Title: PRODUCT CODE-BASED METHOD AND SYSTEM FOR DISTRIBUTING ELECTRONIC COUPONS

Abstract: A system for distributing electronic coupons over a communications network during an online purchase transaction with an e-tail server system. A client system selects a product from the e-tail server system. The e-tail server system provides the product code of the selected product and the purchase/redeemption information to a promotion server system, which searches a database for promotional data linked to the product code and distributes the electronic coupons to the client system based on the purchase/redeemption information and the distribution rules of the electronic coupon.
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. application Serial No. 09/634,930, filed August 8, 2000, which is a continuation of U.S. application Serial No. 09/573,727, filed May 18, 2000, claiming priority from provisional U.S. application Serial No. 60/202,949, filed May 9, 2000, the disclosure of which is hereby incorporated by reference into this application.

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

This invention relates to a product code-based method of and system for distributing electronic coupons over a network and more particularly to a method of and system for linking product codes to promotional data that define electronic coupons, generating electronic coupons based on a link between a product code and the promotional data and on applying a set of rules to a client's purchasing history and electronic coupon redemption history and distributing electronic coupons, based on the application of the rules, prior to the consummation of the transaction.

DISCUSSION OF THE BACKGROUND

In order to increase the number of new customers who buy a particular product, many retail outlets, and grocery stores in particular, set up a database of certain items that it sells and links each of these primary items to one or more secondary items that are different from the item to which they are linked for the purpose of promoting the secondary item. As a customer is checking out and each item is scanned at the checkout, the items are monitored and simultaneously compared to the items in the database to determine whether any of the
items are associated with a secondary item. If an item is associated with a secondary item, a coupon for the secondary item is printed out for the customer to use at a later date.

This system enables the store to provide to a customer, who may not normally purchase the secondary item, an incentive for purchasing the secondary item, simply because the customer purchased the primary item that was linked to the secondary item. The system thus potentially creates a new customer for the secondary item.

While this system is in use in the so-called "brick and mortar" outlets, there is no such system which enables an online retail store to provide coupons to customers for items in this manner. Furthermore, in the above-described system, there is no way for the retail outlets to provide coupons to customers based on purchases that the customer has made or based on coupons that the customer has redeemed in the past, and the customer cannot obtain the coupons until after the transaction is completed, thus preventing the customer from redeeming the coupons in the present transaction.

SUMMARY OF THE INVENTION

Accordingly, it is an object of this invention to provide a method of and system for distributing electronic coupons over a network, in which the electronic coupons are distributed based on the selection of products that have a product code linked to promotional data that define electronic coupons, in which the distribution of the electronic coupons takes place prior to the consummation of a transaction, such as the purchase of a product or service or the redemption of an electronic coupon, so that the coupons can be redeemed during the transaction in which they were received or at a later date.

The invention is directed to a product code-based method of and system for distributing electronic coupons over a network in which the electronic coupons may be redeemed during the transaction in which they were received or at a later date, wherein the distribution is dependent upon the particular products selected by the client and/or on the products for which the client redeems coupons. Each product available for sale is identified by a unique product code which may include any type of identification indicia such as the Universal Product Code (UPC) or a manufacturer's code. The promotion server system associated with the present invention includes a database of products and links from their product codes to promotion data that define the electronic coupons. When the client selects a
product from the e-tail server system, the promotion server searches its database, based on the product code of the selected product, and, if the selected product is a product in the database that has its product code linked to promotional data, the promotion server system generates and distributes the electronic coupon that is defined by the promotional data linked to the product. Furthermore, the promotion server system includes a database of rules that determine the distribution of electronic coupons in conjunction with the promotional data linked to the product codes of products. When a client accesses the e-tail server system to initiate a transaction, the e-tail server system reads electronic purchase/redemption information stored on the client system, the e-tail server system and/or the promotion server system by e-tail servers during previous transactions. The e-tail server system provides access to purchase and redemption information to the promotion server system, which applies the distribution rules to the information. The rules are defined by the issuer of the electronic coupons for promotional products, which in most cases is the manufacturer of the promotional products, the supplier of the promotional products and/or the e-tail server system. If the rules applied by the promotion server system warrant the distribution of electronic coupons, the electronic coupons are distributed by the promotion server system.

According to one aspect of the invention, a system for distributing electronic coupons over a communications network such as the Internet includes an e-tail server system having a computer processor and associated memory, the e-tail server system including products for sale, each of the products having an associated unique product code; a promotion server system having a computer processor and associated memory, the promotion server system including a database of the unique product codes and promotional data linked to the product codes, the promotional data defining the electronic coupons; and a client system having a computer processor and associated memory, the client system being selectively coupleable to the e-tail server system over the communications network to initiate a transaction and being adapted for selecting a product from the e-tail server. The e-tail server system is adapted for transmitting the product code of a selected product to the promotion server system and the promotion server system is adapted for searching its database for the product code and distributing, to the client system, the electronic coupon defined by the promotional data linked to the product code.
The electronic coupon may be distributed to the client system in the form of screen display data that is transmitted to the client system directly from the promotion server system over the communications network or in the form of screen display data that is transmitted from the promotion server system to the e-tail server system over the communications network, and from the e-tail server system to the client system over the communications network. The client system may be connected to the network by a wired or wireless connection and may be either a personal computer, an interactive television system, a personal digital assistant or a cellular telephone. The promotion server system may be included in the e-tail server system and the product code may be the Universal Product Code. The transaction may be consummated after the promotion server system distributes the electronic coupon to the client system.

