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(54) DISCOUNT-INSTRUMENT METHODS AND SYSTEMS

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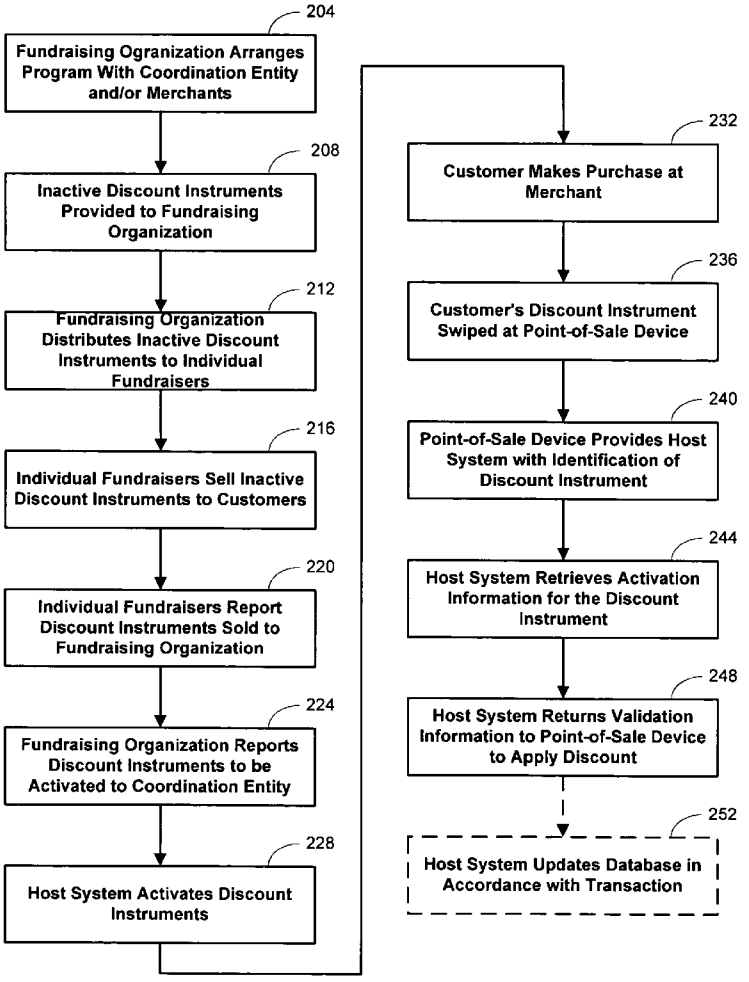
(57) **ABSTRACT**

Methods and systems are provided for implementing a program of discount arrangements. Discount-arrangement information relating to discount arrangements is maintained, with each discount arrangement being associated with one of multiple merchants. Transaction information related to a transaction at a point of sale is received, with the transaction information identifying a merchant party to the transaction. An identifier for a discount instrument presented at the point of sale during the transaction is received. A determination is made whether the merchant party is one of the multiple merchants is made. Validation information is then returned to the point of sale in accordance with the determination.



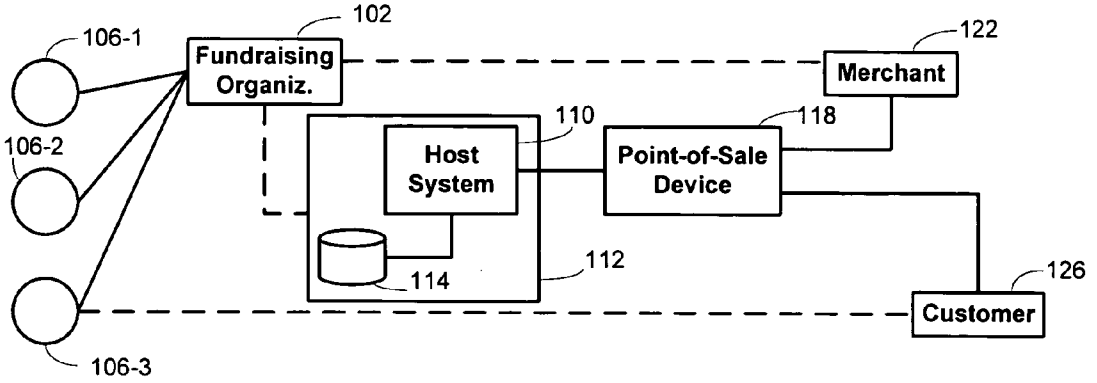

106-1
102
Fundraising Organiz.
122
Merchant
106-2
110
Host System
118
Point-of-Sale Device
112
114
126
Customer
106-3

