US 20030024981A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2003/0024981 A1

Narasimhan (43) Pub. Date: Feb. 6, 2003

(54) AUTOMATED COUPON SOLUTION

(76) Inventor: Sangeetha Narasimhan, Boise, ID (US)

Correspondence Address:
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400 (US)

(21) Appl. No.: 09/920,234

(22) Filed: Aug. 1, 2001

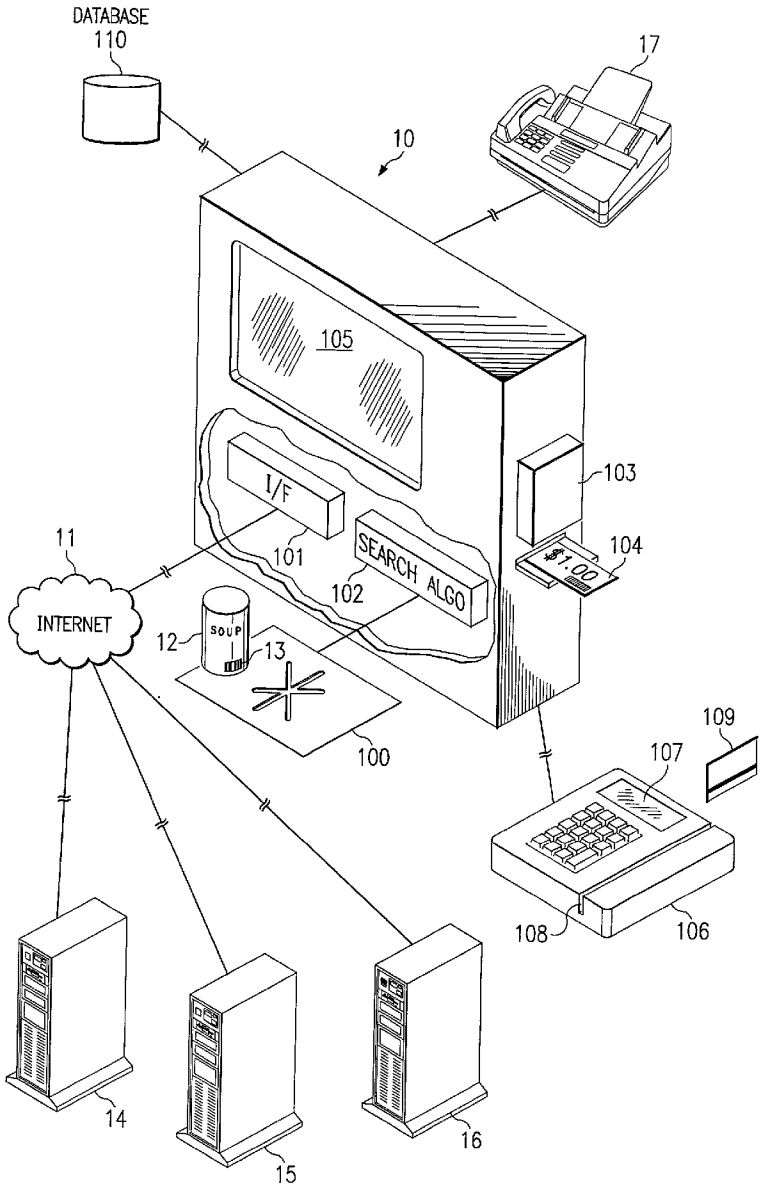
Publication Classification

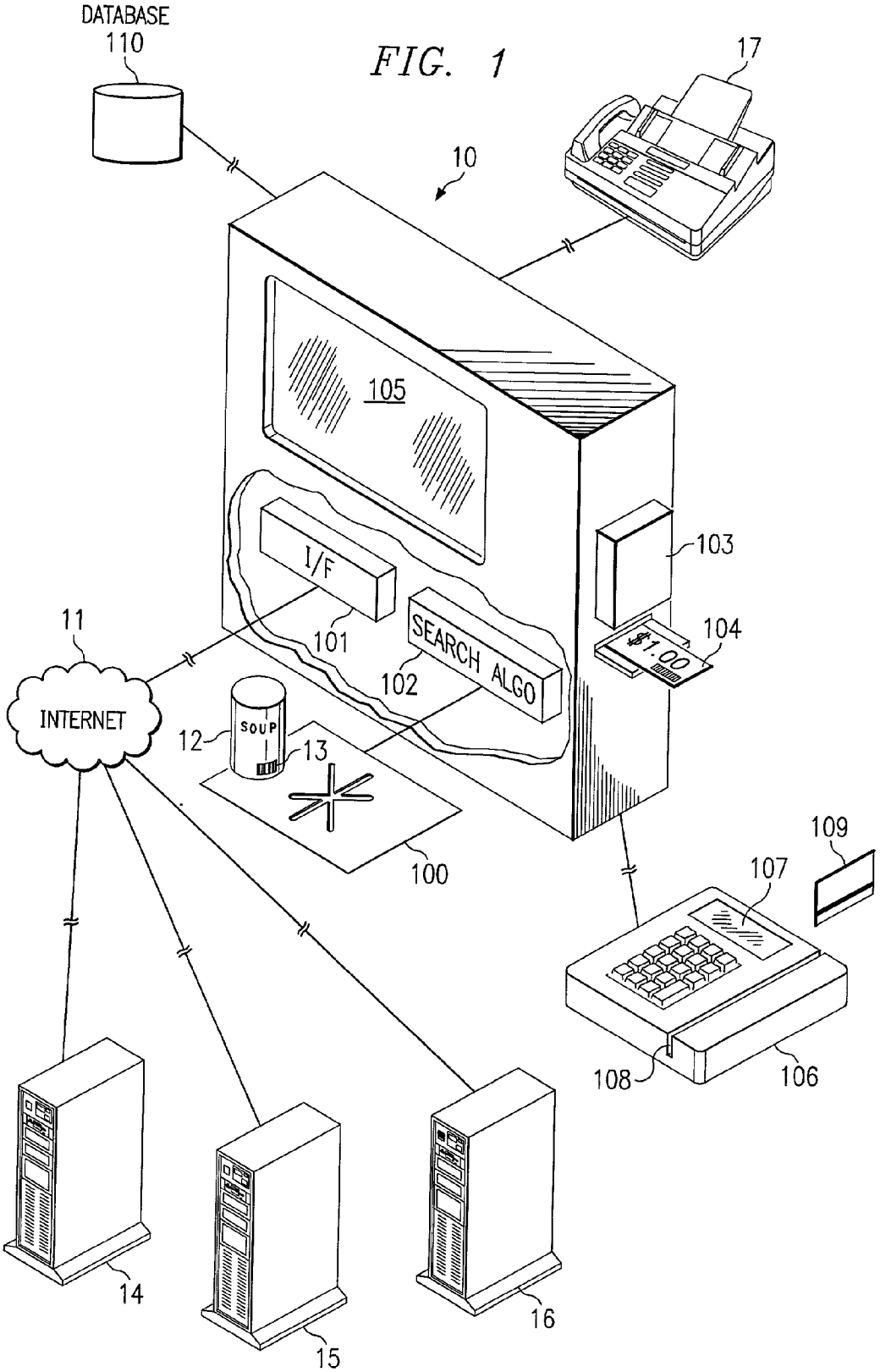
(51) Int. Cl.[7] G06K 15/00

(52) U.S. Cl. 235/383

(57) ABSTRACT

A system and method is disclosed for automatically finding discount coupons on a data network. The preferred embodiment provides an automated coupon redemption unit comprising a code scanner for reading codes from a plurality of consumer items, a network interface for facilitating access to a data network, and a search algorithm for automatically searching said data network for coupons responsive to said codes.