According to another embodiment of the invention, a method of distributing electronic coupons over a communications network includes:

A. establishing a connection between a client system and an e-tail server system to initiate a transaction;

B. the client system selecting a product offered for sale by the e-tail server system, the product having a unique product code associated therewith;

C. the e-tail server system transmitting the product code for the selected product to a promotion server system including a database of promotional data defining the electronic to coupons, the promotional data being linked to the product code; and

D. the promotion server system distributing, to the client system, the electronic coupon defined by the promotional data linked to the product code.

Prior to step D, the promotion server system may search the database for the product code. Prior to step D and after searching the database, the promotion server may generate the electronic coupon based on the promotional data linked to the promotional product. The transaction may be consummated after step D.

According to another embodiment of the invention, a system for distributing electronic coupons over a communications network includes an e-tail server system having a computer processor and associated memory, the e-tail server system including products for sale, each of the products having an associated unique product code; a promotion server system having a computer processor and associated memory, the promotion server system
including a database of electronic coupon distribution rules and the unique product codes and promotional data linked to the product codes, the promotional data defining the electronic coupons; and a client system having a computer processor and associated memory, the client system being selectively coupleable to the e-tail server system over the communications network to initiate a transaction and including purchase/redemption information, the information being transmitted thereto by the e-tail server system, the client system being adapted for selecting a product from the e-tail server system. The e-tail server system is adapted for reading the electronic token from the client system and providing, to the promotion server system, the product code of the selected product and access to the purchase/redemption information. The promotion server system is adapted for searching the database for the product code and the promotional data linked to the product code, applying the electronic coupon distribution rules to the purchase/redemption information; and distributing, to the client system, the electronic coupons defined by the promotional data linked to the product code based on the application of the electronic coupon distribution rules.

The purchase/redemption information may include one or more of information about items purchased by the client system and information about electronic coupons redeemed by the client system. The electronic coupon distribution rules may be conditional rules that authorize the distribution of the electronic coupons based on the purchase/redemption information. The purchase/redemption information may be stored in the memory of the client system and/or on the e-tail server system, and/or on the promotion server system, and the electronic token points the promotion server system to the purchase/redemption information thereon. The promotional data may define a hierarchy of electronic coupons and the electronic coupon distribution rules determine which of the electronic coupons in the hierarchy are distributed to the client system.

According to yet another embodiment of the invention, a method of distributing electronic coupons over a communications network includes:

A. establishing a connection between a client system and an e-tail server system to initiate a transaction, the client system having purchase/redemption information, the purchase/redemption information being generated by the e-tail server system;

B. the client system selecting a product offered for sale by the e-tail server system, the product having a unique product code associated therewith;
C. the e-tail server system transmitting the product code for the selected product to a promotion server system including a database of electronic coupon distribution rules and promotional data defining the electronic coupons, the promotional data being linked to the product code;

D. the e-tail server system providing, to the promotion server system, access to the purchase/redemption information;

E. the promotion server system searching the database for the product code;

F. the promotion server system applying the electronic coupon distribution rules to the purchase/redemption information; and

G. the promotion server system distributing, to the client system, the electronic coupons defined by the promotional data linked to the product code based on the application of the electronic coupon distribution rules.

The transaction may be consummated after step G. The method may further comprise storing the purchase/redemption information in the memory of the client system; storing the purchase/redemption information on the e-tail server system, or storing the purchase/redemption information on the promotion server system.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects of this invention, the various features thereof, as well as the invention itself may be more fully understood from the following description when read together with the accompanying drawings in which:

FIG. 1 is a diagrammatic view of a system for distributing electronic coupons in accordance with the present invention;

FIG. 2 is a flow diagram of a method of distributing electronic coupons in accordance with the present invention;

FIG. 3 is a more detailed diagrammatic view of the system of FIG. 1 carrying out the method of FIG. 2;

FIG. 4 is a flow diagram of an alternative method of distributing electronic coupons in accordance with the present invention;

FIG. 5 is a more detailed diagrammatic view of the system of FIG. 1 carrying out the method of FIG. 4;
FIG. 6 is a diagrammatic view of another embodiment of the system for distributing electronic coupons in accordance with the present invention; and

FIG. 7 is a diagrammatic view of yet another embodiment of the system for distributing electronic coupons in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is directed to a method of and system for distributing electronic coupons over a network. An electronic coupon is essentially an electronic token, issued by or under the authority of the issuer for the benefit of the recipient. Typically, the recipient receives the electronic coupon and subsequently redeems it for the prescribed benefit at some later point in time. Preferably, the electronic coupon enables or modifies an anticipated transaction such as by providing a discount in the price of goods or services provided by the issuer or the issuer's agent. According to the invention, the distribution of the electronic coupons is determined by a link between the product code of a selected product and promotional data that defines electronic coupons and on the application of electronic coupon distribution rules to information regarding the client system's prior transactions.

FIG. 1 shows a diagram of a system 100 for distributing electronic coupons in accordance with a preferred embodiment of the present invention. The system 100 includes client system 110, server system 120 and server system 130, all connected to a common communications network 160. Preferably, the client system 110, server system 120 and server system 130 can each be a personal computer such as an IBM PC or IBM PC compatible system or an APPLE® MacINTOSH® system or a more advanced computer system such as an Alpha-based computer system available from Compaq Computer Corporation or SPARC® Station computer system available from SUN Microsystems Corporation, although a main frame computer system can also be used. Preferably, the communications network 160 is a TCP/IP-based network such as the Internet or an intranet, although almost any well known LAN, WAN or VPN technology can be used.