Fig. 1A

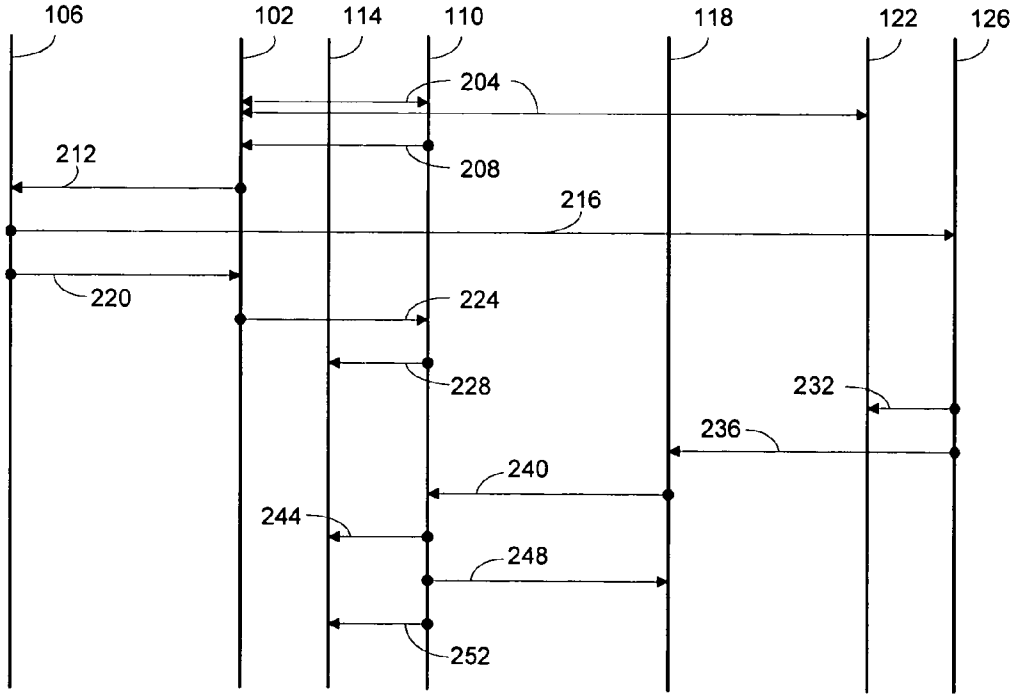

106
102
114
110
118
122
126
204
212
208
216
220
224
228
232
236
240
244
248
252

Fig. 1C

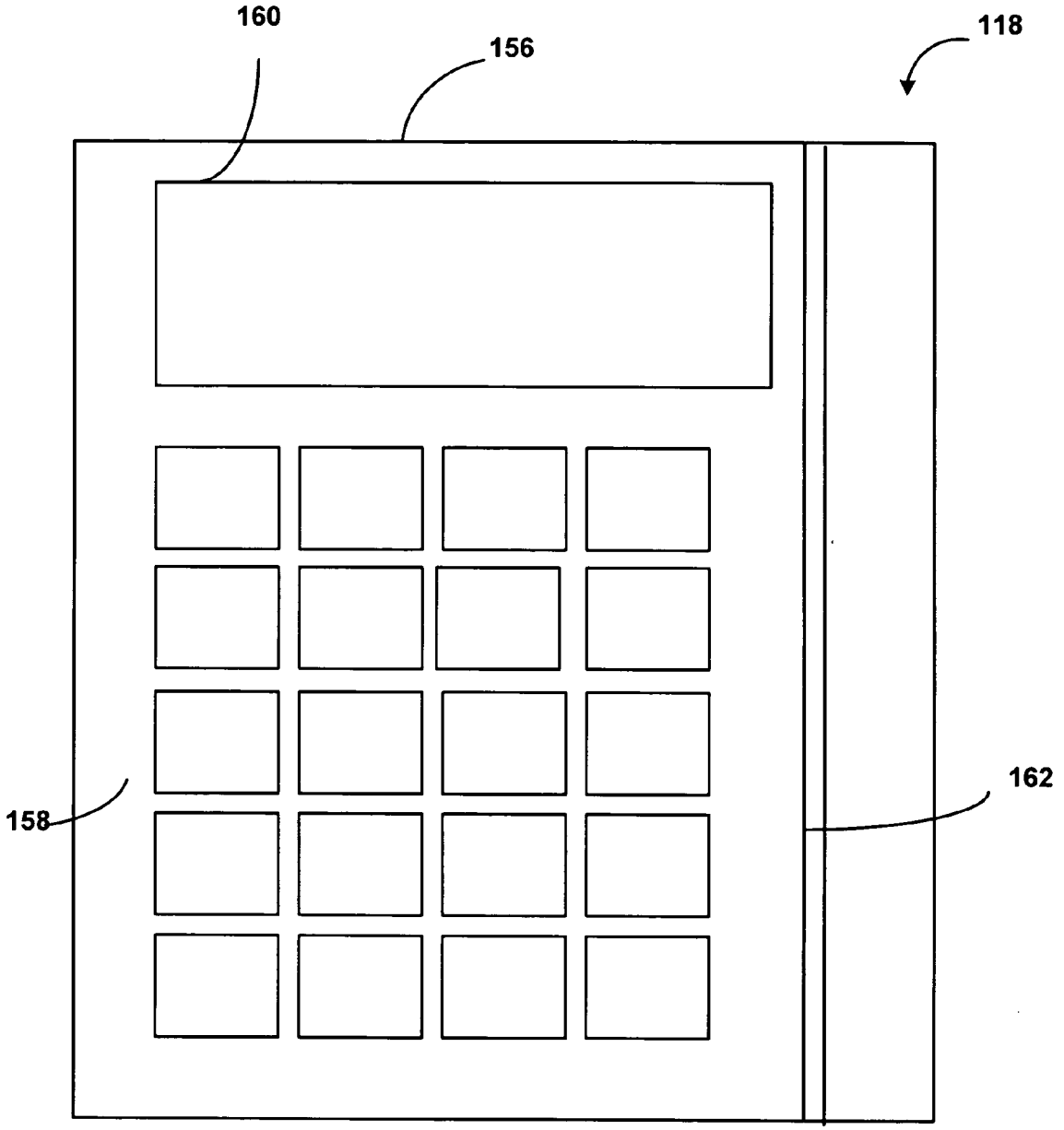


Fig. 1B

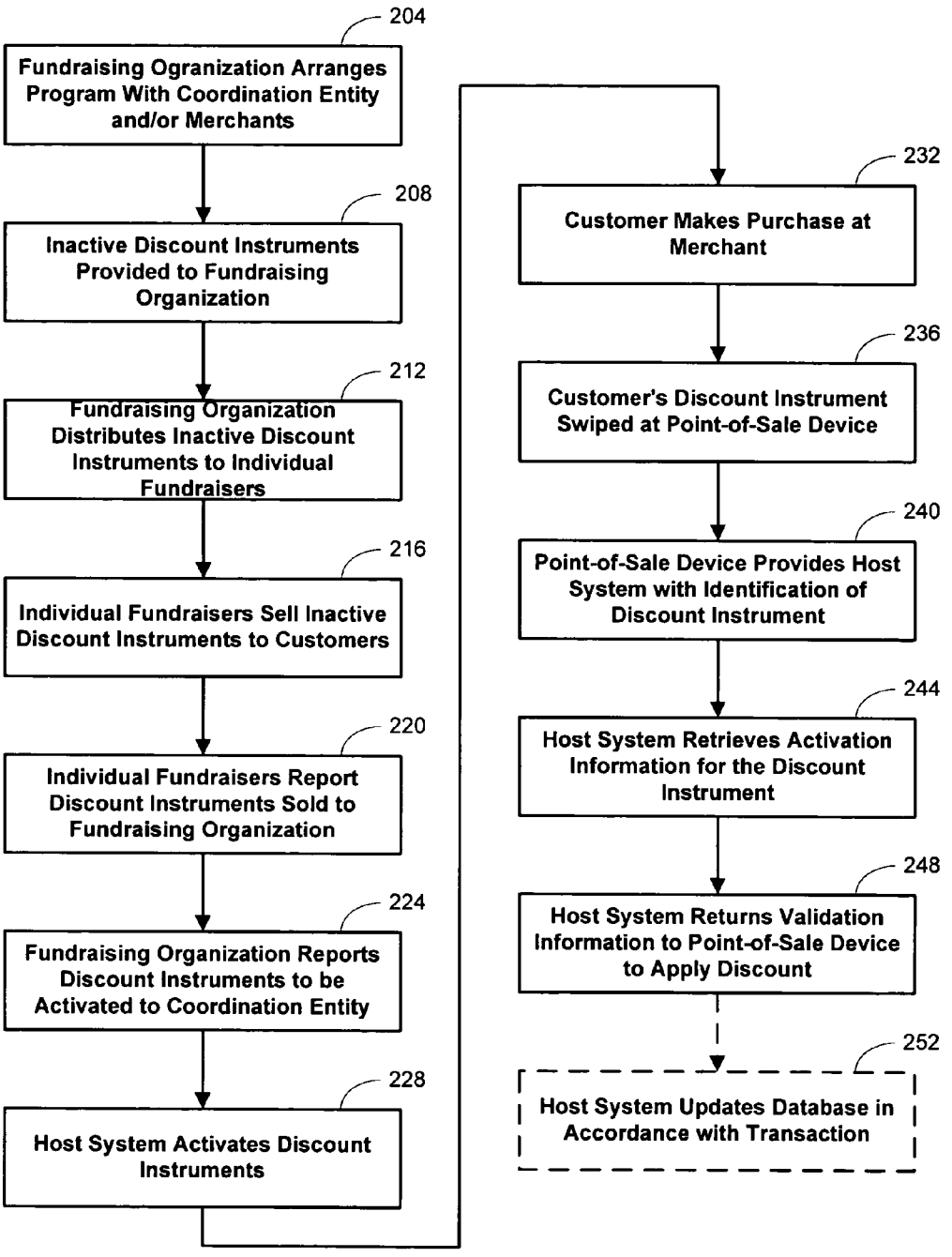

204
Fundraising Ogranization Arranges Program With Coordination Entity and/or Merchants
208
Inactive Discount Instruments Provided to Fundraising Organization
212
Fundraising Organization Distributes Inactive Discount Instruments to Individual Fundraisers
216
Individual Fundraisers Sell Inactive Discount Instruments to Customers
220
Individual Fundraisers Report Discount Instruments Sold to Fundraising Organization
224
Fundraising Organization Reports Discount Instruments to be Activated to Coordination Entity
228
Host System Activates Discount Instruments
232
Customer Makes Purchase at Merchant
236
Customer's Discount Instrument Swiped at Point-of-Sale Device
240
Point-of-Sale Device Provides Host System with Identification of Discount Instrument