DATABASE
110
FIG. 1
17
10
105
I/F
101
SEARCH ALGO
102
103
104
$1.00
11
INTERNET
12
SOUP
13
100
109
107
108
106
14
15
16

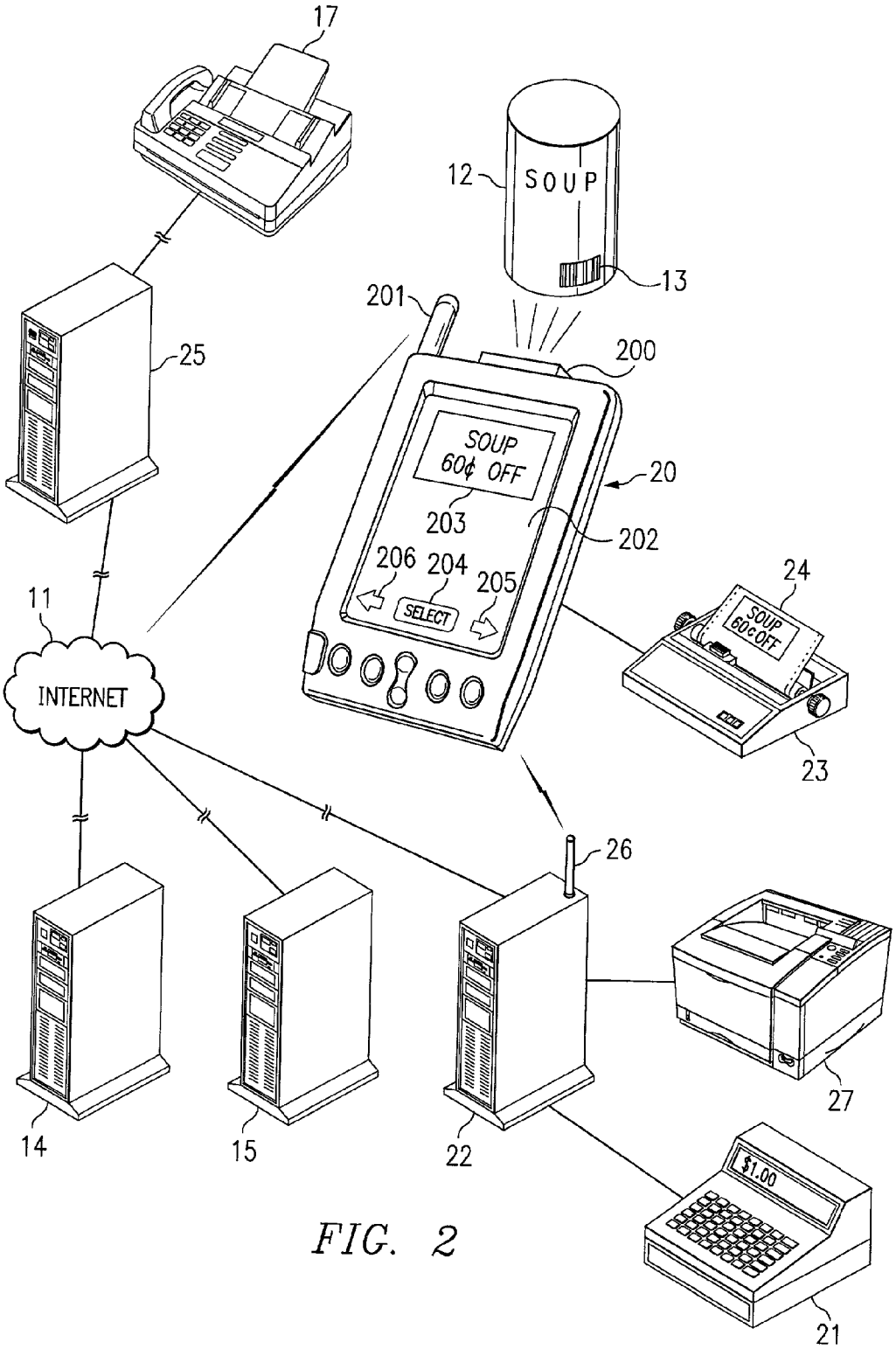
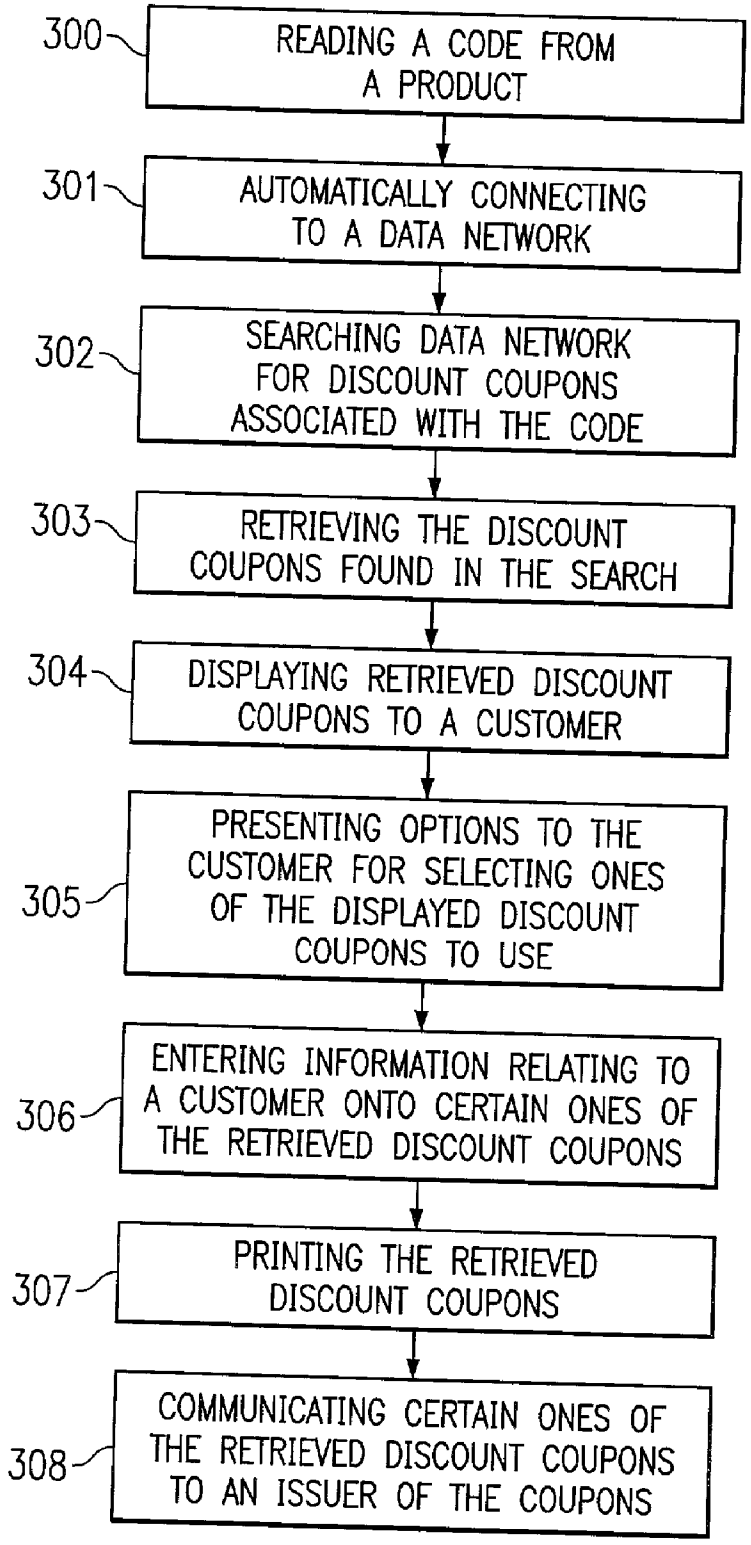

