Systems and methods of facilitating the operation of a lottery system are disclosed. An example method may comprise determining winner display data for each of a plurality of lottery clients. For each of a plurality of lottery clients, it may be determined whether historical winner data from the lottery client meets a predetermined criteria. The historical winner data for each lottery client may comprise a description of at least one prize won from a chance associated with the lottery client. If the historical winner data from the lottery client meets the predetermined criteria, then the winner display data may be set equal to the historical winner data. If the historical winner data from the lottery client does not meet the predetermined criteria, then the winner display data may be set equal to geographic historical winner data describing at least one prize won from a chance associated with a geographic area comprising the lottery client. The winner display data for each lottery client may then be transmitted to the respective lottery client.
Fig. 1
Fig. 3
Fig. 4
Flowchart Diagram

Terminal Count Greater Than Terminal Threshold? 502
    YES → Set Winner Awareness Count To Terminal Count 504
    NO

Municipality Count Greater Than Municipality Threshold? 506
    YES → Set Winner Awareness Count To Municipality Count 508
    NO

County Count Greater Than County Threshold? 510
    YES → Set Winner Awareness Count To County Count 512
    NO

Set Winner Awareness Count To State Count 514

Fig. 5
Fig. 6

Terminal Sum Greater Than Terminal Threshold? 602

Yes → Set Winner Awareness Sum To Terminal Sum 604

No → Municipality Sum Greater Than Municipality Threshold? 606

Yes → Set Winner Awareness Sum To Municipality Sum 608

No → County Sum Greater Than County Threshold? 610

Yes → Set Winner Awareness Sum To County Sum 612

No → Set Winner Awareness Sum To State Sum 614
Fig. 7

Terminal
Highest Prize Greater
Than Terminal Threshold? 702

YES → Set Winner Awareness Highest Prize
To Terminal Highest Prize 704

NO → Municipality

Municipality
Highest Prize Greater Than
Municipality Threshold? 706

YES → Set Winner Awareness Highest Prize
To Municipality Highest Prize 708

NO → County

County
Highest Prize Greater Than
County Threshold? 710

YES → Set Winner Awareness Highest Prize
To County Highest Prize 712

NO → Set Winner Awareness Highest Prize
To State Highest Prize 714
A <<lottery game>> Prize Of <<highest prize amount>> was won on <<date>> right here in Springfield!
There have been <<count>> winners at this retail location in the past week!

Fig. 8B
In the past week, players in Chester County have won a total of $<\text{sum}>$ in $<\text{game type}>$ games!
Fig. 9
WINNER AWARENESS DATA DISTRIBUTION SYSTEMS AND METHODS

BACKGROUND

[0001] Future-draw lottery games involve purchasing a chance or wager, usually in the form of a ticket, to match a result in a drawing to be held after the chance is purchased. Lotto and keno are two examples of future-draw lottery games. In future-draw lottery games, customers can typically purchase tickets or other chances at a dedicated lottery terminal in a convenience store or similar establishment, where the tickets are printed to order. Each dedicated lottery terminal communicates with a central lottery server to exchange information and instructions associated with a given lottery transaction.

[0002] In an instant-win or instant lottery game, whether a ticket or chance will be a winner is determined before or at the time of purchase. Thus, a winning instant lottery ticket may typically be redeemed for a prize immediately. Common types of instant win lottery games include pre-printed tickets such as pull-tab tickets, peel-off tickets, or scratch-off tickets. Instant win lottery games may also be provided electronically. Pre-printed instant lottery games are provided in a wide range of types, sizes, colors, and themes. They are typically sold near a cash register or point of sale terminal in a convenience store or other similar establishment, or from unmanned terminals or vending machines in high traffic areas, for example train stations, other transportation hubs, bowling alleys, or other entertainment venues. Instant lottery games are typically printed with bright colors in a visually attractive design to attract consumer attention and encourage purchases.