244
Host System Retrieves Activation Information for the Discount Instrument
248
Host System Returns Validation Information to Point-of-Sale Device to Apply Discount
252
Host System Updates Database in Accordance with Transaction

Fig. 2A

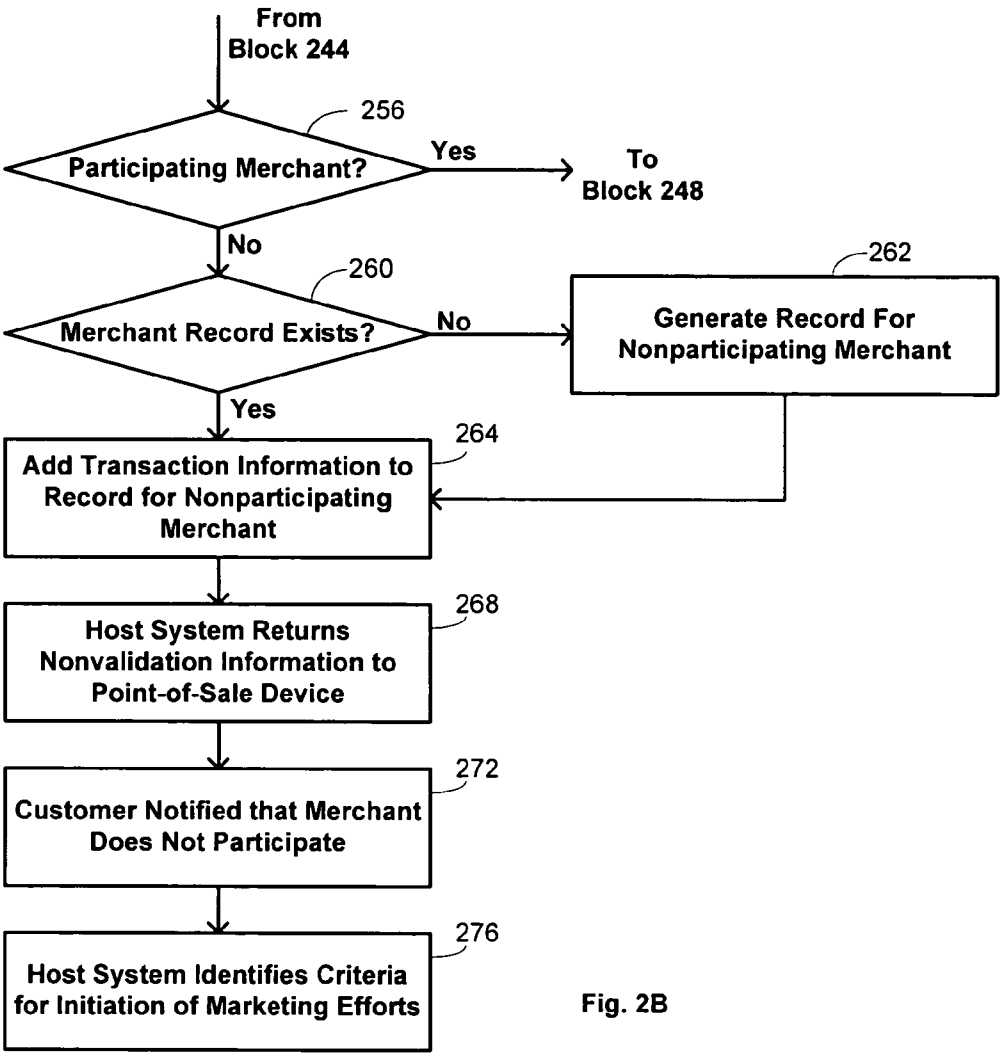

From Block 244
256
Participating Merchant?
Yes
To Block 248
No
260
Merchant Record Exists?
No
262
Generate Record For Nonparticipating Merchant
Yes
264
Add Transaction Information to Record for Nonparticipating Merchant
268
Host System Returns Nonvalidation Information to Point-of-Sale Device
272
Customer Notified that Merchant Does Not Participate
276
Host System Identifies Criteria for Initiation of Marketing Efforts

Fig. 2B

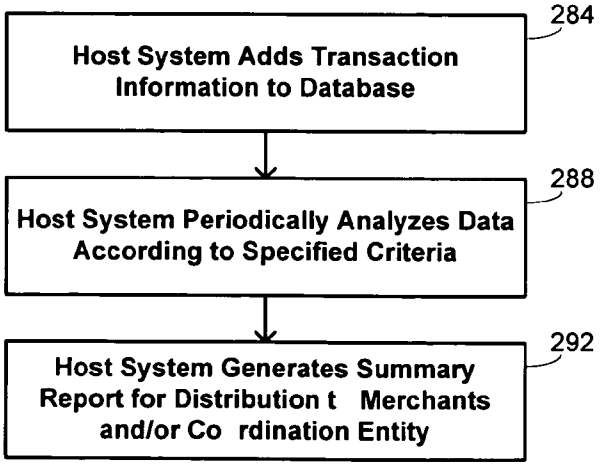

284
Host System Adds Transaction Information to Database
288
Host System Periodically Analyzes Data According to Specified Criteria
292
Host System Generates Summary Report for Distribution t Merchants and/or Co rdination Entity

