Techniques for processing loyalty-based promotions using conventional, retail POS systems with minimal or no required changes to the POS system are described. An identifier is read by a POS system that is conventionally used to read financial cards. The identifier is determined to be a limited identification ("limited ID") associated with a loyalty program. The limited ID is then stored in a transaction log ("tlog") at the POS. The limited ID is not communicated to that part of a financial processing network involved in balance access or manipulation, and may in some embodiments not involve the financial processing network at all. The tlog can be analyzed for loyalty program transactions.

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(54) USE OF LIMITED IDENTIFICATION INFORMATION ON POINT-OF-SALE SYSTEMS

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(57) ABSTRACT

START

POS SYSTEM 104 RECEIVES CARD INFORMATION (e.g. SCANS OR READS CARD)

CONSUMER ENTERS PIN

YES

LIMITED ID?

320

POS SYSTEM 104 RECORDS LIMITED ID TO TLOG 208

324

END

FINANCIAL INFORMATION COMMUNICATED TO FC 110 FOR CONVENTIONAL FINANCIAL TRANSACTION PROCESSING

316

NO

312

END

304

308

316

324
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CENTRAL STORE COMPUTER(S)  
COMMUNICATION NETWORK  
POS SYSTEM  
POS SYSTEM  
DAS  
FINANCIAL PROCESSING FUNCTION  
FIG. 1
FIG. 2
Fig. 3
USE OF LIMITED IDENTIFICATION INFORMATION ON POINT-OF-SALE SYSTEMS

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] The present application claims priority from the following provisional applications, the entire contents of which are herein incorporated by reference for all purposes.

[0002] (1) U.S. Provisional Application No. 60/447,574 filed Feb. 14, 2003 (Attorney Docket No. 18477-000800US);

[0003] (2) U.S. Provisional Application No. 60/511,256 filed Oct. 14, 2003 (Attorney Docket No. 18477-000900US);

[0004] (3) U.S. Provisional Application No. 60/513,383 filed Oct. 21, 2003 (Attorney Docket No. 18477-001000US); and


[0006] The present application also incorporates by reference for all purposes the entire contents of U.S. application Ser. No.____/______,______ (Attorney Docket No. 18477-000810US) filed concurrently with the present application.

BACKGROUND OF THE INVENTION

[0007] The present invention relates generally to discounting and promotion of goods and services to consumers and, more particularly, to techniques for point-of-sale (“POS”) systems to process loyalty cards.

[0008] POS systems that are used to process and record purchase transactions consummated at retail stores generally include a checkout terminal (e.g., cash register), automated check reader, automated teller machine (ATM) reader, Universal Product Code (UPC) scanner, and communication network. In particular, with the increasing usage of financial cards nowadays, POS systems commonly include an ATM reader. ATM readers provide an efficient and reliable means for POS systems to receive financial information by reading the magnetic stripes found on modern financial cards, such as credit cards, ATM cards, debit cards, gift cards, and smart cards. Similarly, UPC scanners also increase the efficiency and reliability of POS transactions. UPC scanners reduce manual entry of prices at the POS, which can be time-consuming and introduce pricing errors. The UPC scanner reads UPC codes marked on most retail goods, which allows the POS system to retrieve current pricing information from a database.

[0009] In addition, retailer are becoming more reliant on loyalty programs to improve consumer loyalty and to lure consumers away from competitors. In a typical loyalty program, loyalty cards are issued to consumers. Loyalty cards reward consumers for frequenting and making purchases at stores covered by loyalty cards. However, many retailers are hesitant to adopt a loyalty program due to the cost associated with modifications to their POS systems. Accordingly, there is a need to facilitate loyalty card transactions on conventional POS systems.

BRIEF SUMMARY OF THE INVENTION

[0010] Embodiments of the present invention provide techniques for processing loyalty-based promotions using conventional, retail POS systems with minimal or no required changes to the POS system are described. An identifier is read by a POS system that is conventionally used to read financial cards. The identifier is determined to be a limited identification (“limited ID”) associated with a loyalty program. The limited ID is then stored in a transaction log (“log”) at the POS. The limited ID is not communicated to that part of a financial processing network (e.g., credit card processing network, ATM network, etc.) involved in balance access or manipulation, and may in some embodiments not involve the financial processing network at all. The log can be analyzed for loyalty program transactions.