[0003] While, in reality, the distribution of lottery winners across various stored or points of purchases is generally random, some lottery players may prefer to make their ticket purchases at “lucky” stores or “lucky” terminals. Other lottery players may prefer to play at “cold stores” or “cold machines”, believing that they are overdue for a win. While these preferences are not necessarily based on an accurate understanding of the mathematics of lottery games, they still may affect the purchasing preferences of many players.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] FIG. 1 illustrates an example lottery client/server system that may be used to generate and provide winner awareness data, according to an example embodiment of the present invention.

[0005] FIG. 2 illustrates an example lottery terminal, according to an example embodiment of the present invention.

[0006] FIG. 3 is a flow chart illustrating an example procedure providing winner awareness data to a lottery client, according to an example embodiment of the present invention.

[0007] FIG. 4 is a chart illustrating an example hierarchy of nested geographic areas, according to an example embodiment of the present invention.

[0008] FIG. 5 is a process flow illustrating an example procedure for finding a winner awareness client count, according to an example embodiment of the present invention.

[0009] FIG. 6 is a process flow illustrating an example procedure for finding a winner awareness client sum, according to an example embodiment of the present invention.

[0010] FIG. 7 is a process flow illustrating an example procedure for finding a winner awareness highest prize for a client, according to an example embodiment of the present invention.

[0011] FIGS. 8A, 8B and 8C are examples of winner awareness data displays, according to an example embodiment of the present invention.

[0012] FIG. 9 illustrates an example procedure for displaying winner awareness data where processing is performed by the client, according to an example embodiment of the present invention.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

[0013] Winner awareness data is information describing the historical results that have been achieved by a population of players in a lottery or other game of chance, (e.g., all players who have purchased chances in a lottery in a particular time period at a particular lottery terminal, retail location, or within a particular geographic area). Winner awareness data may include, for example, information about the quantity of prizes won, total value of prizes won, quantity of prizes won of at least a minimum size, total value of prizes won of at least a minimum size, a highest prize won, etc. The winner awareness data may also be associated with a particular historical time interval, for example, the last day, the last week, or the last month. Example winner awareness data displays may include a count of winning chances associated with a particular lottery terminal or geographic area, a sum of the winnings from lottery chances associated with the lottery terminal or geographic area and/or a highest prize from lottery chances associated with the lottery terminal. A winning chance may be considered associated with a lottery terminal or geographic area, for example, if the chance was either purchased from or redeemed at the lottery terminal or at another lottery terminal in the geographic area. Alternatively, the data may focus only on where chances were purchased, or only on where they were redeemed. According to various example embodiments, the winner awareness data may be divided and displayed by terminal, lottery game, lottery game category (e.g., instant lottery and/or future draw lottery), retail chain where a lottery terminal is located, whether winning chances were purchased or redeemed at the lottery terminal or geographic area, etc.

[0014] Some example embodiments of the present invention are directed to methods and systems for providing winner awareness data directly to lottery players at or near the place where lottery chances are sold. For example, the winner awareness data may be displayed at or near a lottery terminal, and may include information describing winning chances associated either with the lottery terminal, with lottery terminals in the same retail location, and/or with lottery terminals in the same geographic area. Displaying winner awareness data (e.g., winner display data) in this manner may encourage potential lottery players to purchase lottery chances from the lottery terminal.

[0015] According to various example embodiments, the winner awareness data displayed at a given lottery terminal may be selected based on predetermined thresholds. For example, if the winner awareness data from chances purchased at the lottery terminal fails to meet a predetermined
threshold (e.g., if the quantity of winners or the amount of winnings at the lottery terminal is too low), then the lottery terminal may instead display winner awareness data from a first geographic area including the lottery terminal. If the winner awareness data from the first geographic area fails to meet a predetermined threshold, then the lottery terminal may display winner awareness data from a second geographic area, which may include the lottery terminal and the first geographic area. In this way, the terminal may tend to display data that will encourage potential players to purchase lottery chances.