Fig. 2C

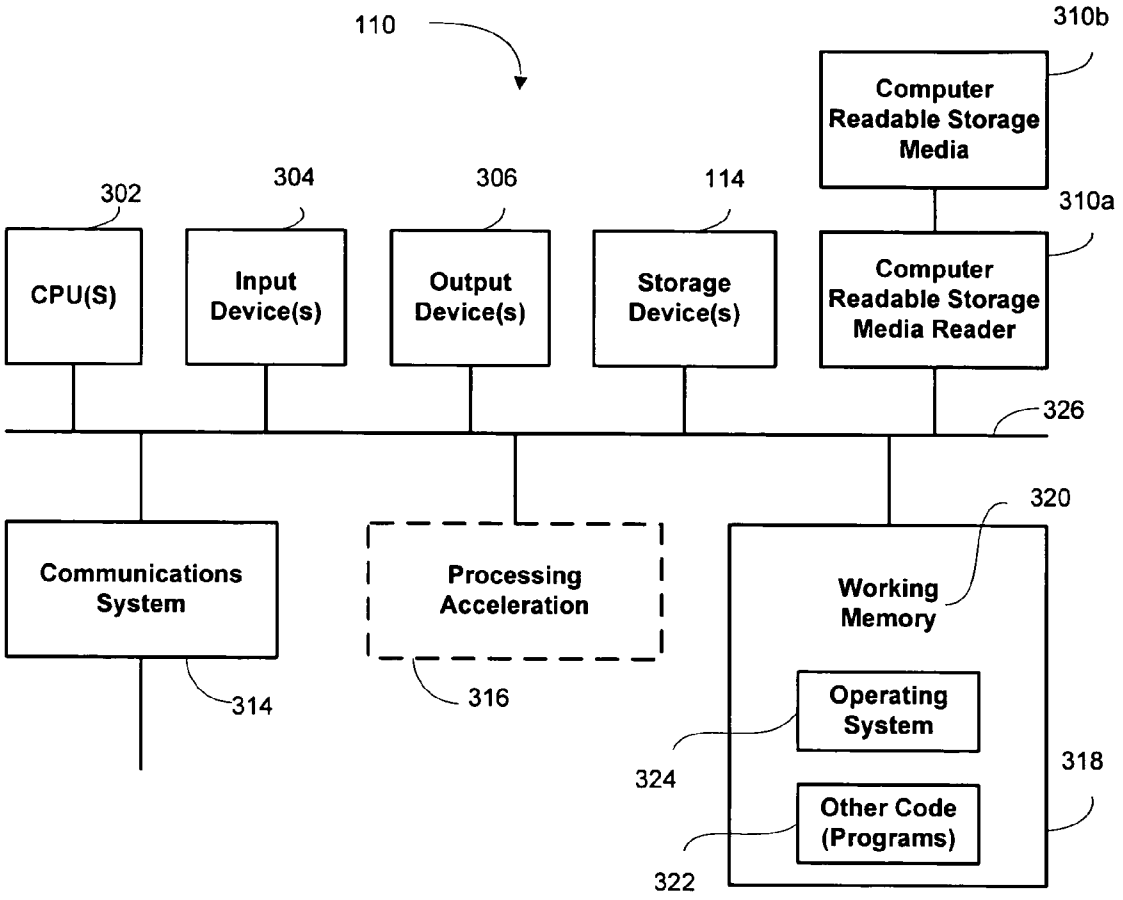

110
310b
Computer Readable Storage Media
302
304
306
114
310a
CPU(S)
Input Device(s)
Output Device(s)
Storage Device(s)
Computer Readable Storage Media Reader
326
320
Communications System
Processing Acceleration
Working Memory
314
316
Operating System
324
318
Other Code (Programs)
322

Fig. 3

DISCOUNT-INSTRUMENT METHODS AND SYSTEMS

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 10/268,040, entitled "DISCOUNT-INSTRUMENT METHODS AND SYSTEMS," filed Oct. 8, 2002 by Christopher R. McGee et al., the entire disclosure of which in herein incorporated by reference for all purposes.

BACKGROUND OF THE INVENTION

[0002] This application relates generally to discount instruments. More specifically, this application relates to methods and systems for providing discount instruments that may be used in fundraising applications.

[0003] There are many organizations that rely on fundraising drives or events to finance their operations. Common examples are seen in school groups, such as athletic and other types of clubs, that use fundraising techniques to finance the purchase of uniforms, equipment, and travel, among other expenses. These school groups may engage in fundraising activities regardless of their level, including elementary-school, secondary-school, and university-level groups. Moreover, fundraising activities are often used by other types of groups to finance their activities, including, for example, scouting and social organizations. While many such groups are children's groups, there are also adult groups that rely on similar fundraising activities for financial support.

[0004] A persistent problem faced by fundraising organizations is the need to find a fundraising program that is sufficiently appealing to raise the desired funds. In some instances, organizations may rely on donations of a purely charitable nature, although it is often believed that the fundraising is more successful when the donor acquires something of value in exchange. Accordingly, many fundraising drives typically take the form of having individuals in the organization sell a product to customers, with the organization taking some of the profit from the sale. There are a wide variety of products that may be sold, common examples of which include magazine subscriptions, cookies, and candy. While these approaches do have some success, they usually rely on a partnership between the fundraising organization and the regular producer of the product. To accommodate the funds retained by the fundraising organization, the cost of the products may be greater to the consumer than if they were purchased elsewhere and/or the profit provided to the regular producer may be lower than is usual for a comparable purchase. Both of these factors act to limit the overall success of the fundraising activity.

[0005] There is accordingly a need in the art for methods and systems that limit the negative impact of these factors.

BRIEF SUMMARY OF THE INVENTION

[0006] Embodiments of the invention thus provide for discount-instrument methods and systems. In some instances, the discount instruments used by such methods and systems may result from a fundraising activity, but this is not a requirement. The result of such a fundraising activity is to provide customers with a discount instrument that may be used with merchants to obtain discounts on goods and/or services. In other instances, customers may acquire such a discount instrument through other means. In embodiments of the invention, the customer presents the discount instrument to the merchant to obtain the discount. The merchant ascertains whether the discount instrument is active and determines an applicable discount to be applied to a transaction.

[0007] In a first set of embodiments, a method is provided to apply a discount to a transaction. An identifier is extracted from a discount instrument, such as by reading a magnetic strip on the discount instrument, and is transmitted to a host system from a point of sale. The identifier may, for example, comprise an account number extracted from the discount instrument, which may be a plastic card. The transmission to the host system may, for example, take the form of an authorization. A validation is received from the host system for the discount instrument and the transaction is modified in accordance with a discount arrangement associated with the discount instrument. The transaction modification may be dictated by discounting information included on the discount instrument, such as in the form of a bar code or otherwise. Alternatively, the transaction modification may be dictated by discounting information received from the host system. The transaction modification may take a variety of different forms, examples of which include a uniform reduction in transaction cost by a predetermined percentage or through a full-cost deduction of at least one item comprised by the transaction.

[0008] In a second set of embodiments, a method is provided to apply a discount to a transaction. Information relating to a discount arrangement is extracted from a discount instrument at a point of sale. The transaction is modified in accordance with the discount arrangement and information relating to the discount arrangement is updated on the discount instrument. In one such embodiment, the information relating to the discount arrangement is extracted from a chip on the discount instrument. In another embodiment, the information relating to the discount arrangement is updated by writing information onto the chip. The transaction may be modified by applying a uniform cost reduction by a predetermined percentage or through a full-cost deduction of at least one item comprised by the transaction.

[0009] The above methods may be implemented with a point-of-sale device having a housing with a display screen, a data-entry device, a memory, a communications device, and a processor coupled with the data-entry device, the memory, and the communications device. Such a point-of-sale device may be configured to perform the methods described above.