In one preferred embodiment of the invention, the client system 110 is an IBM PC compatible system operating an operating system such as the Microsoft Windows® operating system, and server system 120 and server system 130 are configured as web servers providing access to information such as web pages in HTML format via a protocol such as the
HyperText Transport Protocol (http). The client system 110 includes software to allow viewing of web pages, commonly referred to as a web browser, thus being capable of accessing web pages located on server system 120 and server system 130. Alternatively, client system 110 can be any wired or wireless device that can be connected to a communications network, such as an interactive television system, such as WEBTV, a personal digital assistant (PDA) or a cellular telephone. In this preferred embodiment, server system 120 is an e-tail server offering a plurality of items for sale over the Internet and server 130 is a promotion server that has a database including electronic coupon distribution rules and promotional data that define electronic coupons. Promotion server 130 may also include the software necessary to authenticate electronic coupons prior to their redemption. The items offered for sale by the e-tail server 120 can be products and/or services.

In one preferred embodiment, server system 130 includes web server software that is adapted to produce an electronic coupon or a book of electronic coupons that is transferred to the client system 110 in the form of an electronic token, such as a cookie, that is stored in memory to on the client system. Preferably, the electronic coupon is a data structure which can include any or all of the following information elements: data representative of an electronic coupon serial number or identification number; data representative of a unique key that can be used to validate or authenticate the coupon; data representative of the vendor that authorized the coupon and will redeem the coupon; data representative of the nature of the discount or access provided by the coupon; and data representative of the server or entity that issued the coupon. In one preferred embodiment, the electronic coupon can be issued as part of an electronic coupon book. The coupon book can include data representative of a version number for the electronic coupon book and data representative of a serial number or identification number for the electronic coupon book.

In one preferred embodiment, the electronic coupon is a data structure which contains all the information necessary to redeem the coupon. Specifically, the electronic coupon identifies the grantor (i.e., the party or vendor that will redeem the electronic coupon), the nature of the discount or benefit provided and a unique serial number or other data structure that permits the electronic coupon to be authenticated or validated. Thus, a server redeeming this type of electronic coupon can obtain all the information necessary to redeem from the electronic coupon.
The server can even include the software necessary to authenticate or validate the electronic coupon. Alternatively, the electronic coupon is a data structure that points to promotion data on the promotion server that defines the terms of the electronic coupon.

In an alternative embodiment, an electronic coupon book includes a unique serial number or identification number and data structure useful for authenticating or validating the electronic coupon book. The actual content of the electronic coupon book can be determined, for example, by visiting a web site which reads the coupon book serial number and provides the user with listings of the coupons available. A benefit to this configuration is the organization that issues the electronic coupon book can add vendors even after the electronic coupon book has been issued. Thus, if a vendor signs up with the organization that issues electronic coupon books after a particular coupon book has been issued to a client, the vendor can be added to the electronic coupon book at a later date. In order to redeem this type of electronic coupon the server that intends to redeem the electronic coupon must connect to an authentication server which will authenticate or validate the coupon book and indicate the nature of the benefit of the electronic coupon to the server requesting authentication/validation. Another benefit of this configuration is that the coupons are relatively tamper-proof due to the authentication and validation facilities. In many prior art systems, coupons could be copied and/or altered by the user with relative ease; in the absence of validation/authentication schemes, few reliable methods for detection of such counterfeits exist.

E-tail server system 120 includes software that is adapted to transmit electronic purchase/redemption information to the client system upon the consummation of a transaction. The purchase/redemption information may be in the form of an electronic token. In one embodiment, the electronic purchase/redemption information token contains information about the transaction, including the items purchased and electronic coupons redeemed by the client system. Alternatively, upon the consummation of a transaction, the e-tail server can store the purchase/redemption information in its own database or in the database of the promotion server system and the purchase/redemption information token contains a pointer that points the e-tail server system or the promotion server system, respectively, to the purchase/redemption information for a particular client system.
Therefore, every time a client system consummates a transaction, a purchase/redemption history, made up of the purchase/redemption information of the client system, is developed.

According to the present invention, the distribution of electronic coupons is determined by linking certain products available for sale by the e-tail server system with promotional data that define electronic coupons. The products are linked to the promotional data by their product codes, such that, when a client selects a product on the web site supported by the e-tail server system, the promotion server system searches its database to determine if the selected product's code is linked to the promotional data. If it is, the electronic coupon defined by the promotional data is distributed to the client system. In the preferred embodiment, the electronic coupons are distributed prior to the consummation of the transaction. The consummation of the transaction can include the purchase of the selected product or the redemption of a coupon for the selected product.

FIG. 2 shows a flow diagram 200 of a method of distributing electronic coupons in accordance with one preferred embodiment of the invention. In primary step 202, the client system 110, FIG. 1, establishes a connection with e-tail server 120 to initiate a transaction. When the client system selects one of the products available for sale on the e-tail server web site, step 204, the e-tail server system establishes a connection with the promotion server system 130 and provides the product code of the selected product to the promotion server system, step 206. The promotion server system then searches its database to determine whether the product code of the selected product is in the database and is therefore linked to promotional data that defines electronic coupons, step 208. If the product code is in the database, step 210, the promotion server system generates the electronic coupon(s) defined by the associated promotional data and distributes the electronic coupon(s) to the client system, step 212. The client system then consummates the transaction by purchasing the selected product from the e-tail server system or redeeming a coupon for the selected product step 214. If, in step 210, it is determined that the product code is not in the promotion server system database, no electronic coupons are distributed to the client system and the client then consummates the transaction, step 214. In this embodiment, since the electronic coupons are distributed prior to the consummation of the transaction, the electronic coupons may be redeemed in the present transaction or saved for use in a subsequent transaction.