[0016] Various example embodiments are directed to systems and methods for facilitating the operation of a lottery system. For example, winner display data may be determined for each of a plurality of lottery terminals. Determining the winner display data may comprise determining whether historical winner data from the lottery terminal meets a predetermined criterion (e.g., a predetermined count of winners, a predetermined amount of winnings, etc.). The historical winner data for the lottery terminal may include information concerning prizes won from chances associated with the lottery terminal. If the historical winner data from the lottery terminal meets the predetermined criteria, then the winner display data for the lottery terminal may be determined based on the historical winner data for the lottery terminal. If the historical winner data from the lottery terminal fails to meet the predetermined criteria, then the winner display data may be determined based on historical winner data for a set of lottery terminals comprising the lottery terminal. In example embodiments where the winner display data is determined at a lottery host or other central location, the data may be transmitted to the respective lottery terminals, which may display the data to potential players. In example embodiments where the winner display data is determined by individual lottery terminals, the data may be directly displayed by the lottery terminals.

[0017] FIG. 1 illustrates an example lottery client/server system 100 that may be used to generate and provide winner awareness data, according to an example embodiment of the present invention. The example system 100 may include a lottery host 102 and various lottery clients that may be directly or indirectly in communication with the host 102 via a network 104. The various types of lottery clients may include, e.g., online dedicated lottery terminals 106, unattended kiosks or instant ticket vending machines (ITVMs) 108, lottery terminals 112 and 114 controlled or administered by a local server 110, POS terminals 116, such as conventional grocery store terminals with added lottery capability, portable wireless devices 118, such as mobile telephones or PDAs, and personal computers 120, e.g., computers in jurisdictions that allow legal Internet wagering, the computers having secure lottery Internet plug-ins installed. While most of the discussion in this application references dedicated lottery terminals, it will be appreciated that the disclosed systems and methods also include other alternative types of lottery clients, unless specifically limited otherwise. The network 104 may be, for example, the Internet, an intranet, a local area network (LAN), a wide area network (WAN), a virtual private network (VPN), or other network. The host 102 may perform centralized processing and administrative tasks regarding the lottery games played at various types of clients, e.g., dedicated lottery terminals. For example, the host 102 may collect, aggregate and distribute winner awareness data, as described herein. The host 102 may comprise one or more servers and/or processors that may be located in one geographic location, or distributed across multiple geographic locations. According to various example embodiments, the host 102 may comprise two functional components, a first to administer future draw lottery games and a second to administer instant lottery games. Also, in some example embodiments, the host 102 may include dedicated functional components for each individual game administered. Communications between the host 102 and the network 104 and other communications over the network 104 may be encrypted.

[0018] In some example embodiments, the host 102 may comprise various sub-systems for performing certain processing tasks and storing data. A central sales recording module 124 may receive and store information from the various lottery terminals 106, 108, etc., regarding chances sold at the respective terminals. This information may be received, for example, from the terminals. A winner log 126 may be used by the host 102 and/or a functional module thereof, to store the value of prizes associated with each of the chances sold at the various lottery terminals. The host 102 may determine whether any given chance is associated with a prize and determine the value of the prize. In other example embodiments, the individual terminals may report prizes to the host 102 as winning chances are redeemed at the terminal. A winner display data analysis module 128 may analyze the value of prizes stored at the winner log 126 to determine winner display data for each terminal. The winner display data may be found, for example, as described below with respect to the process flows shown in FIGS. 3 and 9. It will be appreciated that the host 102 may have a configuration different than that shown in FIG. 1. For example, some or all of the functionality of the central sales recording module 124, the winner log 126 and the display data analysis module 128 may be consolidated and/or distributed to the lottery terminals or to other, dedicated components.

