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(56) Documents Cited:
WO 1989/002628 A1 US 6129276 A
US 20060149621 A1 US 20060122855 A1
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(54) Abstract Title: Advertising system for shopping trolleys

(57) An advertising unit 5 is provided for supermarket trolleys 3a-d or other such carriers, where the unit presents to the user advertisements in dependence on the location of the carrier in the retail environment. The system may use triangulation to provide the location of the trolley, or it may use GPS for determining the position and communicate with a central system using a wireless LAN.

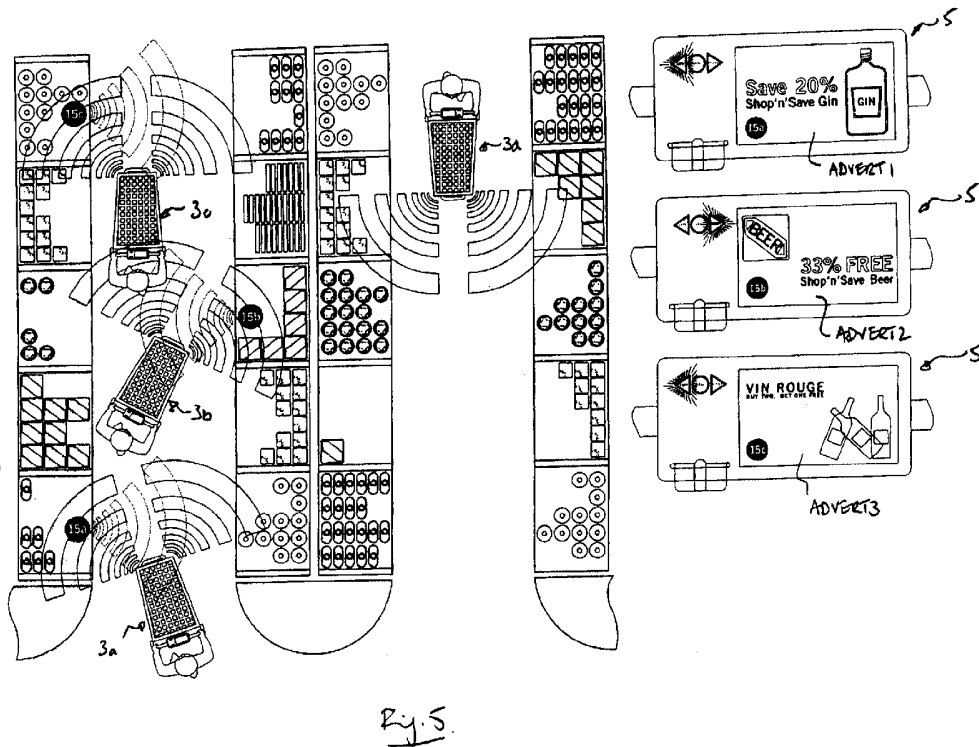


Fig. 5.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

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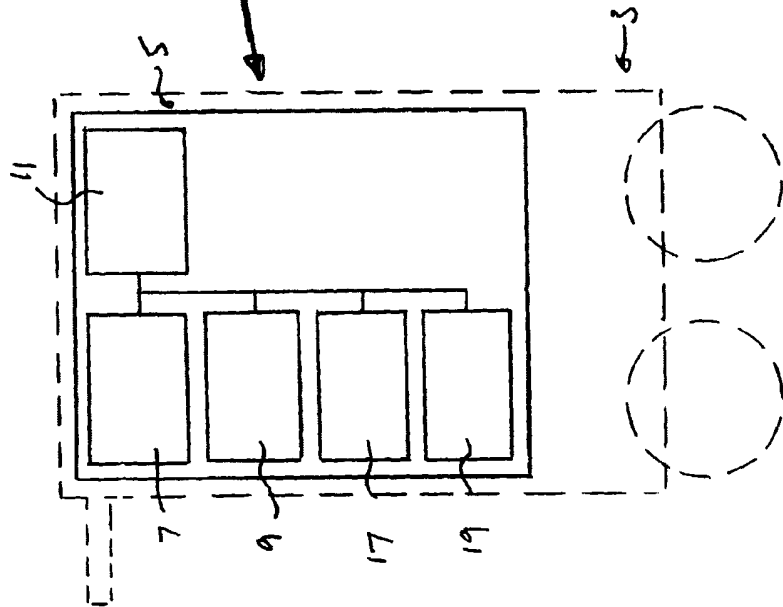
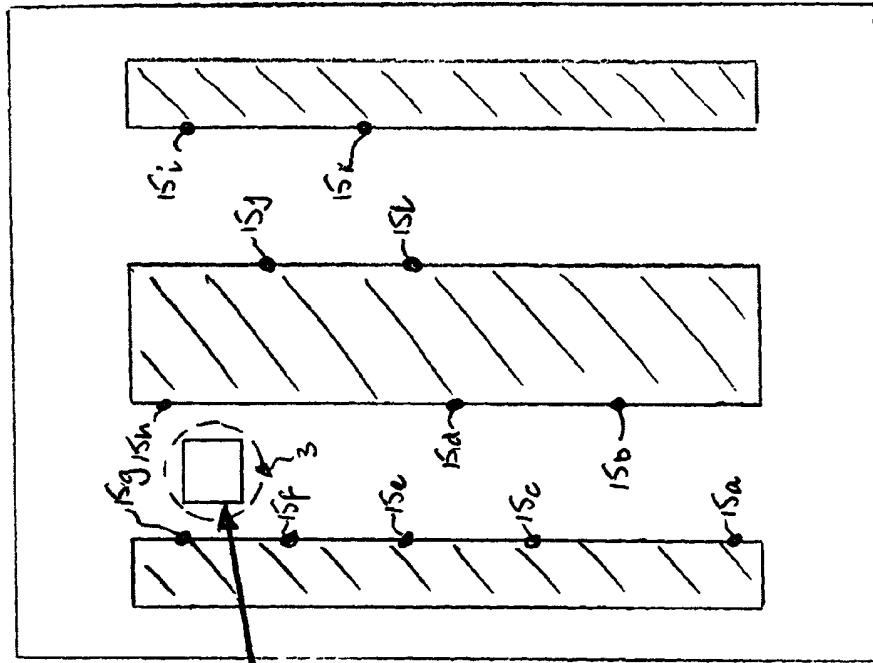
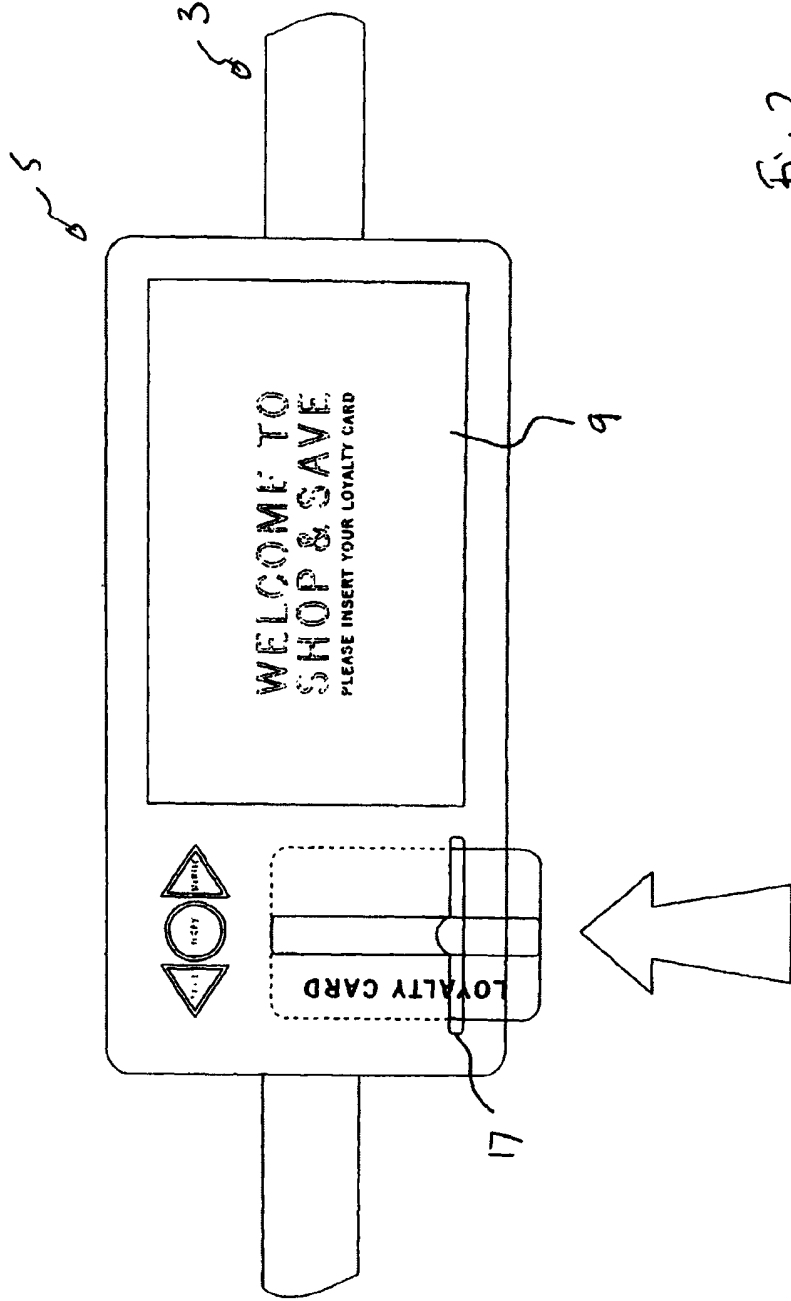