[0011] According to an embodiment of the present invention, techniques are provided for recording a limited identification into a transaction log generated by a point-of-sale system. An identifier is received at a checkout system, the checkout system being configured to facilitate performance of financial transactions. The identifier is identified as a limited identification and/or financial transaction is to be performed responsive to the limited identification. The limited identification is recorded into the transaction log by the point-of-sale system.

[0012] According to another embodiment of the present invention, techniques are provided for recording a limited identification into a transaction log generated by a point-of-sale system. Limited identification is received at the point-of-sale system and communicated from the point-of-sale system to a system configured to facilitate performance of financial transactions. Then, a specific response that does not require a financial processing function to have been performed is communicated back to the point-of-sale system, and the limited identification is inserted into the transaction log.

[0013] The foregoing, together with other features, embodiments, and advantages of the present invention, will become more apparent when referring to the following specification, claims, and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 is a block diagram of a representative retail computer network configured to facilitate transactions at a POS in accordance with the present invention.

[0015] FIG. 2 is a simplified block diagram of a POS system 104 capable of implementing an embodiment of the present invention.

[0016] FIG. 3 is a simplified high level flow diagram illustrating a technique for processing a limit identification at a POS system 104 according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0017] In the following description, for the purposes of explanation, specific details are set forth in order to provide a thorough understanding of the invention. However, it will be apparent that the invention may be practiced without these specific details.

[0018] The use of loyalty cards is quite common in the retail industry. The loyalty cards reward consumers for frequenting and making purchases at stores covered by the
loyalty cards. When a loyalty card is used, advertised promotions are given to the consumer in the form of discounts or points that can be redeemed directly at the POS as a credit against a purchase.

[0019] A method and system for managing promotions tied to a unique identifier associated with the loyalty card that, in one embodiment, requires only limit direct identification of the consumer is described in U.S. Pat. No. 6,330,543 B1. Each consumer is assigned and identified by a unique identifier or a limited ID. In this manner, no direct consumer identification information such as consumer’s name, address, etc. is stored or used and anonymity of the consumer is preserved.

[0020] The limited ID acts as limited identification information as it does not convey any private or personal consumer information in and of itself. The retailer might collect and associate personal information such as name and address with the limited ID but this association is not required for implementing a promotional system. Accordingly, a retailer may manufacture several loyalty cards with pre-assigned limited IDs. These cards may be made available at the retail store locations or at other locations. A consumer can randomly select a card and start using it without providing any personal information such as name, telephone, number, etc. The cards may come in different shapes and forms. For example, each card may have a limited ID printed on it. The limited ID may also be printed on a label that is then affixed to a card. In other embodiments, the limited ID may be in the form of a barcode that is either printed on or affixed to the card. In other embodiments, the card may comprise a magnetic stripe that stores the limited ID information. Various other forms of cards with limited IDs are possible.

[0021] A consumer may provide the card with the pre-assigned limited ID at the time of a purchase (e.g., loyalty card can be swiped at a checkout ATM reader or scanned by a UPC scanner) and receive promotions and discounts associated and included for the limited ID. Promotions or discounts given to the consumer, as identified by the limited ID, can be redeemed directly at the POS as a credit against a purchase. In other embodiments, an account is maintained for each limited ID. Instead of instantly receiving discounts or promotions at the POS, the value (e.g., cash, points, etc.) associated with the promotions or discounts for the limited ID may be deposited into the account associated with the limited ID. According to an embodiment of the present invention, the consumer can choose whether to receive an instant redemption at the POS or to deposit the value (e.g., cash, points, etc.) associated with the discount or promotion into the account associated with the limited ID. Alternatively, the method of redemption may simply be defined by the promotional program and the consumer has no choice as to where the value is deposited.

[0022] The accounts associated with limited IDs may be maintained at the POS locations. Depending on the size of the retail operation and the number of stores involved, the accounts may be maintained at a centralized location such as a central or main store computer. In some embodiments, the accounts associated with the limited IDs may instead be maintained by a third party service provider such as a discounts and promotions administering service.