[0019] According to various example embodiments, the system 100 may also comprise an e-mail server 122 for facilitating communications between the host 102 and the various lottery terminals 106, 108, etc. While the email server is illustrated as a separate component, it will be appreciated that this service could be provided directly by the host itself, or with other arrangements of system components. When the host 102 directs a communication toward one or more lottery terminals, it may first prepare an e-mail message and send or otherwise direct the e-mail message to the lottery terminal. In some example embodiments, the subject line of the e-mail message may be used by the lottery terminal to identify and properly process the e-mail. For example, e-mails may be used by the host 102 to transmit winner awareness data to the terminals. Each e-mail may be directed to a terminal or terminals and may identify, for example, the type and/or freshness of the winner awareness data therein in the subject line. Also, for example similar e-mail messages may be used by the terminals to direct messages to the host 102. It will be appreciated that as an alternative to the email server, a variety of other approaches may be used to provide the winner awareness to the various clients, including direct writing from the host, synchronous or asynchronous direct communication, other types of messaging services, as a web service that is accessed by the clients, or as auxiliary payloads to other forms of transaction data communicated between the host and the various clients.
[0020] The various lottery clients 106, 108, etc., may include functionality for selling and/or administering lottery chances (e.g., future draw tickets or other chances, instant lottery tickets or other chances, or both). In some example embodiments, each lottery terminal may be configured to facilitate instant lottery games as well as future-draw lottery games. A more detailed description of an example lottery terminal 200 is provided below with reference to FIG. 2. Many different types of lottery terminals may be used, and may be in communication with the host 102 with different forms of connectivity. For example, an online lottery terminal 106 may be located at a store or other retail location, for example, at the checkout counter. The online lottery terminal 106 may be in communication with the host 102 through the network 104. For example, the online lottery terminal 106 may be in real-time or asynchronous/batch communications with the host 102. The online lottery terminal 106 may be configured to dispense game pieces and accept payment. Communications between the online lottery terminal 106 and the network 104 may be encrypted. A lottery kiosk, instant ticket vending machine (ITVM) or other type of self-service terminal 108 may be an automated, unattended kiosk located in a high foot traffic area, such as in a mall, store, etc. The lottery kiosk 108 may also be in communication with the host 102 through the network 104. Communications between the lottery kiosk 108 and the network 104 may be encrypted. A point of sales terminal (POS) 116 may be integrated into an existing POS terminal in a store. The POS terminal 116 may prompt the player to purchase a ticket or other chance after the player completes a checkout transaction in the store. The POS terminal 116 may be in communication with the host 102 via the network 104, and communications between the POS terminal 116 and the network 104 may be encrypted.

[0021] According to various example embodiments, some lottery terminals (e.g., lottery terminals 112, 114) may be in communication with the lottery host 102 via a local server 110. The local server 110 may have some or all functionality of the host 102. For example, the local server 110 may mirror a database stored on the host 102. The local server 110 may serve to manage a collection of lottery terminals, (e.g., at a single large location), and to facilitate communications between these terminals and the host 102. The local server 110 may be in communication with the host 102 through the network 104. Communications between the local server 110 and the network 104 may be encrypted. A first lottery terminal 112 and a second lottery terminal 114 may be connected to the local server 110. The communications between the first lottery terminal 112, the second lottery terminal 114 and the network 104 may be encrypted. It will be appreciated that other devices, including other lottery terminals, may also be connected to the local server 110.

[0022] According to various example embodiments, the system 100 may include functionality allowing a player's own computer equipment or telephone to server as a lottery terminal. For example, a player may utilize a personal computer 118 to participate in a game, for example, via a secure internet connection with a web-server at the host 102. The personal computer 118 may have an attached local printer. Communications between the personal computer 118 and the network 104 may be encrypted. Also, a portable wireless device 120 may serve as a lottery terminal. For example, the portable wireless device 120 may allow the player to play in a lottery game remotely. The portable wireless device 120 may be, for example, a cell phone or a wireless personal data assistant (PDA) and may be in encrypted communication with the lottery host 102 via the network 104. Also, according to various embodiments, players may take part in a game using a standard telephone. For example, the host 102 may include suitable equipment and software for receiving a telephone call from a player. On the telephone call, the player may purchase one or more chances.