Fig. 1



2/5

Fly 2

3 4 5

3/5

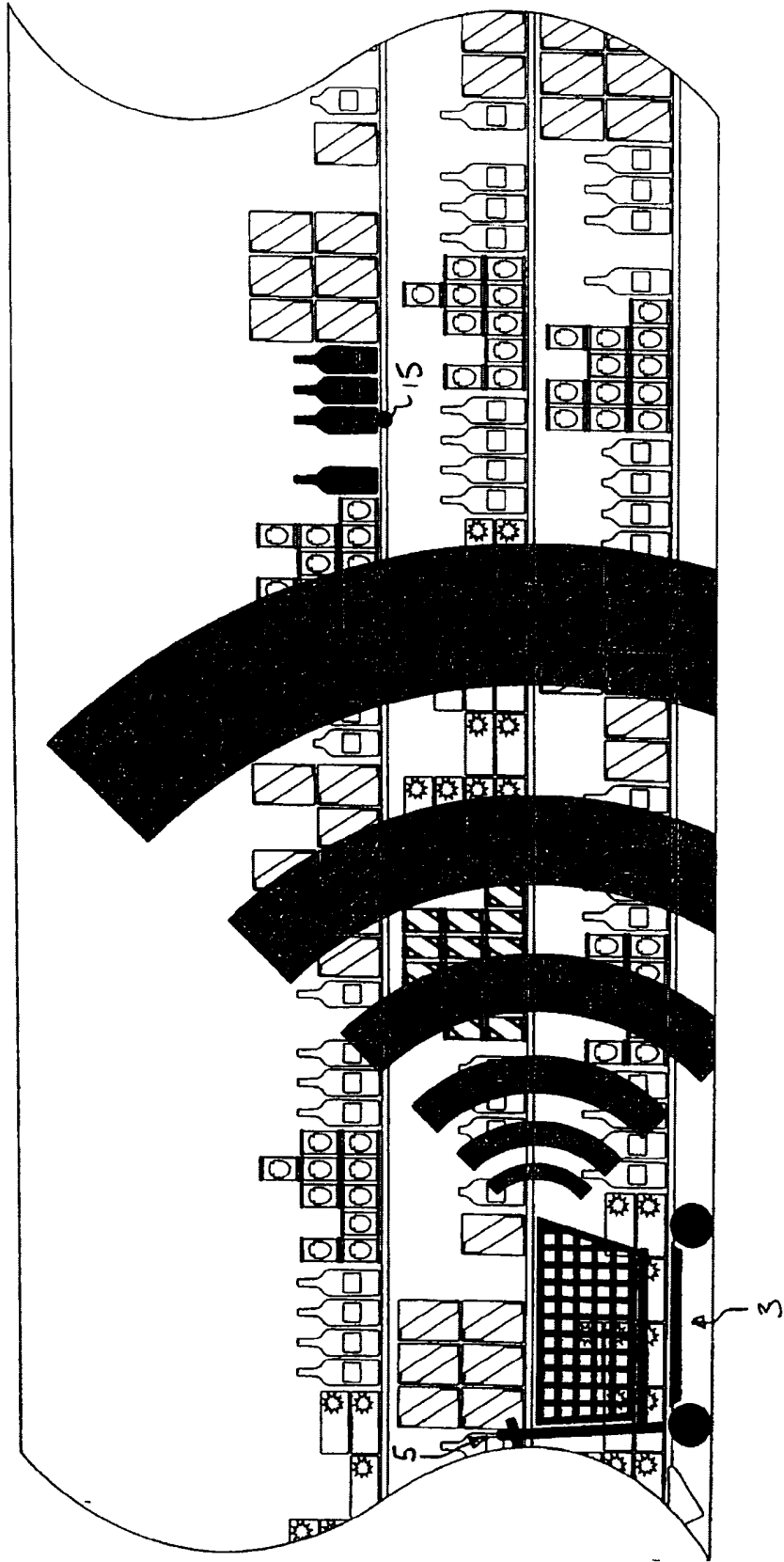


Fig 3

25 48 05