[0023] Limited IDs, according to embodiments of the present invention, provide several advantages to retailers intending to support a loyalty program. For example, a limited ID will operate with conventional POS systems. Furthermore, in an embodiment of the present invention, conventional POS systems supporting limited IDs can be prevented from querying a financial processing network or, alternatively, invoking a financial processing function of a financial processing network, thus avoiding associated financial network fees.

[0024] In some embodiments, a limited ID may take the form of an accumulate ID or a redemption ID. An accumulate ID may be used by consumers to accumulate value (e.g., cash, points, etc.) in an account associated with the accumulate ID. A redemption ID may enable the value accumulated in the account, or a portion thereof, to be redeemed. Details of accumulate IDs and redemption IDs are described in U.S. application Ser. No. ___/____, (Attorney Docket No. 18477-00810US) filed concurrently with this application.

[0025] In yet another embodiment of the present invention, the limited ID may be embodied on a loyalty card that can be used at different POS systems or, in other words, at multiple retailers. Such a loyalty card can be used at many different retailers since minimal, if any, POS system modifications are required. The loyalty card can be used by retailers using physical ATM readers or UPC scanners, and also virtual or Internet based retailers. In addition, some POS systems may be modified to provide support for the use of a plurality of PINs for a loyalty card (such as, 2, 3, 4, or more PINs).

[0026] POS systems are generally configured to communicate information read from ATM readers to computers of financial institutions for further processing. However, when an ATM reader of a POS system reads a limited ID, there is no need to communicate the limited ID information to a financial institution. Accordingly, embodiments of the present invention use various techniques to prevent the limited ID information read by an ATM card reader from being communicated to computers of financial institutions or, alternatively, from being processed by a financial processing system (i.e., a function accessing or manipulating a consumer’s balance information) of the computers of financial institutions. Embodiments of the invention preclude, or “short circuit,” limited ID processing by the financial processing function by intercepting the query destined for the financial processing function at the POS system, retailer’s back-end system, or at the financial institution server, or at any other point before the financial processing function is invoked. In one embodiment, a null transaction (such as “limit exceeded”, “debit of $9”, “credit of $9”, “debit of $0.01 and credit of $0.01”, “invalid card”, or other transaction not affecting the actual tender) is returned responsive to receiving the limited ID information. By using these techniques, support for loyalty cards with limited IDs can be provided by conventional POS systems with minimal or no changes. The retailer, using these techniques, also eliminates or reduces transaction processing fees and overhead by not needing to query the computers of the financial institution.

[0027] However, ATM readers of conventional POS systems are sometimes configured to require a personal identification number (PIN). Therefore, to avoid any modification to the existing infrastructure at the retailer, in some
embodiments of the invention, a password or PIN may be associated with the limited ID and the consumer may be required to provide the password or PIN along with the limited ID. There are various ways in which a password or PIN may be associated with a limited ID. In one embodiment, the consumer may associate a password or PIN with the limited ID at the POS when the consumer picks up a loyalty card. In another embodiment, the provider (e.g., the retailer) of loyalty cards may provide a website where the consumer can register a password to be associated with a particular limited ID.

[0028] Various techniques may be used to determine if the card information is a limited ID. For example, the POS system can compare the card information against a database of valid limited IDs. Alternatively, a portion of the limited ID (e.g., one, two, three, four, five, ten, or more digits of the limited ID) can be reserved to indicate a loyalty card. The POS system can compare the portion of card information corresponding to the reserved limited ID identifier.

[0029] In an alternative embodiment, a limited ID may be identified by actions performed by the checker at the POS system. For example, after the consumer has provided the limited ID to the checker (e.g., the consumer has swiped a loyalty card at a checkout ATM reader or has scanned the loyalty card at a checkout UPC scanner), the checker may make a special gesture at the checkout terminal to indicate whether the limited ID is to be used. The special gesture may be in the form of a special code entered by the checker, a special key pressed by the checker, a special key sequence, and the like. The special gestures made by the checker thus specifies the use of the limited ID. POS systems may be modified to enable the checker to identify limited ID usage. Information indicating use of the loyalty card can be recorded in the tlog maintained by the POS system. In an alternative embodiment, special gestures made by the checker may also specify the context of use of the limited ID, accumulation or redemption. Information indicating whether the limited ID is used for accumulation or for redemption may be recorded in the tlog maintained by the POS system.