17
12
SOUP
13
201
200
25
SOUP
60¢ OFF
20
203
202
206
204
205
SELECT
24
SOUP
60¢ OFF
11
INTERNET
23
26
27
14
15
22
$1.00
21

FIG. 2

FIG. 3


300
READING A CODE FROM A PRODUCT
301
AUTOMATICALLY CONNECTING TO A DATA NETWORK
302
SEARCHING DATA NETWORK FOR DISCOUNT COUPONS ASSOCIATED WITH THE CODE
303
RETRIEVING THE DISCOUNT COUPONS FOUND IN THE SEARCH
304
DISPLAYING RETRIEVED DISCOUNT COUPONS TO A CUSTOMER
305
PRESENTING OPTIONS TO THE CUSTOMER FOR SELECTING ONES OF THE DISPLAYED DISCOUNT COUPONS TO USE
306
ENTERING INFORMATION RELATING TO A CUSTOMER ONTO CERTAIN ONES OF THE RETRIEVED DISCOUNT COUPONS
307
PRINTING THE RETRIEVED DISCOUNT COUPONS
308
COMMUNICATING CERTAIN ONES OF THE RETRIEVED DISCOUNT COUPONS TO AN ISSUER OF THE COUPONS

AUTOMATED COUPON SOLUTION

TECHNICAL FIELD

[0001] The invention relates in general to retail purchasing solutions and, in particular, to automatically searching a data network for available coupons based on a product code read by the system.

BACKGROUND

[0002] In commercial industries many marketing techniques include the use of coupons, manufacturer's rebates, and promotional discounts. For purposes of this application, discount coupons include, not only coupons and discount media, but also manufacturer's or other rebates and certificates. Typically a customer will obtain a coupon from some source such as a newspaper, magazine, mailing, or other similar delivery mechanism. The customer generally gathers the coupons he or she desires to use and carries them to a store to redeem those coupons for products and/or services.

[0003] In the case of manufacturer's rebates, the customer typically receives a certificate at the time of purchase that requires the customer to fill in certain customer information, such as address, phone number, e-mail address, and sometimes other information related to the interests of the customer. Manufacturer's rebates also usually include space for providing information about the item or product purchased. This information may sometimes include model number, serial number, the name of the product, the store at which the product was purchased, and the like.

[0004] While such coupon-related marketing techniques typically increase sales for a given product, customers many times forget to bring coupons to a store, or fail to return completed certificates to the manufacturer or coupon sponsor to receive the rebate or discount. Thus many customers may purchase an item because of a particular coupon or rebate, yet fail to receive the benefit of the coupon or rebate because they fail to complete the necessary process.