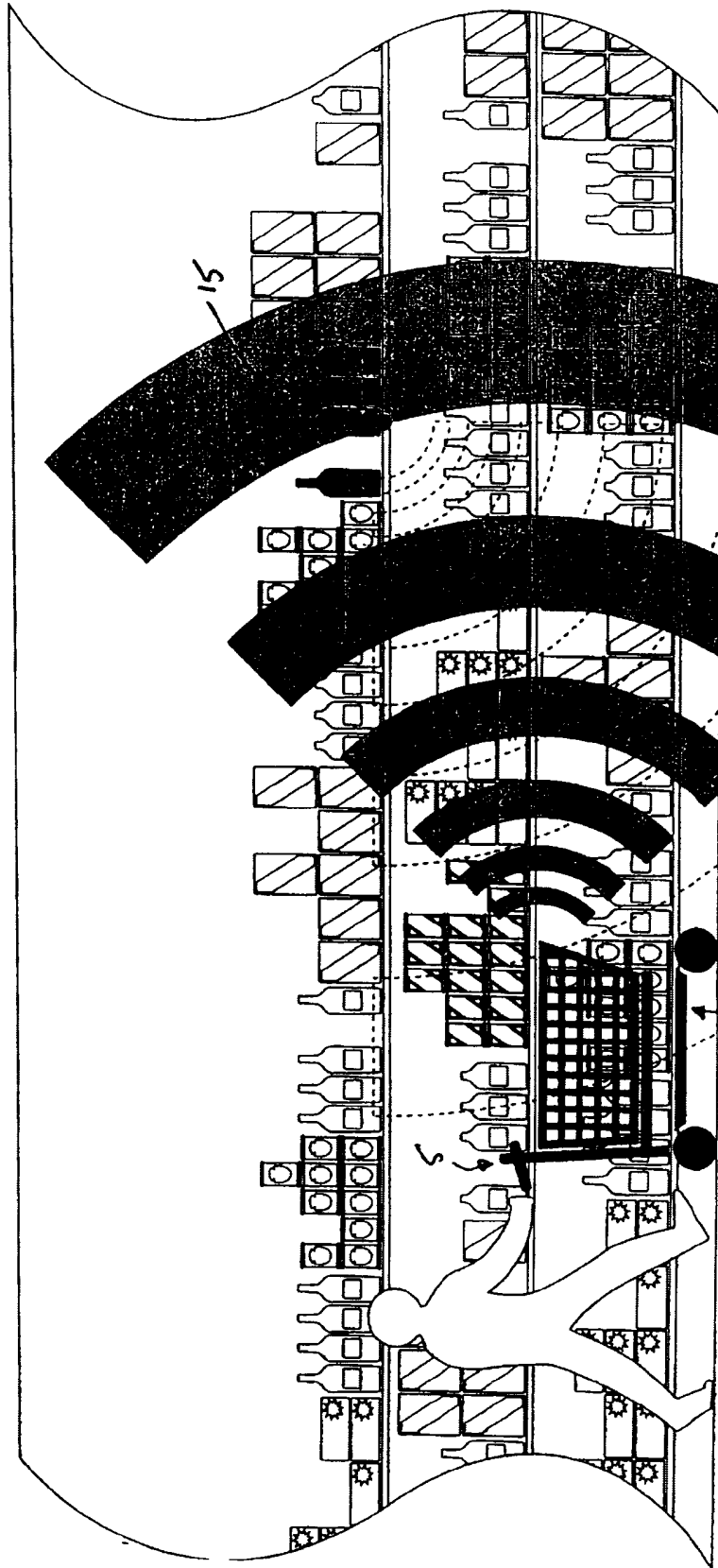
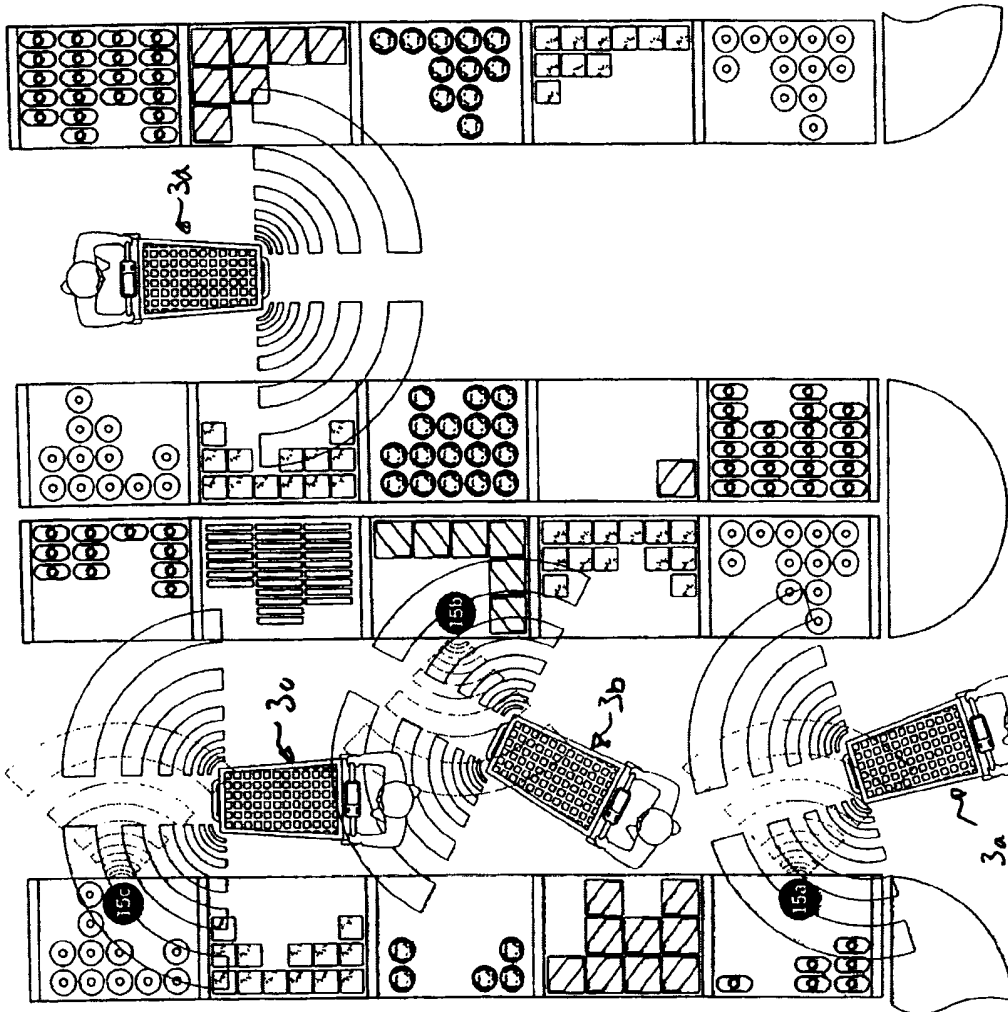
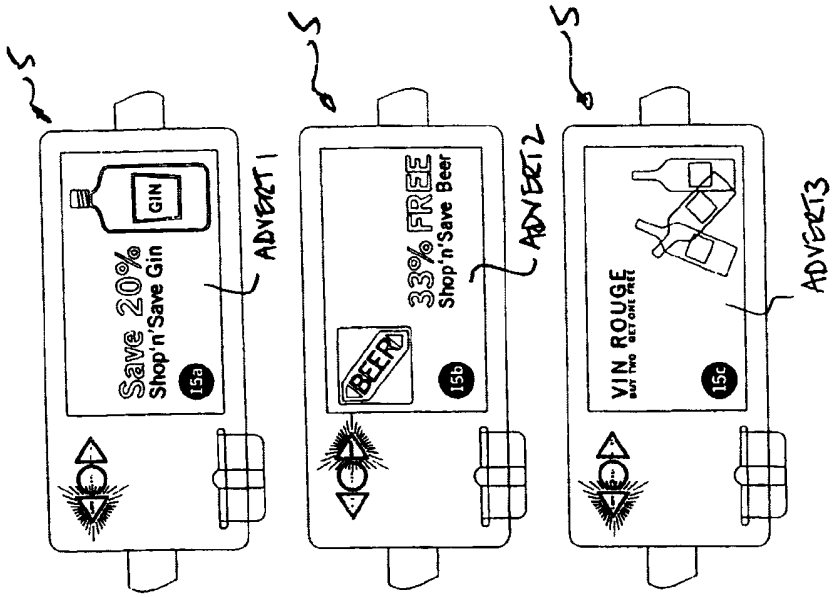