[0023] A management terminal 130 in communication with the lottery host may be provided. The management terminal may provide a user interface to an administrator to set the predetermined thresholds for the various types of winner awareness display data, e.g., the number or amount of prizes that are considered a minimum positive result that a retailer would display on their terminal, the various rules that are used in analyzing and selecting the information, the way geographic regions should be divided, and the time periods that should be used. Alternatively, an interface can be provided directly on the retail terminal, allowing a retailer to set the predetermined thresholds themselves for their store, or to opt in or out of the display of winner awareness data on their retail terminal.

[0024] FIG. 2 illustrates one embodiment of an example lottery terminal 200. The lottery terminal 200 may represent any of the clients 106, 108, 112, 114, 116, 120, 118 described above, and may be programmed to display winner awareness data as described herein. According to various example embodiments, the lottery terminal 200 may be any suitable brand or type of lottery terminal including, for example, a conventional Imagina, ALTURA or ISIS lottery terminal, and the Lottery Kiosk 108 may be a Lottery to Go or Lotto to Go self-service terminal, available from GTECH Corporation, in Providence, R.I. These conventional terminals may have additional software components added in order to facilitate the operation of the winner awareness procedures described herein.

[0025] The lottery terminal 200 may include various components such as, for example, a central processor 202, a reader 204, a printer 206, a payment acceptor 208, a dispenser 210 and a display 212. Not all lottery terminals 200 will have an example of each of these components, and some may have more or fewer components than are shown. For example, a PC lottery terminal 118 may not have a dedicated payment acceptor 202 or dispenser 210. Alternatively, some online terminals 106 may have both a payment acceptor 208 and a dispenser 210. In use, the central processor 202 of the terminal 200 may direct the operations of some or all of the other terminal components, and may also be in communication with the host 102 over the network 104. For example, communications between the host 102 and the central processor 202 may be in real-time or may be batch-asynchronous.

[0026] Each of the other components of the example terminal 200 may be configured to perform game-related tasks. The reader 204 may be configured to read a machine readable code on various game pieces, (e.g., when the player presents a game piece as part of a request to play a game). The display 212 may be configured to display information to a player including, for example, winner awareness data as described herein. In some terminals, the display 212 may include security measures to prevent damage or tampering. For example, the display 212 may be placed behind a shutter and scratch resistant panel for protection. The printer 206 may be configured to print various game pieces including, for example, future-draw lottery game tickets. The payment acceptor 208 may be configured to accept cash, credit cards, debit cards,
vouchers, or other forms of payment. For example, the payment acceptor 208 may include a magnetic strip reader for reading credit and debit cards, a device for receiving cash payments, etc. The dispenser 210 may be configured to dispense the game pieces or tickets including, for example, pre-printed tickets as well as tickets generated by the printer 206.

[0027] FIG. 3 is a process flow of one embodiment of a method for providing winner awareness data to a lottery terminal. In FIG. 3, column 31 may represent actions performed by the host, while column 32 may represent actions performed by a lottery terminal. Although the process flow of FIG. 3 illustrates the actions of a single lottery terminal, it will be appreciated that the host may be in direct or indirect communication with multiple lottery terminals, which may perform actions similar to those indicated in column 32.

[0028] At 3200, the lottery terminal may maintain historical winner data. The historical winner data for a given terminal may include any kind of data describing winnings and/or prizes associated with the terminal. For example, these may include winnings from chances purchased at the terminal and/or winnings from chances redeemed at the terminal. According to various example embodiments, historical winner data for each terminal may include one or more of a terminal count, a terminal sum and a terminal highest prize. The terminal count may be a count of the qualifying prizes associated with the terminal. The terminal sum may be a sum of the qualifying prizes associated with the terminal. The terminal highest prize may be the highest prize associated with the terminal during a predetermined time period (e.g., within a month, within a quarter, etc.). According to various example embodiments, all prizes considered for the terminal count, terminal sum and highest prize may be qualifying prizes, or prizes having amounts exceeding a predetermined threshold. For example, a prize may be a qualifying prize if its amount is greater than the cost of purchasing the winning chance. Also, in some example embodiments, qualifying prizes may exclude prizes awarding merchandise and other non-monetary items.