[0010] In a third set of embodiments, a method is provided for managing a discount arrangement. Information relating to the discount arrangement is maintained. An identifier for a discount instrument presented during a transaction is received from a point of sale, and a determination is made whether the identifier identifies an active discount instrument. If so, information for the discount arrangement is transmitted back to the point of sale to identify the discount instrument as an active discount instrument. The discount arrangement may define a variety of different transaction modifications, examples of which include a uniform reduc-

tion in transaction cost by a predetermined percentage or a full-cost deduction of at least one item comprised by the transaction. In some embodiments, the information relating to the discount arrangement may also be updated.

[0011] In some embodiments, the methods may include provisions to accommodate nonparticipating merchants. In these embodiments, a method is provided for implementing a program of discount arrangements. Discount-arrangement information relating to a plurality of discount arrangements is maintained, with each such discount arrangement being associated with one of a plurality of merchants. Transaction information related to a transaction at a point of sale is received, with the transaction information identifying a merchant party to the transaction. An identifier for a discount instrument presented at the point of sale during the transaction is received. A determination is made whether the merchant party is one of the plurality of merchants is made. Validation information is then returned to the point of sale in accordance with the determination.

[0012] The validation information may comprise an indication that the merchant party is not one of the plurality of merchants. In instances where the merchant party is one of the plurality of merchants, the validation information may comprise an instruction to apply a discount in accordance with the discount-arrangement information associated with the merchant party. In some instances where the merchant party is not one of the plurality of merchants, the validation information comprises an indication that no discount is to be provided to the transaction. In other instances where the merchant party is not one of the plurality of merchants, a record may be generated for recording transaction information related to the merchant party. Where such a record already exists, the method may comprise recording at least a portion of the transaction information in the record. Criteria may be identified from the record for initiation of marketing efforts with the merchant party. More generally, at least a portion of the transaction information may be recorded in a database. The information in the database may be analyzed according to specified criteria, and a summary report may be generated from the analyzed information. In some instances, the criteria may have been specified by the merchant party.

[0013] These methods may be embodied in a computer-readable storage medium having a computer-readable program embodied therein for directing operation of a computer system. Such a computer system may include a processor, a storage device, and a communications system. The computer-readable program includes instructions for operating the computer system to manage a discount arrangement in accordance with the embodiments described above.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] A further understanding of the nature and advantages of the present invention may be realized by reference to the remaining portions of the specification and the drawings wherein like reference numerals are used throughout the several drawings to refer to similar components. In some instances, a sublabel is associated with a reference numeral and follows a hyphen to denote one of multiple similar components. When reference is made to a reference numeral without specification to an existing sublabel, it is intended to refer to all such multiple similar components.

[0015] **FIG. 1A** is a block-diagram representation of an arrangement for implementing a discounting program in accordance with an embodiment of the invention;

[0016] **FIG. 1B** is a schematic diagram of a point-of-sale device that may be used with embodiments of the invention;

[0017] **FIG. 1C** is a schematic representation of an embodiment of a discounting process using the arrangement shown in **FIG. 1A** in the context of fundraising activity;

[0018] **FIG. 2A** is a flow diagram of an embodiment of the discounting process that corresponds generally to the representation of **FIG. 1B**;

[0019] **FIG. 2B** is a flow diagram of an embodiment of the invention that tracks information related to nonparticipating merchants;

[0020] **FIG. 2C** is a flow diagram of an embodiment of the invention that provides reporting functions; and

[0021] **FIG. 3** is a schematic illustration of a computer system on which methods of the invention may be embodied.

DETAILED DESCRIPTION OF THE INVENTION

[0022] Embodiments of the invention provide discount-instrument methods and systems, including usage validation and tracking capabilities. In some of the discussion that follows, examples of the use of such discount instruments is provided, for illustrative purposes, in the context of fundraising programs. It will be appreciated, however, that the invention is not limited to fundraising applications and applies more generally to discount instruments regardless of how they may be obtained by customers. In some embodiments, the discount instrument may take the form of a plastic card similar in structure to a credit card or debit card. In fundraising applications, this card may be sold by individuals of a fundraising organization to customers, who may then use the card to obtain discounts on purchases of goods and/or services at one or more merchants. The card provides the customers with benefits in accordance with a specific discount arrangement, although this discount arrangement may vary among cards. As used herein, the term "discount arrangement" is intended to be construed broadly as any arrangement that provides for a modification of a transaction that benefits a customer. Examples of discount arrangements include provisions that uniformly reduce the cost of transactions either by a percentage amount or predetermined fixed amount, provide "buy one, get one free" or "buy one, get the second at half price" arrangements, and the like. In addition, the benefit provided at each merchant may differ, with one providing a 5% discount, for example, and another providing a free product (such as a free order of popcorn at a movie theater).

[0023] One structure that may be used to enable such embodiments is shown schematically with a block diagram in **FIG. 1A**. In this figure, the general operation of a fundraising system is coordinated with a host system **110**. The host system **110** is controlled by a coordination entity **112** that may be responsible for different functions in different embodiments. In a simple embodiment, the host system **110** acts only to coordinate whether the status of individual discount instruments is active or inactive, but in

other embodiments it performs further functions, such as tracking and reporting usage information. The host system **110** may additionally maintain information related to the implementation of the system on a database **114** and may use that information to provide discount instructions to a merchant **122** in accordance with the system when a customer **126** presents one of the discount instruments. The host system **110** may also be equipped to modify the implementation information as dictated by a merchant.

[**0024**] Interaction between the host system **110** and the merchant **122** and customer **126** may be effected with a point-of-sale device **118** at a location of the merchant. Generally, the point-of-sale device **118** is equipped to read information from one of the discount instruments and to transmit that information to the host system **110**. The host system **110** may then provide a response to the point-of-sale device **118** with a validation or denial of the request. Thus, in an embodiment where the discount instrument comprises a plastic card with a magnetic strip, the point-of-sale device **118** may include a magnetic-strip reader. In other embodiments, the discount instrument may include other features, such as magnetic ink, a bar code, optical indicia, or the like, that the point-of-sale device **118** is equipped to read with magnetic-ink readers, bar-code readers, optical readers, or similar reading devices. In some embodiments, the point-of-sale device **118** may also be equipped to exchange information with a financial institution to coordinate payment by the customer **126** for an associated transaction, such as when the customer pays for the transaction with a credit card, debit card, check, or other instrument. Examples of point-of-sale devices that include multiple capabilities for extracting information from such transaction instruments and/or discount instruments are provided in the following commonly assigned applications, the entire disclosures of which are incorporated herein by reference for all purposes: U.S. Prov. Pat. Appl. No. 60/147,889, entitled "INTEGRATED POINT OF SALE DEVICE," filed Aug. 9, 1999 by Randy J. Templeton et al.; U.S. patent application Ser. No. 09/634,901, entitled "POINT OF SALE PAYMENT SYSTEM," filed Aug. 9, 2000 by Randy J. Templeton et al.; U.S. patent application Ser. No. 10/116,689, entitled "SYSTEMS AND METHODS FOR PERFORMING TRANSACTIONS AT A POINT-OF-SALE," filed Apr. 3, 2002 by Earney Stoutenburg et al.; U.S. patent application Ser. No. 10/116,733, entitled "SYSTEMS AND METHODS FOR DEPLOYING A POINT-OF-SALE SYSTEM," filed Apr. 3, 2002 by Earney Stoutenburg et al.; U.S. patent application Ser. No. 10/116,686, entitled "SYSTEMS AND METHODS FOR UTILIZING A POINT-OF-SALE SYSTEM," filed Apr. 3, 2002 by Earney Stoutenburg et al.; and U.S. patent application Ser. No. 10/116,735, entitled "SYSTEMS AND METHODS FOR CONFIGURING A POINT-OF-SALE SYSTEM," filed Apr. 3, 2002 by Earney Stoutenburg.