Fig. 4



P.J.S

ADVERTISING SYSTEM AND CARRIER THEREFOR

The present invention relates to an advertising system for displaying advertisements to a user in a retail environment, such as a retail store, in dependence upon the location of the user in the retail environment, and a carrier therefor, such as a shopping trolley.

Advertising on shopping trolleys, in the form of an advertisement mounted to the handle of the shopping trolley, is known. This advertisement is, however, fixed, and it is an aim of the present invention to provide an intelligent advertising system and a carrier therefor, which provides targeted adverts within a shopping environment, such that an advertisement can be presented to the user which is relevant to a product by which the user is located.

In one aspect the present invention provides an advertising system for presenting advertisements to users in a retail environment, the system comprising: a plurality of carriers which are used by respective users within the retail environment, wherein each carrier includes an advertising unit for presenting different advertisements to the respective user in dependence upon the location of the carrier.

In one embodiment the carriers comprise wheeled carriers.

Preferably, the carriers comprise shopping trolleys.

In one embodiment the advertising unit comprises a position sensor for sensing the proximity to locations within the retail environment, presentation means for presenting advertisements to the user in dependence upon the sensed proximity, and a controller for controlling the presentation means to present advertisements to the user.



In one embodiment the advertising system further comprises: a plurality of transponders which are located at different locations within the retail environment; and wherein the position sensor comprises a transceiver for receiving a local transmission from one of the plurality of transponders, such that, when the respective carrier is located within the proximity of one of the transponders, the transceiver receives a signal identifying the transponder and, in response to receipt of this signal by the transceiver, the controller controls the presentation means to present a pre-defined advertisement.

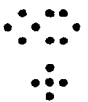
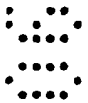
In another embodiment the advertising system further comprises: a plurality of transmitters which are located at different locations within the retail environment; and wherein the position sensor comprises a receiver for receiving a local transmission from one of the plurality of transmitters, such that, when the respective carrier is located within the proximity of one of the transmitters, the receiver receives a signal identifying the transmitter and, in response to receipt of this signal by the transmitter, the controller controls the presentation means to present a pre-defined advertisement.

In a further embodiment the position sensor comprises position determining means which determines the location of the respective carrier within the retail environment, and, in dependence upon the determined location of the carrier, the controller controls the presentation means to present a pre-defined advertisement for that location.

In one embodiment the position determining means determines the location of the carrier by use of GPS.

In another embodiment the position determining means determines the location of the carrier by triangulation from triangulation beacons within the retail environment.

In one embodiment the presentation means comprises a display for visually presenting the respective advertisements to the user.



In one embodiment the advertising unit further comprises an input device for identifying the user, and the controller is operative to target advertisements to the individual user in accordance with personal preferences.

In one embodiment the input device comprises a card reader for reading a loyalty card of the user.

In one embodiment the personal preferences are identified by the user.

In another embodiment the personal preferences are determined from historical patterns.

In one embodiment the advertising unit comprises a communications unit by which advertisements stored therein can be updated.

In one embodiment the communications unit is a wireless communications unit which allows advertisements stored in the advertising unit to be updated remotely.

In one embodiment ones of the advertising units are configured to display different advertisements for the same location, such that the same product is not promoted at the same location.

In one embodiment the advertising unit further comprises a call button by which the user can summon assistance from an operative.

In one embodiment each carrier further comprises a charging device for charging the power source thereof when being moved by the user.

In one embodiment the charging device comprises a dynamo device.



In another aspect the present invention provides a carrier which is used within a retail environment, wherein each carrier includes an advertising unit for presenting different advertisements to the respective user in dependence upon the location of the carrier.

In one embodiment the carrier is a wheeled carrier.

Preferably, the carrier is a shopping trolley.

In one embodiment the advertising unit comprises a position sensor for sensing the proximity to locations within the retail environment, presentation means for presenting advertisements to the user in dependence upon the sensed proximity, and a controller for controlling the presentation means to present advertisements to the user.

In one embodiment the position sensor comprises a transceiver for receiving a local transmission from one of a plurality of transponders at different locations within the retail environment, such that, when the carrier is located within the proximity of one of the transponders, the transceiver receives a signal identifying the transponder and, in response to receipt of this signal by the transceiver, the controller controls the presentation means to present a pre-defined advertisement.