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SUBSTITUTE SHEET (RULE 26)
The preceding embodiment is shown in greater detail in FIG. 3. First, the e-tail server 120 provides instructions 221 to the promotion server system for generating links between the product code of a product offered for sale on the e-tail server system and promotional data that defines electronic coupons. The promotion server 130 then constructs the promotional linking code that links the product code of the product to the promotional data. As described above, the promotional data is stored in database 231 of promotion server system 130. Additionally, a producer or provider of items 250 can provide instructions 252 to the promotion server 130, for the purpose of linking products with promotional data.

A user operating a client system 110 establishes a primary connection 254 to the e-tail server 120 over the communication network 160 for the purpose of initiating a transaction. The user selects a product offered for sale by the e-tail server 120, typically by placing the product into a "shopping cart" on the e-tail server web site. The e-tail server system then provides the product code 258 of the product to the promotion server system 130. The promotion server system then searches its database 231 for the product code. If the product code is stored in the database, the promotion server generates the electronic coupon defined by the promotional data linked to the product code by the promotional linking code, and distributes the electronic coupon to the client system 110. The electronic coupon is preferably provided to the client stem in the form of screen display data. As shown in Fig. 3, the electronic coupon can be provided from the to promotion server 130 to the e-tail server 120 via connection 260 and then to the client 110 by the e-tail server 120 via connection 262. Alternatively, the electronic coupon can be transmitted directly to the client 110 by the promotion server 130 via connection 264. The electronic coupon is then either redeemed by the client system in the present transaction, or is stored in the memory of the client 110 for use in a later transaction.

The distribution of electronic coupons may also be determined by the application of electronic coupon distribution rules that are applied to the purchase/redemption information of the client system. The electronic coupon distribution rules are used to determine whether, based on the client system's purchase/redemption history as defined by the purchase/redemption information, the client system will receive electronic coupons during the present transaction and, if the client is to receive electronic coupons, which coupons will be received. The rules are conditional and can warrant the distribution of electronic coupons.
based any criterion desired by the issuer of the electronic coupon. For example, the rules can be used to reward a first time or repeat client of an item with an electronic coupon for a different item or to limit the number of electronic coupons for a particular item given to a client. The following are examples of preferred electronic coupon distribution rules:

A. If the client system has redeemed Z number of coupons for Product X, the client system will receive an electronic coupon for Product Y.

B. If the client system redeems an electronic coupon for Product X, the client system will receive an electronic coupon for Product Y.

C. If the client system has redeemed an electronic coupon for Product X, the client system will not receive another electronic coupon for Product X.

D. If the client system has purchased Product X a total of Z number of times, the client system will receive an electronic coupon for Product Y.

E. If the client system has received an electronic coupon for Product X that is still valid but has not been redeemed, the client system will receive no more electronic coupons for Product X.

F. If the client system has received an electronic coupon for Product X but has not yet redeemed it, the promotion server system will increase the value of the electronic coupon or generate an electronic coupon for a different item.

G. If the client system has received an electronic coupon for Product X that has expired, the promotion server system will extend the valid date of the electronic coupon.

H. If the client system has received an electronic coupon for Product X but has not redeemed it, the promotion server system can either transmit an electronic coupon for a competing product to the client system or modify the electronic coupon to be redeemable for a competing product.

I. If the client system has redeemed a coupon for Product X, the promotion server system will transmit a lower value electronic coupon for Product X to the client system.

The electronic coupon distribution rules can be programmed into the promotion server through the e-tail server, thereby enabling the e-tail web site to program its own, in-house, promotions. Additionally, the electronic coupon distribution rules can be programmed into the promotion server by one or more of the producers of the goods or providers of the services that are available for sale on the e-tail web site associated with the e-tail server 120,
thereby enabling the producers of the goods or providers of the services to promote particular goods or services.

Accordingly, in the present invention, the distribution of electronic coupons may be determined by product code links to promotional data stored in a database on the promotion server system or by electronic coupon distribution rules. Alternatively, the distribution of electronic coupons can be determined based on the use of the electronic coupon distribution rules in conjunction with the product code links to promotional data in the promotion server system. In this embodiment, a promotional product is linked by its product code to promotional data that defines a number of electronic coupons. The electronic coupons are arranged in a hierarchy, wherein each electronic coupon is subject to being passed over based on the application of the electronic coupon distribution rules. For example, when the client selects Product A from the e-tail server system web site, the promotion server system will search its database for the product code of Product A. The product code of Product A is linked to promotional data that defines electronic coupons first for Product X and next for Product Y. At this point, the electronic coupon distribution rules are applied. If the electronic coupon distribution rule in effect states "If the client system has redeemed an electronic coupon for Product X, the client system will not receive another electronic coupon for Product X" and the client's purchasing/redemption history indicates that the client has redeemed a coupon for Product X, the client will not receive another electronic coupon for Product X. Instead, the client will receive the next electronic coupon in the hierarchy, which in this example is for Product Y. The distribution rules in effect are used to determine which of the electronic coupons the client will receive. As such, any number of electronic coupon distribution rules may be applied to each product selected by the client, and any number of electronic coupons may be linked to each selected product.