[0030] In retail processing systems with a back-end system, the POS system’s checkout system, which may include any combination of a checkout terminal, ATM reader, and/or UPC scanner (for example, checkout system 228), can communicate card information to the back-end system. The back-end system can then implement the above techniques to determine if the card information is a limited ID. The checkout system need not be aware that a limited ID is being used. A back-end system receives financial information from a checkout system and then, among other things, communicates financial information to a financial processing network for processing (for example, a central store computer or a POS controller). Accordingly, in embodiments of the present invention, the POS system or central store computer, as well as the POS controller, discount/promotion administration system or computer of a financial institution, may be configured to facilitate performance of financial transactions.

[0031] Another feature of a conventional POS systems is a tlog, or transaction log. Conventional POS systems maintain a record of consumer transactions that occur at the POS. The transaction information is stored in a tlog. The tlog may store information for each transaction that occurred at the POS system. For example, for each transaction, the information stored in the tlog may include information identifying the one or more items that were purchased (e.g., UPCs of the purchased items) by a consumer, the prices corresponding to the purchased items, the quantities of the purchased items, discount or promotions if applied to the purchase, and other information related to the transaction. If the consumer provides a limited ID (e.g., provides the card with the limited ID at time of checkout) at the time of the purchase, then the limited ID information is also recorded in the tlog and associated with the consumer’s purchase transactions. Various different formats may be used for storing the tlog information.

[0032] As one processing technique to have a limited ID recorded to the tlog, in response to the limited ID being presented at a POS, the POS system executes a null transaction (such as “limit exceeded”, “debit of $0”, “credit of $0”, “debit of $0.01 and credit of $0.01”, “invalid card”, or other transaction not affecting the actual tender). The limited ID will then be recorded in the tlog—no changes to the POS equipment are required, and since all tender information, even from multiple cards, is recorded, there is no conflict with any other card for being recorded in the tlog.

[0033] The tlog information may then be analyzed by back-end analytics (e.g., marketing systems) to determine promotions or discounts to be offered for any limited ID based upon purchase history associated with the limited ID. The promotions or discounts may be determined from the analysis may be redeemed at the POS or alternatively the value corresponding to the discounts may be deposited in the account associated with the limited ID. The deposited account is then available for redemption by the consumer. The tlog information may also be analyzed by back-end analytics to establish correspondence between an accumulated ID and a redemption ID.

[0034] FIG. 1 is a simplified block diagram of a distributed network 100 which may incorporate an embodiment of the present invention. As depicted in FIG. 1, multiple systems are coupled to a communication network 102. The systems include one or more POS systems 104, a central store system 106, one or more FIC systems 110, and a discount/promotion administration system (DAS) 108. Distributed network 100 depicted in FIG. 1 is merely illustrative of an embodiment incorporating the present invention and does not limit the scope of the invention as recited in the claims. One of ordinary skill in the art would recognize other variations, modifications, and alternatives.

[0035] Communication network 102 provides a mechanism allowing the various systems depicted in FIG. 1 to communicate and exchange data and information with each other. Communication network 102 may itself be comprised of many interconnected computer systems and communication links. Communication network 102 may be the Internet, an intranet, a local area network (LAN), a wide area network (WAN), a wireless network, a private network, a public network, a switched network, and the like.

[0036] As depicted in FIG. 1, distributed network 100 may comprise one or more POS systems 104. A POS system 104 may be implemented in one or more retail stores where a consumer can purchase items, including goods and services. In general, use of the term “item” is intended to refer
to any type of good or service that can be purchased. POS systems 104 are widely used in retail stores to process and record purchase transactions that are consummated at the retail store (or stores) where the retail POS system is deployed. Each POS system 104 may store inventory information, pricing information, discounts information, and the like. Each POS system 104 may maintain a log that records transactions that take place at the POS.

[0037] According to an embodiment of the present invention, POS systems 104 are configured to support and facilitate the operations of loyalty cards with a limited ID and store information that is needed for processing accounts associated with the limited IDs (such as, context of limited ID usage). In some embodiment, accounts associated with limited ID may be stored at POS systems 104. Information correlating one or more limited IDs may also be stored at POS systems 104.