In another embodiment the position sensor comprises a receiver for receiving a local transmission from one of a plurality of transmitters at different locations within the retail environment, such that, when the carrier is located within the proximity of one of the transmitters, the receiver receives a signal identifying the transmitter and, in response to receipt of this signal by the transmitter, the controller controls the presentation means to present a pre-defined advertisement.

In a further embodiment the position sensor comprises position determining means which determines the location of the carrier within the retail



environment, and, in dependence upon the determined location of the carrier, the controller controls the presentation means to present a pre-defined advertisement for that location.

In one embodiment the position determining means determines the location of the carrier by use of GPS.

In another embodiment the position determining means determines the location of the carrier by triangulation from triangulation beacons within the retail environment.

In one embodiment the presentation means comprises a display for visually presenting the respective advertisements to the user.

In one embodiment the advertising unit further comprises an input device for identifying the user, and the controller is operative to target advertisements to the individual user in accordance with personal preferences.

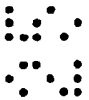
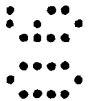
In one embodiment the input device comprises a card reader for reading a loyalty card of the user.

In one embodiment the personal preferences are identified by the user.

In another embodiment the personal preferences are determined from historical patterns.

In one embodiment the advertising unit comprises a communications unit by which advertisements stored therein can be updated.

In one embodiment the communications unit is a wireless communications unit which allows advertisements stored in the advertising unit to be updated remotely.



In one embodiment the advertising unit further comprises a call button by which the user can summon assistance from an operative.

In one embodiment the carrier further comprises a charging device for charging the power source thereof when being moved by the user.

In one embodiment the charging device comprises a dynamo device.

In one embodiment the advertising system can be retro-fitted to existing carriers, in particular shopping trolleys.

In addition to providing for targeted advertising, the present invention avoids the need for manually changing product graphics, for example, as a result of re-branding, as this can be done centrally and presented to the user in the advertisement. This also allows the retailer to have a cleaner platform from which to present the products.

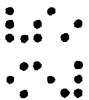
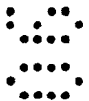
Preferred embodiments of the present invention will now be described hereinbelow by way of example only with reference to the accompanying drawings, in which:

Figure 1 diagrammatically represents an advertising system in accordance with a preferred embodiment of the present invention where applied to a retail environment;

Figure 2 illustrates the advertising unit of the advertising system of Figure 1;

Figure 3 illustrates a carrier of the advertising system of Figure 1 where within the retail environment, but out of range from a transducer;

Figure 4 illustrates the carrier of Figure 3 where having moved into range of the transducer, such as to trigger the advertising unit of the carrier to



present an advertisement associated with the location of the transducer;
and

Figure 5 represents a part of the retail environment of Figure 1 in which some carriers are within the range of respective transducers, and illustrates the different advertisements as presented by the advertising units of the respective carriers.

The advertising system comprises at least one, in this embodiment a plurality of carriers 3 which are used by users within a retail environment and each include an advertising unit 5 for presenting advertisements to the users.

In this embodiment the carriers 3 comprise shopping trolleys, but could be any wheeled vehicle, such as a children's buggy or a disabled wheelchair, or, indeed, any kind of carrier, such as a shopping basket.

In this embodiment the advertising unit 5 is mounted to the handle of the carrier 3.

The advertising unit 5 comprises a position sensor 7 for sensing the proximity to identified goods, presentation means 9 for presenting different advertisements to the user in dependence upon the sensed proximity, and a controller 11 for controlling the presentation means 9 to present the advertisements to the user.

In this embodiment the position sensor 7 comprises a transceiver for receiving a local transmission from one of a plurality of transponders 15 which are located within the retail environment, such that, when the carrier 3 is located within a predetermined proximity of one of the transponders 15, the transceiver receives a signal identifying the transponder 15 and hence the product with which the transponder 15 is associated, and, in response to receipt of this signal by the transceiver, the controller 11 controls the



presentation means 9 to present the pre-defined advertisement for the product.

This operation of the advertising units 5 of differently-located carriers 3a-d is represented in Figure 5, which represents a part of the retail environment in which some carriers 3a-c are located within the range of respective transducers 15a-c and different advertisements ADVERT1, ADVERT2, ADVERT3 are accordingly presented by the advertising units 5 of the respective carriers 3a-c, and another carrier 3d is out of the range of any of the transducers 15 and no new advertisement is presented by the advertising unit 5 of the respective carrier 3d.

In another embodiment the position sensor 7 could comprise a receiver for receiving a local transmission from one of a plurality of transmitters 15 which are located within the retail environment, such that, when the carrier 3 is located within a predetermined proximity of one of the transmitters 15, the receiver receives a signal identifying the transmitter 15 and hence the product with which the transmitter 15 is associated, and, in response to receipt of this signal by the transmitter, the controller 11 controls the presentation means 9 to present the pre-defined advertisement for the product.



In another embodiment the position sensor 7 could comprise position determining means which determines the location of the carrier 3, and, in dependence upon the determined location of the carrier 3, the controller 11 controls the presentation means 9 to present the pre-defined advertisement for that location. In one embodiment the position determining means could determine the location of the carrier 3 by use of GPS or triangulation from triangulation beacons within the retail environment.

In this embodiment the presentation means 9 comprises a display, such as an LCD display, for visually presenting the respective advertisements to the user. In another embodiment, either alternatively or additionally, the

presentation means 9 could comprise a speaker for audibly presenting the respective advertisements to the user.

In one embodiment the advertisements could be animated, and also include an indicator arrow for pointing to the location of the product.