[0005] Furthermore, a customer may generally only have access to a limited resource for coupons, discounts, rebates, and the like. With the advances of e-commerce using the Internet, there are several websites that specialize in gathering coupons, rebates, and the like. However, printing out the new "e-coupons" still requires the customer to remember to bring the coupons to the store and/or send the completed coupon or manufacturer's rebate to the manufacturer or coupon sponsor.

[0006] Organizers have been developed to make organizing and bringing coupons to a particular store more convenient. However, none of these organizers address the underlying problems of the customer remembering to bring the coupons or the coupon organizer to the appropriate stores. Furthermore, there are currently no methods available to organize or remind customers to mail in manufacturer's rebates or coupons or systems that facilitate searching and redeeming coupons at the point of sale. **4**

SUMMARY OF THE INVENTION

[0007] The present invention is directed to a system and method for automatically finding discount coupons on a data network. The preferred embodiment of the present invention provides an automated coupon redemption unit comprising a code scanner for reading codes from a plurality of consumer items, a network interface for facilitating access to a data network, and a search algorithm for searching said data network for coupons responsive to said codes.

BRIEF DESCRIPTION OF THE DRAWING

[0008] **FIG. 1** is a perspective view illustrating a preferred embodiment of the present invention configured at a check-out counter of a store;

[0009] **FIG. 2** is a perspective view of an alternative embodiment of the present invention configured in a hand-held device; and

[0010] **FIG. 3** is a flow chart presenting the steps performed in implementing a preferred embodiment of the present invention.

DETAILED DESCRIPTION

[0011] **FIG. 1** is a perspective view of a preferred embodiment of the present invention configured as a part of a commercial check-out stand. Coupon unit **10** is preferably disposed conveniently at the check-out counter (not shown) of a typical store. Coupon unit **10** is also preferably located in close proximity to the cash register (not shown) at the check-out counter. Coupon unit **10** is preferably coupled for electronic communication with scanner **100**. Coupon unit **10** further preferably comprises network interface **101** and search algorithm **102**. Coupon unit **10** may also preferably include printer **103**, which may be accessible to a customer, the checker, or both.

[0012] In operation, consumer item **12** is passed over scanner **100**. Scanner **100** scans consumer item **12** to read code **13**. Code **13** may be a proprietary code for determining price, location, stock quantity, or the like, or may be a universal code, such as a universal product code (UPC) for determining the appropriate information regarding consumer item **12**. As scanner **100** reads code **13**, code **13** is preferably communicated to search algorithm **102**. Search algorithm **102** preferably signals to network interface **101** to automatically initiate a communication session with a data network such as Internet **11**. The data network is not limited to only Internet **11**, but may additionally or alternatively comprise a database singly incorporated into unit **10**, a network of databases connected over a local area network (LAN), or the like. For example, databases incorporated into coupon unit **10** or connected over a LAN may preferably maintain coupons specifically tied to a particular store or group of stores connected with the database.

[0013] It should be noted that in alternative preferred embodiments of the present invention, coupon unit **10** may comprise a single, multi-function unit. Such an embodiment of coupon unit **10** would preferably incorporate scanner **100**, network interface **101**, search algorithm **102**, printer **103**, and any other communication means, such as a fax machine, into a single unit. Thus, any retail store would preferably only be required to purchase a single unit in order to implement the inventive method.

[0014] Returning to **FIG. 1**, once a communication session has been initiated, search algorithm **102** preferably performs a general or targeted search for any discount or product coupons, which may also include any manufacturer's rebates or discounts. Search algorithm **102** preferably

searches through available relevant coupon data, such as may be accessed through servers **14** and **15**, also connected to Internet **11**, for such coupons. If any coupons are found residing on servers **14**, **15**, and/or other location on Internet **11**, the coupons are preferably retrieved into coupon unit **10**. Such coupons retrieved over Internet **11** may preferably be printed at printer **103**. The customer may then preferably take printed coupon **104** and have the checker redeem the coupon at the point of sale. If the coupon or manufacturer's rebate requires any customer information to be added, the customer may manually write in such information as the checker continues checking the customer's items or may preferably use an available user interface, such as customer unit **106** described below.