[0029] According to various example embodiments, the lottery terminal may maintain the historical winner data in real time. For example, as a winning instant lottery chance is sold and/or redeemed at the terminal, it may increment the terminal count, adjust the terminal sum and determine whether the new winning chance is a terminal highest prize. For future-draw lottery games, the terminal may receive the results of a draw (e.g., from the host), determine whether any future-draw chances sold at the terminal are winners, and then update the terminal sum, terminal count and terminal highest prize accordingly. The terminal may also organize the historical winner data into appropriate time periods. For example, historical winner data may be kept for a current week, a previous week, a previous month, etc. In some example embodiments, terminals having the capability of facilitating more than one lottery game may keep separate counts, sums, and highest prizes for each game or game type. For example, historical winner data regarding instant lottery games and future-draw lottery games may be kept separately.

[0030] At 3202, the terminal may transmit the historical winner data to the host, which may receive the same at 3100. In addition, the host may receive historical winner data from other terminals that it is responsible for administering. The historical winner data may be transmitted and/or received according to any suitable frequency including, for example, daily, weekly or upon demand of an operator. Also, according to various example embodiments, the historical winner data may be transmitted to the host via e-mail. It will be appreciated that in some example embodiments, historical winner data may be kept not at the individual terminals, but may instead be kept at a central prize clearing location (not shown). The central prize clearing location may be a server or other computer device for storing and maintaining historical winner data for a plurality of lottery terminals. In this case, the host may receive the historical winner data from the central prize clearing location. Also, according to various example embodiments, the host itself may maintain historical winner data for its terminals. Accordingly, the host may receive the historical winner data from the terminals, from a central prize clearing location, or, in example embodiments, where the host maintains the historical winner data, from a local data store.

[0031] At 3102, the host may aggregate historical winner data from all of its terminals. This may involve deriving from the terminal historical winner data, aggregated historical winner data describing sets of lottery terminals. Terminals included in a common set may be related to one another in any suitable way. For example, the terminals may be located at a common retail chain (e.g., a common convenience store chain, grocery store chain, etc.). In addition to, or instead the terminals in a set may be related by geographic area. For example, deriving aggregated historical winner data may comprise aggregating the winner data into data describing a series of nested geographic areas. FIG. 4 is a chart illustrating one embodiment of a hierarchy 400 of nested geographic areas. Terminals 408 are at the lowest level 401 of the hierarchy. The geographic location of terminals 408 may be determined according to any suitable method. For example, some terminals 408 are stationary (e.g., at a retail location). Other terminals 408, such as player-owned devices (e.g., personal computer terminals 118, portable wireless device terminals 120, etc.) may not be stationary. For example, an Internet-based terminal may be located based on the address of its Internet service provider (ISP). Telephone based terminals may be located based on their area code and/or exchange number. Devices, such as cell phones, operating on a wireless network may be identified by triangulation or any other suitable means based on their operation in the wireless network. Also, terminals having Global Positioning Systems (GPS) capability may be located utilizing GPS.

[0032] According to FIG. 4, terminals 408 in a common municipality 406 are grouped together at the next level 403. Municipalities 406 in a common county 404 are grouped together at level 405, and counties 404 in a common state 402 are grouped together at level 407. Aggregating terminal specific historical winner data may involve summing the historical winner data from all terminals 408 in such geographic area (e.g., municipality 406, county 404, state 402, etc.). For example, results of the aggregating may include municipality counts, sums and highest prizes for each municipality 406, county counts, sums and highest prizes for each county 404 and a state count, sum and highest prize for the state 402.