The advertising unit 5 further comprises an input device 17, in this embodiment a card reader, which allows the user to be identified, thereby allowing advertisements to be targeted to the individual user in accordance with personal preferences. These personal preferences can either be input by the user or determined from historical shopping habits. Also, based on historical shopping habits, the advertising system can be configured to present advertisements for competitor products to those which are habitually purchased by the user.

In this embodiment the advertising unit 5 comprises a communications unit 19 by which the advertisements can be updated. In this embodiment the communications unit 19 is a wireless communications unit which allows the advertisements to be updated remotely, for example, by way of a wireless local area network (WLAN) from a central control unit.

By virtue of having such control in enabling the updating of the advertisements, the advertisements can be updated readily at any time, allowing retailers to adapt the advertisements to the time of day, weather conditions, stock levels, demographics, geographics, etc.

In one embodiment ones of the advertising units 5 could be configured such as to display different advertisements for the same location, such that the same product is not promoted at the same location. This has a particular benefit in allowing stocking levels to be maintained, and preventing a run on a particular product.



In this embodiment the advertising unit 5 further comprises a call button, by which the user can summon assistance. This function allows an operative to be summoned who has specialist knowledge, where the call button is activated through an advertisement, thereby facilitating the shopping experience.

In this embodiment the carrier 3 could include a charging device, such as a dynamo device, for charging the power source for the advertising unit 5 when being moved by the user.

In an alternative embodiment the carrier 3 could include a male/female power coupling which provides for charging of the power source for the advertising unit 5 when the carrier 3 is nested.

In another alternative embodiment the power source for the advertising unit 5 could comprise a replaceable battery, typically a rechargeable battery. In one embodiment the advertising system could be configured to allow for replacement of the battery only at a predetermined location, in one embodiment within the proximity of a predetermined transponder 15, for example, at the check out by a retail operative, thereby avoiding the possibility of theft of the batteries.

In another embodiment the advertising unit 5 could include an RFID reader, which, where the products include RFID tags, provides for a calculation of the value of the products in the carrier 3. In this way, the user is provided with a running total, and payment can be made without the intervention of a retail operative.

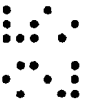
In one embodiment the carriers 3 could include an anti-theft device which triggers an alarm when the carriers 3 are taken out of the confines of a predetermined zone, for example, a car park associated with a retail environment.



Finally, it will be understood that the present invention has been described in its preferred embodiment and can be modified in many different ways without departing from the scope of the invention as defined by the appended claims.

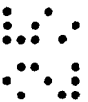
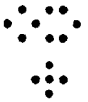
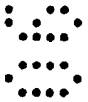
For example, although the present invention has been described in relation to a retail store, particular examples of which include superstores and DIY warehouses, the present invention has application in relation to any retail environment, such as in shopping arcades, airports, railway termini, wholesalers and garden centres.

In one embodiment the advertising unit 5 could also be configured to provide a weather forecast, thus, for example, allowing users to plan meals around the weather.



CLAIMS

1. An advertising system for presenting advertisements to users in a retail environment, the system comprising:
a plurality of carriers which are used by respective users within the retail environment, wherein each carrier includes an advertising unit for presenting different advertisements to the respective user in dependence upon the location of the carrier.
2. The advertising system of claim 1, wherein the carriers comprise wheeled carriers.
3. The advertising system of claim 2, wherein the carriers comprise shopping trolleys.
4. The advertising system of any of claims 1 to 3, wherein the advertising unit comprises a position sensor for sensing the proximity to locations within the retail environment, presentation means for presenting advertisements to the user in dependence upon the sensed proximity, and a controller for controlling the presentation means to present advertisements to the user.
5. The advertising system of claim 4, further comprising:
a plurality of transponders which are located at different locations within the retail environment; and
wherein the position sensor comprises a transceiver for receiving a local transmission from one of the plurality of transponders, such that, when the respective carrier is located within the proximity of one of the transponders, the transceiver receives a signal identifying the transponder and, in response to receipt of this signal by the transceiver, the controller controls the presentation means to present a pre-defined advertisement.



6. The advertising system of claim 4, further comprising:
a plurality of transmitters which are located at different locations within the retail environment; and
wherein the position sensor comprises a receiver for receiving a local transmission from one of the plurality of transmitters, such that, when the respective carrier is located within the proximity of one of the transmitters, the receiver receives a signal identifying the transmitter and, in response to receipt of this signal by the transmitter, the controller controls the presentation means to present a pre-defined advertisement.
7. The advertising system of claim 4, wherein the position sensor comprises position determining means which determines the location of the respective carrier within the retail environment, and, in dependence upon the determined location of the carrier, the controller controls the presentation means to present a pre-defined advertisement for that location.
8. The advertising system of claim 7, wherein the position determining means determines the location of the carrier by use of GPS.
9. The advertising system of claim 7, wherein the position determining means determines the location of the carrier by triangulation from triangulation beacons within the retail environment.
10. The advertising system of any of claims 1 to 9, wherein the presentation means comprises a display for visually presenting the respective advertisements to the user.
11. The advertising system of any of claims 1 to 10, wherein the advertising unit further comprises an input device for identifying the user, and the controller is operative to target advertisements to the individual user in accordance with personal preferences.