[0038] Depending on the size of a retail operation, the POS systems 104 located at the individual stores may in turn be coupled to a master or central store computer 106. For example, POS systems 104 located at stores of a large grocery chain may be coupled to a central computer for the grocery chain. POS systems 104 are generally connected to central store computer 106 via a private retail network or an intranet. In some embodiments, central store computer 106 may be a computer that is managed and run by a third party and located outside of the store's own infrastructure.

[0039] Central store computer 106 may provide centralized processing services for the individual stores and provide a central repository for storing inventory information, pricing information, discounts/promotions information, limited IDs information, information related to accounts associated with the limited IDs, information correlating one or more limited IDs, and other types of information. In such an embodiment, central store computer 106 may feed inventory and pricing information to the POS systems 104 at the individual stores and act as a clearinghouse for a variety of distribution, inventory, and other information used in the individual store operations. The individual POS systems 104 may download the log information to central store computer 106.

[0040] DAS 108 is responsible for computing individual discounts and promotions offered to consumers identified by limited IDs. The promotions or discounts may be redeemed at POS systems 104. DAS 10 may employ a variety of inputs, strategies, and constraints to arrive at the discounts or values to be provided for individual consumers as identified by their limited IDs. Techniques relating to various implementations of DAS 108 with limited IDs are described in U.S. Application No. (Attorney Docket No. 18477-000810US) filed concurrently with this application.

[0041] Financial institution computer (FIC) systems 110 are configured to process financial transactions to consummate purchases made by consumers in the stores. For example, FIC systems 110 verify and process financial transactions involving credit cards, debit cards, smart cards, and other types of finance cards based upon financial information received from POS system 104 or from central computer 106. FIC systems 110 perform many functions, one of which is a financial processing function 112. The financial processing function 112 is responsible for accessing or manipulating a consumer's balance information in response to a financial transaction request. The financial transaction request may be received from various sources such as POS systems, a central store computer, a third party service provider, etc.

[0042] According to an embodiment of the present invention, the various systems depicted in FIG. 1 facilitate processing of loyalty cards with limited IDs. For example, a consumer may make a purchase at a store POS system 104 and provide a limited ID. A retailer's back-end system, a system that generally receives financial card information from the POS system 104 and then communicates financial information with FIC 110 (such as, a central store computer 106 or, alternatively, POS Controller 204), identifies that card information is a limited ID and ensures no financial transaction is process in response to the limited ID. The limited ID identifying the consumer and details related to the consumer's purchase are recorded in the log maintained by the POS system 104. The log is then analyzed by DAS 108 to determine the discount or promotion to be offered to the consumer.

[0043] FIG. 2 is a simplified block diagram of a POS system 104 capable of implementing an embodiment of the present invention. The complexity of POS system 104 may vary depending on the store and location where the POS system is deployed. Accordingly, the local storage and processing capacity of POS system 104 may vary in different embodiments. POS system 104 depicted in FIG. 2 is merely illustrative of an embodiment incorporating the present invention and does not limit the scope of the invention as recited in the claims. One of ordinary skill in the art would recognize other variations, modifications, and alternatives.

[0044] As shown in FIG. 2, POS system 104 comprises one or more checkout terminals 202, a POS controller 204, and a database 206. Database 206 provides a local repository for storing information that is generated or used by POS system 104. Information stored in database 206 may include log information 208, inventory information 210, and pricing information 212. In certain embodiments, the information stored in database 206 may include limited IDs 214, consumer accounts information 207, information 218 correlating at least two limited IDs, discounts/promotions information 220, and other information 222 used by POS system 104.

[0045] In embodiments where POS system 104 is coupled to a central store computer 106, a portion of the information (e.g., pricing information, inventory information, consumer accounts information) stored in database 206 may be received from central store computer 106. In such embodiments, POS system 104 may communicate information such as log information to the central store computer.

[0046] Checkout terminals 202 are essentially data processing systems that are configured to record purchase transactions that take place at the retail store. For example, a checkout terminals 202 may be configured to record each item sold, calculate the sales totals, print receipts, and so forth. Checkout terminals 202 may also record the transaction information in a log and store the information in database 206.

[0047] Checkout terminals 202 are configured to support loyalty program processing using various embodiments of limited IDs and loyalty cards. For example, checkout termi-
nals 202 may receive limited IDs and facilitate accumulation or redemption of value to accounts associated with the limited IDs.

A scanner 224 (e.g., a UPC scanner) and/or a card reader 226 (e.g., ATM reader) may be connected to each checkout terminal 202. Scanner 224 may be used to scan barcodes or UPC codes printed on products. Checkout terminal 202 may use the scanned UPC information to determine the identity of the purchased item, the price of the purchased item, and various other characteristics of the purchased item. This information may be used to calculate sales totals, print receipts, etc.

According to an embodiment of the present invention, scanners 224 are configured to read limited IDs. As previously described, the limited IDs may be embodied as barcodes that are printed (or affixed as labels) on one or more cards. A consumer may provide such a card to a checker at checkout time. The checker can use scanner 224 to scan a barcode corresponding to the limited ID. Checkout terminal 202 may cause the scanned limited ID to be recorded in the log.

Card readers 226 are configured to read information encoded in magnetic stripes on cards. For example, card readers 226 are configured to read financial information such as account information from financial cards (e.g., credit cards, debit cards, gift cards, smart cards, etc.) issued by financial institutions (e.g., banks, credit/debit card companies, etc.). The financial information is then used to consummate purchase transactions. The financial information may be communicated to a FIC system 110 in order to consummate the financial transaction.

According to an embodiment of the present invention, card readers 226 are configured to read limited IDs that may be encoded in magnetic stripes on one or more cards. A consumer may use a card reader 226 to swipe a card having a magnetic stripe encoding a limited ID. The limited ID read by card reader 226 is then forwarded to checkout terminal 202 for further processing. Checkout terminal 202 may cause the information to be recorded in the log.

As previously described, a password or personal identification number (PIN) may be associated with a limited ID. The PIN may be required for security purposes or to be compatible with a retailer’s POS system. For such a card, the consumer may enter the password or PIN using input devices (e.g., a keypad) of card reader 226. Card reader 226 may be configured to verify whether the password or PIN is correct and forward the read limited ID to checkout terminal 202 only upon successful verification.

As described above, card readers 226 are generally configured to communicate the read information to computers of financial institutions for further processing. However, when an ATM reader reads a limited ID, there is no need to communicate the limited ID information to financial institutions. Accordingly, embodiments of the present invention use various techniques (e.g., null transactions, special gestures by cashier, etc.) that prevent the limited ID information read by a card reader 226 from being communicated to computers of financial institutions or, alternatively, invoking a financial processing function of computers of financial institutions. By using these techniques, limited IDs can be provided by existing card readers 226 with minimal or no changes to the ATM readers.

POS controller 204 is generally a data processing computer system that is configured to perform processing to facilitate the operation of POS system 104. The functions performed by POS controller 204 may be performed by a single computer system or a plurality of computer systems. According to an embodiment of the present invention, POS controller 204 is configured to facilitate communication of information between POS system 104 and other systems such as other POS systems, DAS 108, financial institution computers 110, and others. POS controller 204 may communicate with the other systems via communication network 102.

FIG. 3 is a simplified high level flow diagram illustrating a method of using limited identification information with POS system 104 according to an embodiment of the present invention. As shown as step 304 of FIG. 3, a checkout system 228 initially receives card information, which may have been read or scanned from a scanner 224 or card reader 226. In step 308, the consumer may, in some implementations of the invention, enter a PIN associated with the presented card. In decision block 312, if card information is financial information and not a limited ID (e.g., the card is a credit card, ATM card, debit card, smart card, gift card, etc.), the retailer handles the transaction in a conventional manner as illustrated in step 316, or in other words, financial information is communicated to FIN 110 for a conventional payment transaction. On the other hand, if the card information is a limited ID, the POS system 104 in step 320 enters the limited ID into log 208.

Various techniques may be used to determine if the card information is limited ID. For example, the POS system 104 can compare the card information against a database of valid limited IDs. Alternatively, a portion of the limited ID (e.g., one, two, three, four, five, ten, or more digits of the limited ID) can be reserved to indicate a loyalty card. POS system 104 can compare the portion of card information corresponding to the reserved limited ID identifier. Then again, in retail processing systems with a back-end system (such as, central store computer(s) 106), POS system 104 communicates card information to the back-end system, and the back-end system can implement the techniques to determine if the card information is a limited ID.