FIG. 4 shows a flow diagram 220 of a method of distributing electronic coupons in accordance with this embodiment of the invention. In primary step 222, the client system 110, FIG. 1, establishes at least one connection with one or more e-tail servers 120 and carries out transactions, including purchasing items, redeeming electronic coupons and/or receiving electronic coupons from the e-tail servers. With each transaction carried, out by the client system with the e-tail server systems, each e-tail server system generates a purchase/redemption information token, wherein the token contains information about the
items purchased, the electronic coupons redeemed and/or the coupons received by the client system, step 224. These purchase/redemption information tokens are stored in memory on the client system and/or on the e-tail server system and/or on the promotion server system and therefore represent a history of the transactions carried out by the client system. When the client system establishes a subsequent connection to a subsequent e-tail server system to initiate a transaction, step 226, the subsequent e-tail server system reads the purchase/redemption information tokens from the memory of the system where they are stored, step 228. The subsequent e-tail server system then provides access to the token information to the promotion server system 130, FIG. 1, step 230. When the client system selects one of the products available for sale on the e-tail server web site, step 232, the e-tail server system provides the product code of the selected product to the promotion server system, step 234. The promotion server system then searches its database to determine whether the product code of the selected product is in the database and is therefore linked to promotional data that defines electronic coupons, step 236. If the product code is in the database, step 238, the promotion server system applies the coupon distribution rules to the information contained in the purchase/redemption information, step 240. If, based on the rules applied to the purchase/redemption information, the distribution of electronic coupons is warranted, step 242, the electronic coupons prescribed by the rules are distributed to the client system, step 244. As discussed above, each product may be linked to promotional data that defines a hierarchy of electronic coupons that may be distributed to the client based on the application of one or more of the distribution rules that are in effect when the transaction is carried out. The client then consummates the transaction, step 246, by purchasing one or more products from the e-tail server system or redeeming coupons for one or more of the products and, if the electronic coupons can be applied to one or more of the products, redeeming the electronic coupons. If, in step 238, the product code is not found in the database steps 240, 242 and 244 are skipped and the transaction is consummated, step 246. If, in step 242, it is determined that no electronic coupons are to be distributed, step 244 is skipped and the transaction is consummated, step 246.

The preceding embodiment is shown in greater detail in FIG. 5. First, the e-tail server system 120 provides the electronic coupon distribution rules 321 to the database 231 of the promotion server system. Additionally, a producer or supplier of products 250 can provide
electronic coupon distribution rules 352 to the promotion server system 130. After carrying out one or more transactions with e-tail server system 120 and/or other e-tail server systems, from which the e-tail server system has generated purchase/redemption information tokens, a user operating client system 110 establishes a subsequent connection 354 to the e-tail server 120 over the communications network 160 for the purpose of initiating a transaction. The e-tail server a system then reads the purchase/redemption information tokens 356 and transmits the purchase/redemption information contained in, or pointed to by, the purchase/redemption information tokens 358 to the promotion server system 130. Alternatively, the purchase/redemption information represented by the tokens may be stored on the e-tail server system and/or on the promotion server system. The user selects a product offered for sale by the e-tail server 120, typically by placing the product into a "shopping cart" on the e-tail server web site. The e-tail server system provides the product code 359 of the product to the promotion server system 130. The promotion server system then searches its database 231 for the product to code. If the product code is stored in the database, the promotion server system 130 applies the electronic coupon distribution rules to the purchase/redemption information. If the application of the electronic coupon distribution rules to the purchase/redemption information warrants the distribution of one or more electronic coupons to the client system, the promotion server system transmits the electronic coupons prescribed by the rules to the client system. The electronic coupon is preferably provided to the client system in the form of screen display data. As shown in Fig. 5, the electronic coupon can be provided from the promotion server 130 to the e-tail server 120 via connection 360 and then to the client 110 by the e-tail server 120 via connection 362. Alternatively, the electronic coupon can be transmitted directly to the client 110 by the promotion server 130 via connection 364. After receiving the electronic coupons, the client system consummates the transaction. The electronic coupon is either redeemed by the client system in the present transaction, or is stored in the memory of the client system 110 for use in a later transaction.

As described above, the electronic coupons are distributed based on the whether the product code of a selected product is stored in the database of the promotion server system and linked to promotional data defining electronic coupons and on the application of the electronic coupon distribution rules to the purchase/redemption information. For example, if
the client system selects COLGATE® floss on the e-tail server web site, the promotion server system will search its database for the product code associated with COLGATE® floss. If the product code for COLGATE® floss is stored in the database, which, if any, of the electronic coupons in the hierarchy of electronic coupons linked to the product code will be distributed will then be determined based on the application of the electronic coupon distribution rules in effect. If the a rule "If the client system has purchased COLGATE® floss a total of 2 times, the client system will receive an electronic coupon for COLGATE® toothpaste" is applied to the purchase/redemption information and the information indicates that the client system has purchased COLGATE® floss a total of 2 times, the client system will receive an electronic coupon for COLGATE® toothpaste. However, if the rule "If the client system has redeemed an electronic coupon for COLGATE® toothpaste, the client system will not receive another electronic coupon for COLGATE® toothpaste" is also applied to the purchase/redemption information and the client system purchase/redemption information indicates that the client system has indeed redeemed an electronic coupon for COLGATE® toothpaste, the client system to will not receive another electronic coupon for COLGATE® toothpaste.

In a preferred embodiment of the invention, the client system 110 is a personal computer running browser software which connects to web servers via the Internet or a similar network. Preferably, a book of electronic coupons is transferred to the client system in the form of an electronic coupon token which is stored in memory at the client system. The electronic coupon token can be detected by any subsequent web server that client system connects to. If the client system attempts to initiate a transaction with a particular web server, the web server detects the electronic coupon token which includes electronic coupon and uses the electronic coupon to enable or modify the transaction. In this embodiment, when the client system receives the electronic coupon, the user can be alerted to the presence of the electronic coupon by another browser window or a Java based window that identifies all the electronic coupons in the electronic coupon book, the nature of the benefit provided and provides links to the various web sites where the electronic coupons can be redeemed. Alternatively, the client system can connect to a web server which displays the contents of the electronic coupon book in the form of a web page which describes the nature of the electronic coupon benefit and a link to the web page where the electronic coupon can be redeemed. In
yet another embodiment of the invention, when the client system receives the electronic coupon or coupon book, the client system may be programmed to automatically provide the electronic coupon or coupon book to a peripheral printing device such that the user has automatic access to hard-copy versions of the coupons.