[**0025**] One specific example of how the point-of-sale device **118** may be constructed is illustrated in **FIG. 1B**. The point-of-sale device **118** comprises a housing **156** having a keypad **158** for entering various types of information. The keys of the keypad **158** may permit the entry of numbers or letters, or may be function keys for performing various functions. The point-of-sale device **118** further includes a display screen **160** for displaying information relating to a transaction and/or to a discount. A card reader **162** may also be provided for reading information from cards. The point-of-sale device **118** may communicate with the host system **110** using any of a wide variety of communications systems, such as by a phone network, a wide-area network such as the Internet, a local-area network, a wireless network, and the like.

[**0026**] In addition to these structural elements of the system, **FIG. 1A** illustrates how the system may be used in fundraising applications by additionally showing the fundraising organization **102** and individual participant fundraisers **106**. The interaction of fundraising organization **102** and the individual fundraisers with the host system **110**, merchants **122**, and customers **126** is indicated through the use of dotted lines in the diagram.

[**0027**] **FIGS. 1C and 2A** depict the implementation of a typical fundraising transaction that uses the arrangement shown in **FIG. 1A**. **FIG. 1C** schematically shows the flow of interactions between different components of the structure while **FIG. 2A** provides a flow diagram that details a specific implementation in an embodiment. The steps shown in **FIG. 2A** are divided into two columns. The left column shows an example of how customers may acquire discount instruments as part of a fundraising program and the right column shows an example of how a customer with an authenticated discount instrument may use it to obtain discounts. The steps shown in the right column may thus be used to obtain discounts even if the discount instrument is acquired by the customer in a manner other than as part of a fundraising program. The solid-line arrows in **FIG. 1C** correspond to the blocks in the flow diagram of **FIG. 2A**. The following description of an exemplary transaction thus makes reference to both **FIGS. 1C and 2A** simultaneously.

[**0028**] As indicated at block **204**, the initiation of a fundraising program according to an embodiment of the invention begins with establishing an arrangement between the fundraising organization **102** and the coordination entity **112** and/or one or more merchants **122**. Such an arrangement is an example of a discount arrangement that specifies the conditions under which the discount program may operate: which merchants are to participate, what discount benefits those merchants are to provide, what time limits may apply, etc. In some instances, the coordination entity **112** may have one or more preconfigured arrangements from which the fundraising organization **102** selects. After determining what discount arrangement is to be used, further participation by the fundraising organization **102** may be as simple as selling discount instruments to customers for a price in accordance with the discount arrangement. A portion of the price for each discount instrument is retained by the fundraising organization **102** and the remainder is retained by the coordination entity **112**.

[**0029**] Thus, at block **208**, the coordination entity **112** provides a plurality of discount instruments to the fundraising organization **102** for it to sell. In some embodiments, the discount instruments may comprise cards with magnetic strips, although the use of other forms for the discount instruments is also within the scope of the invention. In some embodiments the discount instruments are inactive when they are provided at block **208**, thereby preventing their fraudulent use should any of them be lost or stolen, although in other embodiments they may be active. In one embodiment, the discount instruments are ensured to be inactivate by assigning a unique identifier to each discount instrument and designating it as inactive in the database **114**.

In some embodiments, the unique identifier may correspond to an account number. The primary activity of the fundraising organization **102** is carried out at block **216** as individual fundraisers **106** sell the discount instruments to customers **126**. Such sales may be made in any suitable fashion, including through door-to-door solicitation, mail-order sales, sales at shopping malls, etc.

[**0030**] After the discount instruments have been sold to customers **126**, the individual fundraisers **106** notify the fundraising organization **102** at block **220** of which discount instruments have been sold and require activation, if applicable. This information may be accumulated from multiple individual fundraisers **106** so that the fundraising organization conveys a summary of the information to the coordination entity **112** at block **224**. This may be done in a variety of different ways. In one embodiment, the host system **110** includes an interface for connection with the Internet, which is then used by the fundraising organization to identify which of the discount instruments should be activated. In other embodiments, a telephone interface may alternatively use dual-tone multiple-frequency ("DTMF") tones to convey the information. In still other embodiments, the information may be conveyed to a representative of the coordination entity **112** who enters it into the host system **110**. Regardless of how the information identifying which cards have been sold is provided to the host system **110**, the host system **110** activates the respective discount instruments at block **228**. Such activation may be achieved by removing the "inactive" designation for each of the discount instruments in the database **114**, for example.

[**0031**] After each of the steps shown in the left column of **FIG. 2**A, each customer **126** who has purchased one of the discount instruments may now use it in conjunction with transactions as set forth in the discount arrangement. In one embodiment, for example, the discount arrangement may provide that customers receive a discount on all items purchased from a particular merchant **122**. Thus, at block **232** the customer **126** makes a purchase of goods and/or services at one of the participating merchants **122**. As part of the transaction, the customer **126** provides the discount instrument so that it may be swiped at the point-of-sale device **118** at block **236**. The point-of-sale device **118** reads identification information from the discount instrument, such as by reading an identifier from a magnetic strip. This identification information is conveyed to the host system **110** at block **240** so that the host system **110** may verify the validity of the discount instrument and retrieve activation information at block **244**. A validation is returned to the point-of-sale device at block **248** so that the appropriate discount may be applied.

[**0032**] Actual application of the discount may be performed differently in different embodiments, depending on the configuration of the host system **110**. For example, in one embodiment, the identification provided by the point-of-sale device **118** to the host system **110** at block **240** may be in the form of an authorization, a specific form of which is a balance-inquiry function, with the validation returned at block **248** indicating only that the discount instrument has been activated. In such an instance, the merchant may collect specific discounting information from the discount instrument itself to apply the discount. The information may be printed on the discount instrument so that the merchant keys the discount into the point-of-sale device **118**. Alternatively, the information may be encoded on the discount instrument, such as in the form of a bar code, that may be read with the point-of-sale device **118**.

[**0033**] In other embodiments, details of the discount arrangement may be stored in the database **114** connected with the host system **110**. In such instances, the validation information returned to the point-of-sale device **118** at block **248** may include not only an indication that the discount instrument has been activated, but also the applicable discount for that instrument. In such an embodiment, the point-of-sale device **118** may then apply the discount automatically without further action on the part of the merchant. For example, if the discount arrangement indicates that the merchant is to offer a 5% discount on all merchandise, the point-of-sale device **118** may apply that discount automatically. If, instead, the discount arrangement indicates that a certain product should be provided free of charge, the point-of-sale device **118** may reduce the total cost of the transaction by the cost of that product.