[**0015**] Alternative embodiments of the present invention may also include customer unit **106** to provide a user interface for the customer. In such embodiments, as the coupons are retrieved from Internet **11**, they are preferably displayed to the customer on customer display **107**. The customer may then preferably choose the particular coupons or manufacturer's rebates he or she desires to use. Once the customer chooses the desired coupons, those selected coupons may preferably be printed on printer **103** for a user to physically redeem at the check-out stand, directly transmitted to an issuer or manufacturer via issuer's remote fax **17** and/or issuer's remote server **16**, or automatically redeemed as the user purchases the associated products.

[**0016**] In further alternative embodiments, any customer information that is required by the coupon or the manufacturer's rebate may preferably be automatically filled in through the use of a customer card storing specific customer information or means for accessing such information stored on an accessible database. For example, many states now incorporate a magnetic strip, bar code, or the like on their driver's licenses that includes or facilitates access to data about the driver, such as name, address, phone number, and the like. Still other stores may provide fobs with a radio frequency (RF) signal that corresponds to a code tied to a particular user. Such a fob may be waived over a receiver and allow access to user information stored on a centralized server indexed by the user's RF frequency code. Also, some stores offer special club cards to individual customers wishing to receive added discounts or incentives for purchasing at the store. Such membership cards also typically provide access to such customer information, which may be stored on a merchant database or a third party database accessible by the merchant. The information stored in such a manner is accessible and may be indexed according to the information stored on the membership card.

[**0017**] Furthermore, some credit cards, which may comprise smart cards or cards with semiconductor devices built into the card, also contain user information or be connected to central servers that contain user or customer information. Smart cards may also comprise handheld devices or cards that provide RF signals, electromagnetic, optoelectronic, or similar signals for communicating information. As the customer proceeds with the check out process, the customer may swipe one of these information cards, such as member ID **109**, through slot **108** of customer unit **106**. As the information is read from member ID **109**, it preferably is automatically placed in the appropriate places in the selected coupon. The user may then either print printed coupon **104** if necessary for redeeming with the coupon issuer or the completed coupon may either be electronically communicated for redemption directly with the coupon issuer or automatically redeemed at the point of sale.

[**0018**] Alternatively, if a user does not have member ID **109** for automatically processing the customer information, the user may alternatively enter customer information through customer unit **106**, such as through the use of a keyboard or other conventional user interface. For example, a user may use a mouse, a stylus, or even a voice recognition unit to enter customer information to fill out the selected coupon.

[**0019**] In one embodiment of the alternative version, database **110** is preferably connected to coupon unit **10**. As the user enters the customer information through customer unit **106**, it is preferably stored in database **110**. With such embodiments, the next time the same user goes through the store checkout, the customer information is preferably retrieved from database **110** and automatically entered into the appropriate discount coupon. These embodiments may also preferably incorporate the functionality of using the customer data stored on member ID **109**. Thus, when the user swipes member ID **109** through slot **108** of customer unit **106**, the customer information is also preferably stored on database **110** for future automated use.

[**0020**] In further such alterative versions, coupon unit **10** may preferably incorporate optical scanning technology allowing a user to swipe a regular drivers license or other form of identification which, through the further use of optical character recognition (OCR) applications, may preferably read the user's information directly from the identification card. This information may then preferably be used to fill-in the coupon and may also be stored for future automated use as described above.

[**0021**] Once the coupons have been found, retrieved with any required customer information added thereafter, the present invention preferably allows the customer to redeem the coupon at the point of sale in several different alternative ways depending on the requirements and capabilities of the coupon issuer.

[**0022**] If the coupon issuer merely requires a user to redeem the coupon at the cash register or check-out counter, the user may print the coupon and turn it over to the check-out clerk at the point of sale. If, however, the coupon issuer requires the user to directly send the coupon back to the issuer or to the manufacturer the present invention allows the user either to send the printed coupon, that may or may not have been filled out with user information if required, back to the issuer or manufacturer using U.S. mail or other postal carrier. Alternatively, if the coupon issuer or coupon redeemer is able to receive fax or electronic communications, the completed coupon may preferably be faxed or e-mailed to the coupon issuer or redeemer through communication interface **101** to issuer's remote fax **17** or issuer's remote server **16**.

[**0023**] **FIG. 2** illustrates an alternative embodiment of the present invention implemented into a handheld personal data assistant (PDA). In one such embodiment, instead of the store providing the service for finding and redeeming coupons, each customer may preferably independently have the capability of implementing the present invention as he or she walks through the store. PDA unit **20** preferably comprises

scanner **200** for reading a UPC or similar code, such as code **13** of item **12**. It also includes PDA display **202** for displaying the search results, such as displayed coupon **203**, and antenna **201** for preferably facilitating wireless communication with a data network, such as Internet **11**. It should be noted that PDA **20** may establish communication with Internet **11** either directly through a service subscribed to by the user, or communication may be facilitated by store server **22** connected to Internet **11**.

[**0024**] In using the described alternative embodiment, when the user selects coupons, such as manufacturer's rebates, that require additional customer information to be filled out, PDA unit **20** may preferably automatically fill in such information from such customer information stored on PDA unit **20**. Thus, as the selected coupons are communicated, PDA unit **20** will automatically fill in any customer information required by the particular coupon. The user may also have a choice to fill out any coupons manually, if desired. Thereafter, by using a portable printer, such as portable printer **23**, the user may then preferably print printed coupon **24** to redeem at the store's check-out counter during the sale.

[**0025**] It should be noted that PDA unit **20** may preferably be configured to communicate with Internet **11** and/or store server **22** through one of the many known wireless formats, such as infrared (IR), BLUETOOTH (TM), IEEE 802.11, and the like.

[**0026**] In a further alternative embodiment shown in **FIG. 2**, the store may beneficially provide means for facilitating and assisting with the automated coupon service. In such an embodiment, the store may preferably provide central printer **27** on which users may print coupons required by the issuer to be printed and redeemed at the check-out counter. As the user shops, he or she may preferably scan a UPC or similar code, such as code **13** on item **12**. Using code **13**, PDA unit **20** establishes communication with Internet **11** to search through available relevant coupon data, such as may be accessed through coupon servers **14** and **15**. Each coupon found is thereafter retrieved and displayed to the user on PDA display **202**. The user views displayed coupon **203** and uses selection option **204** to select ones of displayed coupon **203**. In order to view other retrieved coupons, the user would preferably actuate navigation options **205** and **206**.

[**0027**] Once the user selects the desired coupons to use, he or she may preferably send the selected coupons to store server **22** using a wireless connection facilitated between antenna **201** of PDA **20** and antenna **26** of store server **22** or a wireline connection to store server **22**. Depending on the type of coupons selected or on the user's preference, store server **22** may preferably either: (1) send the coupons directly to cash register **21** for automatic electronic redemption when the user is checking out; (2) send the coupons to central printer **27** when the user selects to print them; (3) send the coupons directly to the coupon issuer for redemption; (4) or any combination thereof. Therefore, after selecting the desired coupons, the user may go to central printer **27** and select to print out the coupons that need to be physically redeemed at cash register **21**.

[**0028**] In order to prevent other individuals from printing out the user's selected coupons, a code may preferably be provided for the user to either manually enter into central printer **27**, or that may be digitally placed onto PDA **20** and then communicated to central printer **27**. The user's selected coupons would preferably be placed in storage in store server **22** until called up by central printer **27** after receiving the appropriate code from the user or PDA **20**. Similarly, as the user enters one of the store's check-out counters, the user's code may preferably be entered into cash register **21**, either manually or through PDA **20**, in order to signal store server **22** to communicate the user's coupons for immediate redemption directly to cash register **21**.

[**0029**] It should be noted that in order to prevent improper redemption for coupons when the user does not purchase the corresponding product, logic may be implemented to allow automated redemption only when the UPC code connected with the coupon matches a UPC code of a product purchased by the user. Similarly, for coupons that the user must physically redeem at cash register **21** or that are to be sent directly to the manufacturer or issuer for redemption, the implemented logic may also compare the UPC codes for all types of the coupons to the products actually purchased. When the logic detects appropriate matches, the coupons are redeemed and/or communicated to the manufacturer or issuer. For all coupons that do not match, the logic may preferably alert the store clerk and/or the user of the missing products. The notification may preferably serve as a reminder to the user to purchase the actual product for which the coupon was selected. Alternatively, the user may request the unused coupons to be saved in store server **22**, communicated back to be saved on PDA **20**, or printed out for future use.

[**0030**] Alternatively, in stores equipped with such technology, the user may communicate all selected coupons to cash register **21** for redemption when user is checked out. Therefore, as the user selects different coupons for different consumer items, the appropriate coupons are preferably transmitted and stored according to the user's identity at cash register **21**. When the user goes to check out of the store, the user may enter a code or swipe a specific card to indicate his or her identity. Once cash register **21** identifies the customer, all of the selected and communicated coupons are preferably either automatically redeemed or printed out at cash register **21** by an attached printer (not shown) or built-in printer (not shown), such as the receipt printer for cash register **21**.