As one having ordinary skill in the art will appreciate, the client system will typically be operated or otherwise controlled by a consumer or a customer (in business to business transactions) and the server system or systems will be operated or otherwise controlled by an organization or an agent of an organization authorized to enter into and complete the transaction. One of ordinary skill in the art will also appreciate that the electronic coupons can include an expiration date or a window of dates when the electronic coupon is valid or effective.

In another embodiment of the invention, electronic coupon tokens are transferred to, or retrieved from, a client system by a frame spawned within a primary web site by JavaScript or other similar software code. This embodiment is compatible with security features included with some web browsers that limit a web site to depositing and retrieving electronic coupon tokens only for itself. For example, a user visiting an e-tail web site generally receives an electronic coupon token from that site, but a user cannot receive an electronic coupon token from a site on behalf of another site. This is because an electronic coupon token deposited by a particular web site is encoded with a signature corresponding to that web site, and the browser utilizes that signature to limit electronic coupon token transfers to only the web site that created the electronic coupon token. However, a frame spawned within the e-tail server system web site can deposit an electronic coupon token on the client system, and a similar frame spawned within another web site can subsequently read that electronic coupon token, as long as the frames spawned on different web sites look the same (i.e., have the same signature) to the browser running on the client system. As with the other embodiments described herein, the electronic coupon token may contain all of the necessary coupon information, including the complete coupon data structure necessary for benefits identification, validation and authentication, or the electronic coupon token may contain only a data structure identifying the client, so that the electronic coupon token functions as a pointer to a database on the promotion server. If the electronic coupon token contains the complete data structure, the script will include the code necessary to authenticate and validate
the coupon. The utility of this embodiment lies in the fact that the issuer and the redeemer of the coupon need not be the same entity. For example, a producer of goods may desire to have coupons distributed to potential purchasers, but may not desire to conduct the electronic commerce necessary to redeem the coupons. In this case, the producer of goods would distribute the JavaScript (or other similar script) for generating coupon distributing web site frames to highly trafficked web sites. The producer of goods would also provide the frame-generating script to point-of-sale product retailers so that the coupons could be redeemed where the product is sold.

While the invention has been described as including one e-tail server system that accesses a promotion server system, a plurality of e-tail server systems may be coupled to the promotion server system in order to distribute electronic coupons. Such a configuration is illustrated in Fig. 6. In this system 400, in addition to the e-tail server system 120, a second e-tail server system 140 is coupleable to the promotion server system 130 over communications network 160 in the manner described above. Accordingly, the client 110 can access either e-tail server system 120 or e-tail server system 140 for the purpose of carrying out a transaction over the communications network 160 and either or both of the e-tail server systems can access the promotion server system 130. In this embodiment, the client system 110 can be primarily connected to the e-tail server system 120, which transmits the electronic purchase/redemption information to the client to system 110, and subsequently connected to the e-tail server system 140, which reads the electronic purchase/redemption information and provides access to the purchase/redemption information to the promotion server system 130. It will be understood that the promotion server can be accessed through any number of e-tail server systems.

In another embodiment, the electronic coupon distribution rules are stored in a database server system on the e-tail server system rather than on a separate promotion server system. Such a configuration is shown at 500 in FIG. 7. In this embodiment, e-tail server system 150 is coupleable to client 110 over communications network 160. E-tail server system 150 includes a database server system 152 which includes the electronic coupon distribution rules and the promotional data defining electronic coupons.

In this embodiment, the e-tail server system 150 applies the electronic coupon distribution rules to the purchase/redemption information locally within database server
system 152. The client system 110 establishes a connection with e-tail server system 150 over the communications network 160 for the purpose of initiating a transaction. After the e-tail server system reads the purchase/redemption information from client system 110, it applies the electronic coupon distribution rules and distributes electronic coupons to the client system according to the distribution rules.

Accordingly, the present invention provides a system for distributing electronic coupons over a network prior to the consummation of a transaction. The electronic coupons distributed depend upon the client's purchasing/redemption history. Every time the client system consummates a transaction with an e-tail server system, the e-tail server system generates an electronic purchase/redemption information token containing information about the transaction.

When the client system establishes a connection with an e-tail server system, the e-tail server system reads the purchase/redemption information and provides access to it to the promotion server system. The promotion server system applies electronic coupon distribution rules to the information and determines whether electronic coupons are to be distributed based on the application of the rules to the purchase/redemption information.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiments are therefore to be considered in respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of the equivalency of the claims are therefore intended to be embraced therein.
CLAIMS

1. A system for distributing electronic coupons over a communications network comprising:
   an e-tail server system having a computer processor and associated memory, said
e-tail server system including products for sale, each of said products having an associated
unique product code;
   a promotion server system having a computer processor and associated memory, said
promotion server system including a database of said unique product codes and promotional
data linked to said product codes, said promotional data defining said electronic coupons; and
   a client system having a computer processor and associated memory, said client
system to being selectively coupleable to said e-tail server system over said communications
network to initiate a transaction and being adapted for selecting a product from said e-tail
server;
   said e-tail server system being adapted for transmitting said product code of a selected
product to said promotion server system; and
   said promotion server system being adapted for searching its database for said product
code and distributing, to said client system, a data structure representative of an electronic
coupon defined by said promotional data linked to said product code.

2. The system of claim 1, wherein said communications network is the Internet.

3. The system of claim 2, wherein said electronic coupon is distributed to said client
system in the form of screen display data that is transmitted to said client system directly
from said promotion server system over said communications network.