[0033] It will be appreciated that the geographic hierarchy 400 is but one example hierarchy. Aggregated historical winner data may be found for other geographic areas/hierarchies as well in addition to, or instead of the states, counties and municipalities shown in the hierarchy 400. For example, in the case of lottery terminals selling chances for POWERBALL, MEGA MILLIONS and/or other multi-state lottery games, multiple states 402 may be included under a nation or
country entry (not shown). Also, different government entities may have different organizations that require modifications to the hierarchy 400. For example, some states and/or countries may have more or fewer intermediate layers of geographic organization than the municipality/county/state organization shown in FIG. 4. Also, in some example embodiments, historical winner data may be aggregated by additional factors in addition to or instead of by geographic location. For example, historical winner data may be aggregated by retail chain, lottery game and/or by lottery game type (e.g., instant lottery, future-draw lottery, etc.).

[0034] Referring back to FIG. 3, the host may compare the aggregated historical winner data to thresholds or other pre-determined criteria to find winner display data for each terminal at 3104. Winner display data may be winner awareness data that is customized for a particular terminal. Generally, each geographic area, or other set of terminals, may have one or more thresholds, which may be specific to the geographic area. The thresholds represent a lowest amount of winning (e.g., count, sum and/or highest prize) for a terminal or geographic area that is considered positive, and thus likely to motivate potential lottery players. Thresholds for a given terminal or set of terminals may be determined in any suitable way. For example, common thresholds may be set for all terminals or sets of terminals at a common level of the hierarchy. In this case, the thresholds may be accessible and/or modifiable by a system administrator. Also, for example, thresholds may be received from terminal operators, who may provide the thresholds to the host via the network 104 utilizing a terminal or other computer device.

[0035] To find winner display data for the terminal, the terminal’s historical winner data may be compared to the terminal threshold. If the historical winner data meets or exceeds the terminal threshold, then the terminal’s historical winner data may become the winner display data. Otherwise, the process may move up the geographic hierarchy toward larger geographic areas until a geographic area is found with aggregated historical winner data that exceeds that geographic area’s associated threshold. In this way, winner display data may be found for all chances sold by a terminal. In addition, or instead, winner display data may be found in a similar way for each retail chain, individual game or category of game supported by the terminal. In some example embodiments, the host may begin applying thresholds above the terminal level of the geographic hierarchy. For example, terminal-level winner display data may not be displayed at terminals owned or controlled by a single player, such as a PC terminal 118, or portable wireless device terminal 120. Instead, for these devices, the host may begin applying thresholds, as described above, at a geographic level above the terminal level.

[0036] FIGS. 5, 6 and 7 are process flows illustrating example processes for applying thresholds to derive terminal winner display data. FIG. 5 is a process flow showing one embodiment of a process 500 for finding a winner awareness count for a given terminal. At 502, the host may determine if the terminal count of the terminal is greater than a terminal threshold. If the terminal count is greater than the terminal threshold, then the winner awareness count may be set equal to the terminal count at 504. If not, then the host may determine whether the count of the next highest geographic area exceeds its associated threshold. For example, at 506, the host may determine whether a municipality count exceeds a municipality threshold. The municipality count may be an aggregated count of all winning chances associated with the same municipality as the terminal (e.g., as determined at 3102). The municipality threshold may represent a minimum quantity of prizes won at terminals in the municipality that may be sufficient to encourage players to play at terminals in the municipality. If the municipality count exceeds the municipality threshold, then the winner awareness count may be set to the municipality count at 508. If the municipality count is not greater than the municipality threshold, then the next higher level of the geographic area may be examined. For example, at 510, it may be determined whether the appropriate county count is greater than a county threshold. If so, then the winner awareness count may be set to the county count at 512. If not, the process may continue to the next highest level of the geographic hierarchy. Because the state 402 is the highest level of the example hierarchy from FIG. 4, if the county count does not exceed the county threshold, then the winner awareness count may automatically be set to the state count at 514.

[0037] FIG. 6 is a process flow showing one embodiment of a process 600 for finding a winner awareness terminal sum. The process 600 may be similar to the process 500 described above. For example, at 602, it may be determined whether a terminal sum is greater than a terminal sum threshold. If the terminal sum is greater than the terminal sum threshold, then the winner awareness sum for the terminal may be set to the terminal sum at 604. If not, then it may be determined, at 606, whether the municipality sum is greater than a municipality sum threshold. If the municipality sum is greater than the municipality sum threshold, then the winner awareness sum for the terminal may be set to the municipality sum at 608. If not, then it may be determined at 610 whether the county sum is greater than the county sum threshold. If the county sum is greater than the county sum threshold, then the winner awareness sum for the terminal may be set to the county sum at 612. If not, then the winner awareness sum may be set to the state sum at 614.