In yet another embodiment, determination that card information is limited ID may be based upon other inputs, such as a special gesture by the checker at the checkout terminal to indicate that a loyalty card is to be used. The special gesture may be in the form of a special code entered by the checker, a special key pressed by the checker, a special key sequence, and the like. The special gestures made by the checker thus specify the use of the limited ID. POS systems may be modified to enable the checker to identify the use of the limited ID.

Various techniques may be used to write the limited ID to log 208. For example, POS system 104 may enter a null transaction for the limited ID. A null transaction may include “limit exceeded”, “debit of $0”, “credit of $0”, “debit of $0.01 and credit of $0.01”, “invalid card”, or other transaction not affecting the actual tender. In an embodiment of the invention, a plurality of limited IDs can be used and inserted in the log for the transaction by repeating the above steps.

As shown in step 324, DAS 108 may perform analysis of log 208 to compute individual discounts and
promotions offered to consumers identified by limited IDs. These promotions or discounts may be redeemed at POS systems 104. In step 324, as well as in step 320, a financial processing function is not invoked by FIC 110. However, in some embodiments, limited ID information may be communicated to FIC 110 by POS system 104 or central store computer 106. In other embodiments, FIC 110 may not be communicated with at all.

[0060] Although specific embodiments of the invention have been described, various modifications, alterations, alternative constructions, and equivalents are also encompassed within the scope of the invention. The described invention is not restricted to operation within certain specific data processing environments, but is free to operate within a plurality of data processing environments. Additionally, although the present invention has been described using a particular series of transactions and steps, it should be apparent to those skilled in the art that the scope of the present invention is not limited to the described series of transactions and steps.

[0061] Further, while the present invention has been described using a particular combination of hardware and software, it should be recognized that other combinations of hardware and software are also within the scope of the present invention. The present invention may be implemented only in hardware, or only in software, or using combinations thereof.

[0062] The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense. It will, however, be evident that additions, subtractions, deletions, and other modifications and changes may be made thereto without departing from the broader spirit and scope of the invention as set forth in the claims.

What is claimed is:

1. A method of recording a limited identification into a transaction log generated by a point-of-sale system, the method comprising:
   receiving an identifier at a checkout system, the checkout system being configured to facilitate performance of financial transactions;
   identifying that the identifier is the limited identification and no financial transaction is to be performed responsive to the limited identification; and
   recording the limited identification into the transaction log by the point-of-sale system.

2. The method of claim 1 wherein the limited identification is associated with a loyalty program account.

3. The method of claim 1 wherein the limited identification is encoded in a magnetic stripe located on a card.

4. The method of claim 1 wherein the limited identification is encoded in a bar code located on a card.

5. The method of claim 1 further comprising receiving a personal identification number (PIN) associated with the limited identification.

6. The method of claim 1 wherein the checkout system comprises at least one checkout terminal and at least one card reader.

7. The method of claim 1 wherein the checkout system comprises at least one checkout terminal and at least one UPC scanner.

8. The method of claim 1 wherein recording the limited identification into the transaction log is accomplished by a null transaction.

9. The method of claim 1 wherein the identifying comprises matching the limited identification against a list of valid limited identifications.

10. The method of claim 1 wherein the identifying step is performed by a back-end system.

11. The method of claim 1 wherein the identifying comprises matching at least one digit of the limited identification against a loyalty card identifier code.

12. The method of claim 1 further comprising:
   providing an apparatus comprising a button, wherein selection of the button indicates the identifier is a limited identification.

13. The method of claim 1 further comprising:
   providing an apparatus comprising a first button and a second button, wherein selection of the first button indicates accumulation of a loyalty program account associated with the limited identification and selection of the second button indicates redemption of a loyalty program account associated with the limited identification.

14. The method of claim 13 wherein selection of at least one of the first button or the second button indicates that no financial transaction is to be performed responsive to the limited identification.

15. A method of recording a limited identification into a transaction log generated by a point-of-sale system, the method comprising:
   receiving the limited identification at the point-of-sale system;
   communicating the limited identification from the point-of-sale system to a system configured to facilitate performance of financial transactions;
   identifying, prior to invoking a financial processing function, that no financial transaction is to be performed responsive to the limited identification received from the point-of-sale system;
   communicating a response to the point-of-sale system; and
   inserting the limited identification into the transaction log.

16. The method of claim 15 wherein the transaction log is performed by a POS controller.

17. The method of claim 15 wherein the identifier is performed by a central store computer.

18. The method of claim 1 wherein the identifier is performed by a central store computer.

19. The method of claim 15 wherein the identifier is associated with a loyalty program account.

20. The method of claim 15 further comprising receiving a personal identification number (PIN) associated with the limited identification.

21. The method of claim 15 wherein the response is a null transaction.

22. The method of claim 15 further comprising:
   providing an apparatus comprising a button, wherein selection of the button identifies that no financial transaction is to be performed responsive to the limited identification.
23. The method of claim 15 further comprising:
providing an apparatus comprising a first button and a second button, wherein selection of the first button indicates an accumulation operation for a loyalty program account associated with the limited identification and selection of the second button indicates a redemption operation for a loyalty program account associated with the limited identification.

24. The method of claim 23 wherein selection of at least one of the first button or the second button identifies that no financial transaction is to be performed responsive to the limited identification.

25. A computer program product stored on a computer-readable medium for recording a limited identification into a transaction log generated by a point-of-sale system, the computer program product comprising:

code for receiving an identifier at a checkout system, the checkout system being configured to facilitate performance of financial transactions;

code for identifying that the identifier is the limited identification and no financial transaction is to be performed responsive to the limited identifier; and

code for recording the limited identification into the transaction log by the point-of-sale system.

26. The computer program code of claim 25 wherein the limited identification is associated with a loyalty program account.

27. The computer program code of claim 25 further comprising:

code for receiving a personal identification number (PIN) associated with the limited identification.

28. The computer program code of claim 25 further comprising:

code for matching the limited identification against a list of valid limited identifications.

29. The computer program code of claim 25 further comprising:

code for matching at least one digit of the limited identification against a loyalty card identifier code.

30. The computer program code of claim 25 further comprising:

code for receiving a signal from an apparatus comprising a button, wherein selection of the button indicates the identifier is a limited identification.

31. The computer program code of claim 25 further comprising:

code for receiving a first signal and a second signal from an apparatus comprising a first button and a second button, wherein selection of the first button indicates accumulation of a loyalty program account associated with the limited identification and selection of the second button indicates redemption of a loyalty program account associated with the limited identification.

32. A computer program product stored on a computer-readable medium for recording a limited identification into a transaction log generated by a point-of-sale system, the computer program product comprising:

code for receiving the limited identification at the point-of-sale system;

code for communicating the limited identification from the point-of-sale system to a system configured to facilitate performance of financial transactions;

code for identifying, prior to invoking a financial processing function, that no financial transaction is to be performed responsive to the limited identification received from the point-of-sale system;

code for communicating a response to the point-of-sale system; and

code for inserting the limited identification into the transaction log.

33. The computer program code of claim 32 wherein the identifier is performed by the point-of-sale system.

34. The computer program code of claim 32 wherein the identifier is performed by a POS controller.

35. The computer program code of claim 32 wherein the identifier is performed by a central store computer.

36. The computer program code of claim 32 wherein the identifier is performed by a computer of a financial institution.

37. A system for recording a limited identification into a transaction log generated by a point-of-sale system, the system comprising:

a data processing system; and

an apparatus coupled to the data processing system;

wherein the apparatus is configured to receive an identifier;

wherein the data processing system is configured to:

identify that the identifier is the limited identification and no financial transaction is to be performed responsive to the limited identification; and

record the limited identification into the transaction log.

38. A system for recording a limited identification into a transaction log generated by a point-of-sale system, the system comprising:

a data processing system;

an apparatus coupled to the data processing system; and

a system configured to facilitate performance of financial transactions;

wherein the apparatus is configured to receive an identifier;

wherein the data processing system is configured to:

communicate the limited identification from the point-of-sale system to the system configured to facilitate performance of financial transactions; and

insert the limited identification into the transaction log;

wherein the system configured to facilitate performance of financial transactions is configured to:

identify, prior to invoking a financial processing function, that no financial transaction is to be performed responsive to the limited identification received from the point-of-sale system; and

communicating a response to the data processing system.

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