[**0034**] In instances where such detailed information regarding the discount arrangement is stored at the database **114**, it may be appropriate for the information to be updated in response to the transaction. Thus, in such instances, the host system **110** updates the database **114** in accordance with the use of the discount instrument at block **252**. For example, if the fundraising arrangement provides for a 5% discount at a particular merchant only three times, the database **114** is updated to record that an additional one of those times has been used; if the customer **126** attempts to use the discount instrument a fourth time, the host system **110** will not instruct the point-of-sale device **118** to apply the discount. Similarly, if the fundraising arrangement provides for a free product only once, the database **114** is updated to record that that portion of the fundraising arrangement has been satisfied and that the product should not be provided free in the future. The updating may also record information about the use of the discount instrument. Such information may be used in evaluating the popularity of different components of fundraising arrangements to improve offerings in the future. Such evaluations may themselves be performed with broad or narrow demographic limitations, providing the coordination entity **112** and/or the merchants **122** with useful marketing information.

[**0035**] There are other techniques that may alternatively be used for activating discount instruments in other embodiments. For example, the activation could be performed the first time the customer uses the discount instrument rather than activating it in advance. It is also possible for the discount instrument to be activated before it is ever sold to a customer. In some instances, the activation is performed as a batch activation of a plurality of cards at one time.

[**0036**] In some embodiments, methods of invention provide for identifying and responding to merchants that do not participate in the program of discount arrangements. For example, a customer who has purchased one of the discount instruments may present it at a variety of merchants with the hope that they participate, even though some of them may not. **FIG. 2B** thus uses a flow diagram to provide an illustration of how methods for accommodating nonparticipating merchants may be integrated with the method illustrated in **FIG. 2A** in some embodiments. After the host system **110** has retrieved activation information for the

discount instrument at block **244** of **FIG. 2A, a** check may be performed at block **256** whether the merchant identified with the point-of-sale device **118** is a participating merchant. If so, the method continues as previously described at block **248** of **FIG. 2A**.

[**0037**] If, however, the merchant is identified as a non-participating merchant, records may be maintained for the number of times customers attempt to use the discount instruments with that merchant, when they attempt to use them (by day of week, time of day, or other criteria), the types and dollar-amounts of transactions, their locations, etc. Accordingly, a check is made at block **260** whether any record has already been established for the identified non-participating merchant. If not, such a record is established at block **262** for use when the same merchant is subsequently identified. At block **264**, relevant transaction information is added to the record for that merchant. It is generally desirable to record as much information as possible from the transaction information to leave open as much versatility as possible for use of the information. In some instances, however, it may be appropriate to record only portions of the information where its uses are well known in advance, such as through past experience in use of the information. At block **268**, the host system **110** returns nonvalidation information back to the point-of-sale device **118** so that the customer may be informed that the merchant does not participate at block **272**.

[**0038**] Notification of the merchant's nonparticipation may well cause the customer to develop a negative impression of the merchant, at least to the extent that the customer may be inclined to patronize merchants from whom a discount may be obtained with the discount instrument. Over time, the collection of information by the host system **110** may thus be used to identify possible merchant candidates for marketing efforts. These marketing efforts may use the collected information to demonstrate to the merchant statistical information on numbers of customers who would like to use the instruments, the size of transactions implicated, temporal and geographic distributions of such attempts, and the like. As indicated at block **276**, in some instances the host system **110** itself may be configured to identify specific criteria that have been satisfied to prompt initiation of such marketing efforts. Such criteria may include threshold numbers of customers presenting the instruments at the nonparticipating merchant, threshold transaction values, separate threshold values in localized geographic locations or localized time periods, and other correlations. In this way, embodiments of the invention contemplate mechanisms for increasing the value of the program of discount arrangements by increasing the pool of participating merchants.

[**0039**] In other embodiments, the host system **110** may make similar use of information collected from transactions that involve participating merchants. One such embodiment is illustrated in **FIG. 2**C, in which the host system **110** systematically adds transaction information to a database at block **284**. While the value of stored transaction information is generally greater when it is more complete, in some instances it may be collected selectively. For example, in some embodiments, all transaction information that is received by the host system **110**, whether from a participating or nonparticipating merchant, is collected. In other embodiments, only transaction information received from a participating merchant is collected. In still other embodiments, only transaction information meeting certain specified criteria, based on such factors as transaction size, time, location, and the like, is collected.

[**0040**] The collected information is periodically analyzed according to specified criteria, as indicated at block **288**. Such analysis is intended to digest the large volume of accumulated information using recognized statistical techniques to permit actual behaviors and trends to be identified. A summary of such information may be presented in the form of a summary report for distribution to relevant parties. For example, a summary report limited to information about a particular merchant may be distributed to that merchant. This allows the merchant to evaluate the effectiveness of its participation in the program and perhaps to modify the types of discount arrangements it wishes to offer. To facilitate such evaluations, the analysis performed at block **288** and the summary report generated at block **292** may be performed according to criteria specified in advance by the merchant. A summary report may also be distributed to the coordination entity **112** to allow it to evaluate the effectiveness of the program as a whole. Such an evaluation may suggest changes to improve the program in terms of the types of discounts offered, the types of merchants included, and the like.

[**0041**] **FIG. 3** provides a schematic illustration of a structure that may be used to implement the host system **110**. Other structures that may be used are, for example, structures provided by IPS Card Solutions d/b/a ValueLink. **FIG. 3** broadly illustrates how individual system elements may be implemented in a separated or more integrated manner. The host system is shown comprised of hardware elements that are electrically coupled via bus **326**, including a processor **302**, an input device **304**, an output device **306**, the database **114**, a computer-readable storage media reader **310***a*, a communications system **314**, a processing acceleration unit **316** such as a DSP or special-purpose processor, and a memory **318**. The computer-readable storage media reader **310***a* is further connected to a computer-readable storage medium **310***b*, the combination comprehensively representing remote, local, fixed, and/or removable storage devices plus storage media for temporarily and/or more permanently containing computer-readable information. The communications system **314** may comprise a wired, wireless, modem, and/or other type of interfacing connection and permits data to be exchanged with the Internet, DTMF processor, cable processor, and/or point-of-sale devices **118** as described in connection with FIGS. **1A-2**C.

[**0042**] The host system **110** also comprises software elements, shown as being currently located within working memory **320**, including an operating system **324** and other code **322**, such as a program designed to implement methods of the invention. It will be apparent to those skilled in the art that substantial variations may be made in accordance with specific requirements. For example, customized hardware might also be used and/or particular elements might be implemented in hardware, software (including portable software, such as applets), or both. Further, connection to other computing devices such as network input/output devices may be employed.

[**0043**] In another set of embodiments, the use of a host system may be avoided. For example, the discount instru-

ment may comprise a chip card (sometimes referred to as a "smart" card) that includes a chip on which information may be stored and retrieved. In such an embodiment, the chip acts as a surrogate for the host system, retaining information regarding the activation of the discount instrument and possibly also specific information regarding the applicable discount arrangement. This information may or may not be subject to updating depending on the nature of the discount arrangement. The chip card may be used in much the same way as described above, with the information being extracted and/or modified with a chip-card reader/writer comprised by the point-of-sale device **118**. The operation of the point-of-sale device **118** is similar to that described previously except that it functions in response to information extracted only from the discount instrument rather than also in response to information received from the host system.