[0038] FIG. 7 is a process flow showing one embodiment of a process 700 for finding a winner awareness highest prize for a terminal. Again, the process flow 700 may be similar to the process flows 500, 600 in that successive thresholds are applied to aggregated historical winner data up the geographic hierarchy until a value is found exceeding a predetermined threshold. At 702, it may be determined whether a terminal highest prize is greater than a terminal highest prize threshold. The terminal highest prize may be the highest prize won at the terminal during a predetermined period (e.g., in the previous month). If the terminal highest prize is greater than the terminal highest prize threshold, then the winner awareness highest prize for the terminal may be set to the terminal highest prize at 704. If not, then it may be determined at 706 whether the municipality highest prize is greater than a municipality highest prize threshold. If the municipality highest prize is greater than the municipality highest prize threshold, then the winner awareness highest prize may be set to the municipality highest prize at 708. If not, then it may be determined, at 710, whether the county highest prize is greater than a county highest prize threshold. If it is, then the winner awareness highest prize for the terminal may be set to the county highest prize at 712. If not, then the winner awareness highest prize for the terminal may be set to the state highest prize at 714.
[0039] Referring back to FIG. 3, when appropriate winner display data has been generated for each terminal, the winner display data may be transmitted by the host at 3106, and received by the terminal at 3204. The winner display data may comprise, for example, a winner awareness count for the terminal, a winner awareness sum for the terminal and/or a winner awareness highest prize for the terminal. It will be appreciated that various other forms of winner display data may be generated and transmitted to the terminal in addition to or instead of those shown. The winner display data may be transmitted to the terminal in any suitable form. For example, according to various example embodiments, the host may package the winner display data into one or more e-mail messages directed to the terminal, as described above. The subject lines of the e-mails may identify them to the terminal as winner awareness e-mails and may further identify the type of winner display data included in the e-mail (e.g., a count, a sum, a highest prize, a game that the data describes, a category of game that the data describes, etc.). According to various other embodiments, the winner display data may be transmitted to the terminal as a direct communication over the network for displaying the winner display data. When there are multiple types of winner display data (e.g., count, sum and/or highest prize data), then some example embodiments may reserve a separate slide or subdivision of the display program for each type of data. In some example embodiments, the process flow shown in FIG. 3 may be performed periodically. For example, the process may include performing the process, for example, every hour, every day, every week, every partial week, etc.

[0040] FIGS. 8A, 8B and 8C are examples of winner display data screens. FIG. 8A shows one embodiment of a screen 802 illustrating a winner awareness highest prize that is specific to a given lottery game and presented at the municipality level. FIG. 8B shows one embodiment of a screen 804 illustrating a winner awareness count that is presented at the terminal level and is specific to all games played at the terminal. FIG. 8C shows one embodiment of a screen 806 illustrating a winner awareness sum that is presented at the county level and is specific to a given lottery game type (e.g., instant lottery games, future lottery games, etc.). Each of the screens 802, 804, 806 may be shown at an appropriate terminal. For example, the screen 802 may be shown at a terminal located in the county; the screen 804 may be shown at a terminal in the county; and the screen 806 may be shown at the specific terminal referred to therein. The double-carroted text indicates places in the screens 802, 804, 806 where winner display data would be inserted when the screens are in use. For example, at the space labeled <<lottery game>> in screen 802, the name of the lottery game described by the winner display data may be inserted. At the space labeled, <<highest prize amount>>, the highest prize winner display data for the municipality may be listed. As shown, the screens 802, 804, 806 comprise plain text, which may be displayed in any suitable format and by any suitable display device. For example, the screens may be shown by a scrolling text display. