ is within the range of the electromagnetic waves emitted by the mobile terminal ~~(1)~~,
- said radio-frequency peripheral ~~(36)~~ is activated by the energy of the electromagnetic waves emitted by the mobile terminal ~~(1)~~ to set up communication via radio-frequency between the radio-frequency peripheral ~~(36)~~ of the electronic label ~~(3)~~ and the mobile terminal ~~(1)~~.

4. The method according to one of claims 1 to 3 wherein the central server ~~(2)~~ determines the location of said mobile terminal ~~(1)~~ from the identifier of said electronic label ~~(3)~~ using data from a planogram associating a location with the label identifier.

5. The method according to one of claims 1 to 4 wherein the communication between the central server ~~(2)~~ and the mobile terminal mobile ~~(1)~~ is set up via the internet.

6. The method according to one of claims 1 to 5 wherein the data representing spatially localized information associated with the location of said mobile terminal ~~(1)~~ take into account data specific to the user of the mobile terminal ~~(1)~~, previously stored in a database ~~(41, 44)~~ accessible via a communication network.

7. A system for communicating localized data within a sales area, comprising:

- a mobile terminal ~~(1)~~ capable of communicating with a central server ~~(2)~~,
- a series of electronic labels ~~(3)~~ distributed throughout the sales area,

each electronic label ~~(3)~~ being identified by a unique label identifier particular thereto,

~~characterized in that~~ wherein an electronic label ~~(3)~~ of said series of electronic labels ~~(3)~~ also comprises a radio-frequency peripheral ~~(36)~~ with which the mobile terminal ~~(1)~~ is able to set up a communication to acquire the label identifier of said electronic label ~~(3)~~,

and in that the system is configured to implement the method according to any of the preceding claims.

8. The system according to the preceding claim wherein said electronic label ~~(3)~~ also comprises:

- a radio-frequency communication module ~~(32)~~ to receive data representing information relating to an item from a central station ~~(2)~~;
- a memory ~~(33)~~ to store said data;
- a microcontroller ~~(34)~~ to control the display of information relating to an item;
- a display screen ~~(31)~~ to display said item-related information.

9. The system according to one of claims 7 to 8 wherein the radio-frequency peripheral ~~(36)~~ of the electronic label ~~(3)~~ comprises an antenna ~~(38)~~ an electronic chip ~~(37)~~ of NFC or RFID type.

10. The system according to the preceding claim wherein the chip ~~(37)~~ and the antenna ~~(38)~~ are arranged at different points of the electronic label ~~(3)~~, connections ~~(39)~~ ensuring the link between the antenna ~~(38)~~ and the chip ~~(37)~~.

11. The system according to the preceding claim wherein the chip ~~(37)~~ is connected to a microcontroller ~~(34)~~ of the electronic label ~~(3)~~, and the antenna ~~(38)~~ is arranged on or in a case ~~(30)~~ inside which said microcontroller ~~(34)~~ is housed.

12. The system according to one of claims 7 to 11 wherein the mobile terminal ~~(1)~~ is adapted to transmit data to the electronic label ~~(3)~~ via the radio-frequency peripheral ~~(36)~~ of said electronic label ~~(3)~~.