4. The system of claim 2 wherein said electronic coupon is distributed to said client
system in the form of screen display data that is transmitted from said promotion server
system to said e-tail server system over said communications network, and from said e-tail
server system to said client system over said communications network.
5. The system of claim 2 wherein said client system is connected to said network by a wired connection.

6. The system of claim 5 wherein said client system is selected from the group consisting of a personal computer, an interactive television system, and a personal digital assistant.

7. The system of claim 2 wherein said client system is connected to said network by a wireless connection.

8. The system of claim 7 wherein said client system is selected from the group consisting of a personal computer, an interactive television system, a personal digital assistant and a cellular telephone.

9. The system of claim 2 wherein said promotion server system is included in said e-tail server system.

10. The system of claim 2, wherein said product code is the Universal Product Code.

11. The system of claim 2, wherein said transaction is consummated after said promotion server system distributes said electronic coupon to said client system.

12. The system of claim 2, wherein said data structure includes said electronic coupon.

13. The system of claim 2, wherein said data structure includes a point for pointing to said electronic coupon on said database of said promotion server system.

14. A method of distributing electronic coupons over a communication network comprising:
   A. establishing a connection between a client system and an e-tail server system to initiate a transaction;
B. said client system selecting a product offered for sale by said e-tail server system, said product having a unique product code associated therewith;

C. said e-tail server system transmitting said product code for said selected product to a promotion server system including a database of promotional data defining said electronic coupons, said promotional data being linked to said product code;

D. said promotion server system distributing, to said client system, a data structure representative of said electronic coupon defined by said promotional data linked to said product code.

15. The method of claim 14, wherein said communications network is the Internet.

16. The method of claim 15, wherein said electronic coupon is provide to said client system in the form of screen display data that is transmitted to said client system directly from said promotion server system over said communications network.

17. The method of claim 15 wherein said electronic coupon is provide to said client system in the form of screen display data that is transmitted from said promotion server system to said e-tail server system over said communications network, and from said e-tail server system to said client system over said communications network.

18. The method of claim 15 wherein said client system is connected to said network by a wired connection.

19. The method of claim 18 wherein said client system is selected from the group consisting of a personal computer, an interactive television system, and a person digital assistant.

20. The method of claim 15 wherein said client system is connected to said network by a wireless connection.
21. The method of claim 20 wherein said client system is selected from the group consisting of a personal computer, an interactive television system, a personal digital assistant and a cellular telephone.

22. The method of claim 15, wherein, prior to step D, said promotion server system searches said database for said product code.

23. The method of claim 22, wherein, prior to step D and after searching said database, said promotion server generates said electronic coupon based on said promotional data linked to said promotional item.

24. The method of claim 15, wherein said transaction is consummated after step D.

25. The method of claim 15, wherein said data structure includes said electronic coupon.

26. The system of claim 15, wherein said data structure includes a pointer for pointing to said electronic coupon on said database of said promotion server system.

27. A system for distributing electronic coupons over a communications network comprising:

an e-tail server system having a computer processor and associated memory, said e-tail server system including products for sale, each of said products having an associated unique product code;

a promotion server system having a computer processor and associated memory, said promotion server system including a database of electronic coupon distribution rules and said unique product codes and promotional data linked to said product codes, said promotional data defining said electronic coupons; and

a client system having a computer processor and associated memory, said client system being selectively coupleable to said e-tail server system over said communications network to initiate a transaction and including purchase/redemption information, said
purchase/redemption information being transmitted thereto by said e-tail server system, said client system being adapted for selecting a product from said e-tail server system;

said e-tail server system being adapted for reading said purchase/redemption information from said client system and providing, to said promotion server system, said product code of said selected product and access to said purchase/redemption information;

said promotion server system being adapted for:

searching said database for said product code and said promotional data linked to said product code;

applying said electronic coupon distribution rules to said purchase/redemption information; and

distributing, to said client system, a data structure representative of said electronic coupons defined by said promotional data linked to said product code based on the application of said electronic coupon distribution rules.

28. The system of claim 27, wherein said communications network is the Internet.

29. The system of claim 28, wherein said purchase/redemption information includes one or more of information about items purchased by the client system and information about electronic coupons redeemed by the client system.

30. The system of claim 29, wherein said electronic coupon distribution rules are conditional rules that authorize the distribution of said electronic coupons based on said purchase/redemption information.

31. The system of claim 28, wherein said purchase/redemption information is stored in said memory of said client system.

32. The system of claim 28, wherein said purchase/redemption information is stored on said e-tail server system, and said electronic token points said promotion server system to said purchase/redemption information thereon.
33. The system of claim 28, wherein said purchase/redemption information is stored on said promotion server system, and said electronic token points said promotion server system to said purchase/redemption information thereon.

34. The system of claim 28, wherein said electronic coupons are provided to said client system in the form of screen display data that is transmitted to said client system directly from said promotion server system over said communications network.

35. The system of claim 28, wherein said electronic coupons are provided to said client system in the form of screen display data that is transmitted from said promotion server system to said e-tail server system over said communications network, and from said e-tail server system to said client system over said communications network.

36. The system of claim 28, wherein said client system is connected to said network by a wired connection.

37. The system of claim 36, wherein said client system is selected from the group consisting of a personal computer, an interactive television system, and a personal digital assistant.

38. The system of claim 28 wherein said client system is connected to said network by a wireless connection.

39. The system of claim 38 wherein said client system is selected from the group consisting of a personal computer, an interactive television system, a personal digital assistant and a cellular telephone.

40. The system of claim 28 wherein said promotion server system is included in said e-tail server system.

41. The system of claim 28, wherein said transaction is consummated after said promotion server system distributes said electronic coupons to said client system.
42. The system of claim 28, wherein said promotional data defines a hierarchy of electronic coupons and said electronic coupon distribution rules determine which of said electronic coupons in said hierarchy are distributed to said client system.