[**0044**] Exemplary Discount Arrangements

[**0045**] The systems and methods described above permit the implementation of a number of different types of discount arrangements. The following two examples of a "discount card" arrangement and a "coupon card" arrangement are intended merely as illustrations. Other arrangements will be evident to those of skill in the art after reading this description.

[**0046**] In one embodiment, the discount arrangement provides discount cards, which may, for example, be sold by a fundraising organization **102**. The cost of the discount cards charged to customers is $10, of which $5 is retained by the fundraising organization **102** and $5 is retained by the coordination entity **112**. The discount cards provide for a 5% discount on merchandise purchased at Merchant A and a 10% discount on merchandise at Merchant B. These merchants have previously agreed to participate in the arrangement with the coordination entity **112** because of the enhanced visibility that their participation provides. In this example, the discount cards are limited in time by a year (or other set time period) to encourage annual repurchases by customers during subsequent fundraising drives. After customers purchase the discount cards from individual fundraisers and the cards are validated, they may use them as described above to receive discounts at Merchants A and B. In an embodiment where only an authorization is performed by the merchant to ensure that the discount card has been activated, the specific discount information may be encoded in two bar codes that are included on the card in addition to the magnetic stripe—one of the bar codes encodes the discount for Merchant A and the other bar code encodes the discount for Merchant B. Alternatively, the actual discounts may be printed on the card for each merchant. In an embodiment where the host system maintains information regarding the discount arrangement, it may return the appropriate discount rate to the point-of-sale device as part of the verification function.

[**0047**] In another embodiment, a discount arrangement provides coupon cards, which may be sold by a fundraising organization **102**. The cost of the coupon cards charged to customers is $10, of which $5 is retained by the fundraising organization **102** and $5 is retained by the coordination entity **112**. The coupon cards provide for a wide range of one-time discounts off specifically identified products purchased at any merchant. The cards may be advertised to the customers as having, say, a total value of $125 worth of coupons. After customers purchase the coupon cards from individual fundraisers and the cards are validated, they may use them as described above to redeem each of the one-time discounts at any merchant that has a point-of-sale device capable of communication with the host system **110**. In one embodiment, the limitation that the cards be used for one-time discounts is enforced by having the host system **110** manage the discount arrangement and update records on the database **114** each time the card is used.

[**0048**] For each of these embodiments, the usage of the cards may be collected as authorizations are provided by the host system **110** for their use. This usage information may include a record of the use of each card at each merchant, with an indication of the date, time, and specific store at which it was used. Software maintained by the host system may perform analytical functions to summarize the information to provide it to the merchants or may provide raw data to merchants for them to perform their own analytical functions. In this way, merchants participating in the program may receive information valuable in the analysis of their business practices.

[**0049**] Thus, having described several embodiments, it will be recognized by those of skill in the art that various modifications, alternative constructions, and equivalents may be used without departing from the spirit of the invention. Accordingly, the above description should not be taken as limiting the scope of the invention, which is defined in the following claims.

What is claimed is:

1. A method for implementing a program of discount arrangements, the method comprising:

maintaining discount-arrangement information relating to a plurality of discount arrangements, wherein each such discount arrangement is associated with one of a plurality of merchants;

receiving transaction information related to a transaction at a point of sale, the transaction information identifying a merchant party to the transaction;

receiving an identifier for a discount instrument presented at the point of sale during the transaction;

making a determination whether the merchant party is one of the plurality of merchants; and

returning validation information to the point of sale in accordance with the determination.

2. The method recited in claim 1 wherein the validation information comprises an indication that the merchant party is not one of the plurality of merchants.

3. The method recited in claim 1 wherein:

the merchant party is not one of the plurality of merchants; and

the validation information comprises an indication that no discount is to be provided to the transaction.

4. The method recited in claim 1 wherein:

the merchant party is one of the plurality of merchants; and

the validation information comprises an instruction to apply a discount in accordance with the discount-arrangement information associated with the merchant party.

5. The method recited in claim 1 wherein the merchant party is not one of the plurality of merchants, the method further comprising generating a record for recording transaction information related to the merchant party.

6. The method recited in claim 1 wherein the merchant party is not one of the plurality of merchants, the method further comprising recording at least a portion of the transaction information in a record associated with the merchant party.

7. The method recited in claim 6 further comprising identifying criteria from the record associated with the merchant party for initiation of marketing efforts with the merchant party.

8. The method recited in claim 1 further comprising recording at least a portion of the transaction information in a database.

9. The method recited in claim 8 further comprising:

analyzing information in the database according to specified criteria; and

generating a summary report from the analyzed information.

10. The method recited in claim 9 further comprising distributing the summary report to the merchant party.

11. The method recited in claim 9 wherein the criteria are specified by the merchant party.

12. A computer system comprising:

a storage device;

a communications device;

a processor in communication with the storage device and the communications device; and

a memory coupled with the processor, the memory comprising a computer-readable storage medium having a computer-readable program embodied therein for operating the computer system to manage a discount arrangement, the computer readable program including:

instructions for maintaining on the storage device discount-arrangement information relating to a plurality of discount arrangements, wherein each such discount arrangement is associated with one of a plurality of merchants;

instructions for receiving with the communications device transaction information related to a transaction at a point of sale, the transaction information identifying a merchant party to the transaction;

instructions for receiving with the communications device an identifier for a discount instrument presented at the point of sale during the transaction;

instructions for making a determination with the processor whether the merchant party is one of the plurality of merchants; and

instructions for returning validation information to the point of sale with the communications device in accordance with the determination.

13. The computer system recited in claim 12 wherein the validation information comprises an indication that the merchant party is not one of the plurality of merchants.

14. The computer system recited in claim 12 wherein:

the merchant party is not one of the plurality of merchants; and

the validation information comprises an indication that no discount is to be provided to the transaction.

15. The computer system recited in claim 12 wherein:

the merchant party is one of the plurality of merchants; and

the validation information comprises an instruction to apply a discount in accordance with the discount-arrangement information associated with the merchant party.

16. The computer system recited in claim 12 wherein the merchant party is not one of the plurality of merchants, the computer-readable program further including instructions for generating a record for recording on the storage device transaction information related to the merchant party.

17. The computer system recited in claim 12 wherein the merchant party is not one of the plurality of merchants, the computer-readable program further including instructions for recording on the storage device at least a portion of the transaction information in a record associated with the merchant party.

18. The computer system recited in claim 17 wherein the computer-readable program further includes instructions for identifying criteria from the record associated with the merchant party for initiation of marketing efforts with the merchant party.

19. The computer system recited in claim 12 wherein the computer-readable program further includes instructions for recording at least a portion of the transaction information in a database.

20. The computer system recited in claim 19 wherein the computer-readable program further includes:

instructions for analyzing with the processor information in the database according to specified criteria; and

instructions for generating with the processor a summary report from the analyzed information.

21. The computer system recited in claim 20 wherein the criteria are specified by the merchant party.

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