[**0031**] In a further alternative embodiment of the present invention configured in a personal unit, such as PDA unit **20**, a third party may preferably provide such a coupon search and redemption service at a centralized server, such as central server **25**, to control the searching and facilitate the communication of the selected and completed coupons to any necessary coupon provider. In such an embodiment, for all coupons requiring direct redemption with the manufacturer or coupon sponsor, PDA unit **20** preferably communicates the completed coupons to central server **25**. From central server **25**, the completed coupon may be forwarded to the appropriate manufacturer or coupon issuer, such as through fax **17**. Similarly, if coupon sponsors include electronic access capabilities, the completed coupons could preferably be electronically communicated to these issuers through issuer server **16** (**FIG. 1**).

[**0032**] It should be noted that further alternative embodiments may combine different elements from one or more of the embodiments described herein. For example, in one such

alternative embodiment, a store may provide a centralized printer, such as central printer **27** for customers to print the selected coupons. However, the store would not provide any further assistance with regard to either searching for or redeeming the selected couponse.

[**0033**] The flowchart depicted in **FIG. 3** provides the steps used in implementing the preferred embodiment of the present invention. In step **300**, a code is read from a product. As the code is read, a connection is preferably automatically established, in step **301**, with a data network, such as the Internet. In step **302**, the data network is preferably searched for discount coupons associated with the code. Once such discount coupons are found on the data network, they are preferably retrieved in step **303**. The retrieved discount coupons are then preferably displayed to the customer in step **304**. The customer may then select which of the retrieved discount coupons to use in step **305**. In step **306**, the customer may preferably enter information about him- or herself as required by certain ones of the retrieved discount coupons. Once any customer information has been entered, the retrieved discount coupons are preferably printed in step **307**. In some circumstances, the customer may be required to redeem the coupons, which include manufacturer's rebates, directly with the manufacturer or issuer of the coupons. Therefore, in step **308**, these certain ones of the retrieved discount coupons are communicated to the issuer thereof. Such communication may preferably comprise facsimile, e-mail, regular mail, and the like.

What is claimed is:

1. An automated coupon redemption unit comprising:

a code scanner for reading codes from a plurality of consumer items;

a network interface for facilitating access to a data network; and

a search algorithm for automatically searching said data network for coupons responsive to said codes.

2. The automated coupon redemption unit of claim 1 further comprising:

a printer for printing ones of said coupons found on said data network.

3. The automated coupon redemption unit of claim 1 further comprising:

a user interface for receiving customer information for filling out ones of said coupons.

4. The automated coupon redemption unit of claim 1 further comprising;

a database for storing at least one set of customer information for automatically filling out ones of said coupons.

5. The automated coupon redemption unit of claim 1 further comprising:

a device for reading customer information from a plurality of storage media.

6. The automated coupon redemption unit of claim 5 wherein said storage media comprises at least one of:

a magnetically encoded identification card;

a credit card;

a smart card; and

a bar code.

7. The automated coupon redemption unit of claim 1 further comprising:

a display for presenting ones of said coupons to a customer.

8. The automated coupon redemption unit of claim 7 further comprising:

a selection algorithm allowing said customer to selectively choose ones of said coupons for use.

9. The automated coupon redemption unit of claim 1 further comprising:

a data communication device for automatically communicating ones of said coupons to corresponding coupon issuers.

10. The automated coupon redemption unit of claim 1 further comprising logic for matching said coupons to purchased products prior to redemption of said coupon at a point of sale.

11. The automated coupon redemption unit of claim 10 wherein said coupons are automatically redeemed at said point of sale when said coupons match said purchased products.

12. A method for automatically locating discount coupons comprising the steps of:

reading a code from a product;

automatically connecting to a data network;

automatically searching said data network for said discount coupons associated with said code; and

retrieving said discount coupons resulting from said searching step.

13. The method of claim 12 further comprising the step of:

printing said retrieved discount coupons.

14. The method of claim 12 further comprising the step of:

entering information relating to a customer onto ones of said retrieved discount coupons.

15. The method of claim 12 further comprising the step of:

automatically filling ones of said retrieved discount coupons with information relating to a customer.

16. The method of claim 12 further comprising the step of:

displaying said retrieved discount coupons to a customer.

17. The method of claim 16 further comprising the step of:

presenting options to a customer for selecting ones of said displayed discount coupons.

18. The method of claim 12 further comprising the step of:

communicating ones of said retrieved discount coupons to an issuer of said discount coupons.

19. A system for automatically finding product coupons comprising:

means for scanning a UPC code from a product;

means for automatically communicating with the Internet;

means for automatically searching said Internet for said product coupons related to said UPC code; and

means for printing said coupons.

20. The system of claim 19 further comprising:

means for conveying said coupons to a coupon sponsor.

* * * * *