43. The system of claim 28, wherein said data structure includes said electronic coupon.

44. The system of claim 28, wherein said data structure includes a pointer for pointing to said electronic coupon on said database of said promotion server system.

45. A method of distributing electronic coupons over a communications network comprising:
   A. establishing a connection between a client system and an e-tail server system to initiate a transaction, said client system purchase/redemption information associated therewith, said purchase/redemption information being generated by said e-tail server system;
   B. said client system selecting a product offered for sale by said e-tail server system, said product having a unique product code associated therewith;
   C. said e-tail server system transmitting said product code for said selected product to a promotion server system including a database of electronic coupon distribution rules and to promotional data defining said electronic coupons, said promotional data being linked to said product code;
   D. said e-tail server system providing, to said promotion server system, access to said purchase/redemption information;
   E. said promotion server system searching said database for said product code;
   F. said promotion server system applying said electronic coupon distribution rules to said purchase/redemption information; and
   G. said promotion server system distributing, to said client system, a data structure representative of said electronic coupons defined by said promotional data linked to said product code based on the application of said electronic coupon distribution rules.

46. The method of claim 45, wherein said communications network is the Internet.

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SUBSTITUTE SHEET (RULE 26)
47. The method of claim 46, wherein said electronic coupon is provided to said client system in the form of screen display data that is transmitted to said client system directly from said promotion server system over said communications network.

48. The method of claim 46 wherein said electronic coupon is provided to said client system in the form of screen display data that is transmitted from said promotion server system to said e-tail server system over said communications network, and from said e-tail server system to said client system over said communications network.

49. The method of claim 46 wherein said client system is connected to said network by a wired connection.

50. The method of claim 47 wherein said client system is selected from the group consisting of a personal computer, an interactive television system, and a personal digital assistant.

51. The method of claim 46 wherein said client system is connected to said network by a wireless connection.

52. The method of claim 51 wherein said client system is selected from the group consisting of a personal computer, an interactive television system, a personal digital assistant and a cellular telephone.

53. The method of claim 46, wherein said transaction is consummated after step G.

54. The method of claim 46, wherein said purchase/redemption information includes one or more of information about items purchased by the client system and information about electronic coupons redeemed by the client system.

55. The method of claim 54, wherein said electronic coupon distribution rules are conditional rules that authorize the distribution of said electronic coupons based on said purchase/redemption information.
56. The method of claim 46, further comprising storing said purchase/redemption information in said memory of said client system.

57. The method of claim 46, further comprising storing said purchase/redemption information on said e-tail server system.

58. The method of claim 46, further comprising storing said purchase/redemption information on said promotion server system.

59. The method of claim 46, wherein said data structure includes said electronic coupon.

60. The method of claim 46, wherein said data structure includes a pointer for pointing to said electronic coupon on said database of said promotion server system.
FIG. 1
CLIENT ESTABLISHES A CONNECTION TO AN E-TAIL SERVER TO INITIATE A TRANSACTION

CLIENT SELECTS PRODUCT ON E-TAIL WEB SITE

E-TAIL SERVER PROVIDES PRODUCT CODE TO PROMOTIONAL SERVER

PROMOTIONAL SERVER SYSTEM SEARCHES ITS DATABASE FOR THE PRODUCT CODE

IS PRODUCT CODE IN DATABASE?

NO

YES

PROMOTIONAL SERVER DISTRIBUTES ELECTRONIC COUPON(S) TO CLIENT

CLIENT SYSTEM CONSUMMATES PURCHASE TRANSACTION BY PURCHASING THE SELECTED PRODUCT FROM THE E-TAIL SERVER OR REDEEMING AN ELECTRONIC COUPON FOR THE SELECTED PRODUCT

FIG. 2
Client establishes at least one connection with one or more e-tail servers and purchases items, redeems electronic coupons and/or receives electronic coupons from the e-tail servers.

E-tail servers generates purchase/redeemption information about the items purchased, the coupons redeemed and/or the coupons received.

Client establishes a subsequent connection to a subsequent e-tail server to initiate a transaction.

Subsequent e-tail server reads tokens.

Subsequent e-tail server provides access to purchase/redeemption information to promotion server.

Client selects product on e-tail web site.

E-tail server provides product code to promotional server.

Promotional server system searches its database for the product code.

Is product code in database?

Promotional server system applies distribution rules to purchase/redeemption information.

Does application of rules warrant dist. of coupon(s)?

Promotional server distributes electronic coupon(s) to client.

Client consummates purchase transaction.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) :G06F 17/40, 17/00
US CL : 705/14, 26
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)
U.S. : 705/14, 26
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST (US Pat, US PG Pub, EPO, JPO, DERWENT, IBM TB)
search terms: advertisement, electronic, coupon, transaction, purchase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 6,041,309 A (LAOR) 21 March 2000, col 3, line 44 - col 8, line 36.</td>
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</table>

X Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
*A* document defining the general state of the art which is not considered to be of particular relevance
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**"** later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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**"Y"** document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

**"N"** document member of the same patent family

Date of the actual completion of the international search
20 NOVEMBER 2001

Date of mailing of the international search report
27 DEC 2001

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231
Facsimile No. (703) 505-3220

Authorized officer
JAMES W. MYHRE
Telephone No. (703) 505-7843

Form PCT/ISA/910 (second sheet) (July 1996)
<table>
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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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<td>Y</td>
<td>WO 99/30256 A (INTERNATIONAL BUSINESS MACHINES CORPORATION) 17 June 1999, page 1, line 38 - page 3, line 38.</td>
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