12. The advertising system of claim 11, wherein the input device comprises a card reader for reading a loyalty card of the user.
13. The advertising system of claim 11 or 12, wherein the personal preferences are identified by the user.
14. The advertising system of claim 11 or 12, wherein the personal preferences are determined from historical patterns.
15. The advertising system of any of claims 1 to 14, wherein the advertising unit comprises a communications unit by which advertisements stored therein can be updated.
16. The advertising system of claim 15, wherein the communications unit is a wireless communications unit which allows advertisements stored in the advertising unit to be updated remotely.
17. The advertising system of any of claims 1 to 16, wherein ones of the advertising units are configured to display different advertisements for the same location, such that the same product is not promoted at the same location.
18. The advertising system of any of claims 1 to 17, wherein the advertising unit further comprises a call button by which the user can summon assistance from an operative.
19. The advertising system of any of claims 1 to 18, wherein each carrier further comprises a charging device for charging the power source thereof when being moved by the user.
20. The advertising system of claim 19, wherein the charging device comprises a dynamo device.

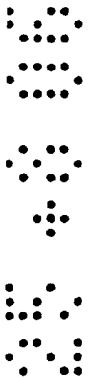


21. A carrier which is used within a retail environment, wherein each carrier includes an advertising unit for presenting different advertisements to the respective user in dependence upon the location of the carrier.
22. The carrier of claim 21, wherein the carrier is a wheeled carrier.
23. The carrier of claim 22, wherein the carrier is a shopping trolley.
24. The carrier of any of claims 21 to 23, wherein the advertising unit comprises a position sensor for sensing the proximity to locations within the retail environment, presentation means for presenting advertisements to the user in dependence upon the sensed proximity, and a controller for controlling the presentation means to present advertisements to the user.
25. The carrier of claim 24, wherein the position sensor comprises a transceiver for receiving a local transmission from one of a plurality of transponders at different locations within the retail environment, such that, when the carrier is located within the proximity of one of the transponders, the transceiver receives a signal identifying the transponder and, in response to receipt of this signal by the transceiver, the controller controls the presentation means to present a pre-defined advertisement.
26. The carrier of claim 24, wherein the position sensor comprises a receiver for receiving a local transmission from one of a plurality of transmitters at different locations within the retail environment, such that, when the carrier is located within the proximity of one of the transmitters, the receiver receives a signal identifying the transmitter and, in response to receipt of this signal by the transmitter, the

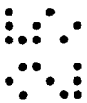
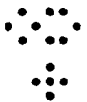
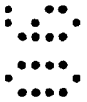


controller controls the presentation means to present a pre-defined advertisement.

27. The carrier of claim 24, wherein the position sensor comprises position determining means which determines the location of the carrier within the retail environment, and, in dependence upon the determined location of the carrier, the controller controls the presentation means to present a pre-defined advertisement for that location.
28. The carrier of claim 27, wherein the position determining means determines the location of the carrier by use of GPS.
29. The carrier of claim 27, wherein the position determining means determines the location of the carrier by triangulation from triangulation beacons within the retail environment.
30. The carrier of any of claims 21 to 29, wherein the presentation means comprises a display for visually presenting the respective advertisements to the user.
31. The carrier of any of claims 21 to 30, wherein the advertising unit further comprises an input device for identifying the user, and the controller is operative to target advertisements to the individual user in accordance with personal preferences.
32. The carrier of claim 31, wherein the input device comprises a card reader for reading a loyalty card of the user.
33. The carrier of claim 31 or 32, wherein the personal preferences are identified by the user.



34. The carrier of claim 31 or 32, wherein the personal preferences are determined from historical patterns.
35. The carrier of any of claims 21 to 34, wherein the advertising unit comprises a communications unit by which advertisements stored therein can be updated.
36. The carrier of claim 35, wherein the communications unit is a wireless communications unit which allows advertisements stored in the advertising unit to be updated remotely.
37. The carrier of any of claims 21 to 36, wherein the advertising unit further comprises a call button by which the user can summon assistance from an operative.
38. The carrier of any of claims 21 to 37, further comprising a charging device for charging the power source thereof when being moved by the user.
39. The carrier of claim 38, wherein the charging device comprises a dynamo device.
40. An advertising system for presenting advertisements to users in a retail environment substantially as hereinbefore described with reference to the accompanying drawings.
41. A carrier which is used within a retail environment substantially as hereinbefore described with reference to the accompanying drawings.





For innovation

Application No: GB0616148.3

Examiner: Mr Paul Marshall

Claims searched: All

Date of search: 3 October 2006

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-10, 14, 15, 21-30, 34, and 35 at least	US 2006/149621 A1 (DO) See paragraphs 6, 22-27.
X	1-10, 14, 15, 21-30, 34, and 35 at least	US 2006/0100926 A1 (ABEDI) See paragraphs 6, 23-28.
X	1-7, 10, 11, 13, 15, 16, 19, 20-27, 30, 31, 35, 36, 38, 39	WO 89/02628 A1 (INFORMATION RESOURCES) See whole document, especially lines 13-31, page 2; lines 11-26, page 8; lines 24-26, page 16.
A	-	US 2006/0122855 A1 (PROROCK) See abstract.
A	-	US 6129276 A (JELEN) See abstract.

Categories:

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

G4H

Worldwide search of patent documents classified in the following areas of the IPC

G01S; G01V; G06F; G06K; G06Q

The following online and other databases have been used in the preparation of this search report



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19

Online: EPODOC, WPI, JAPIO, OPTICS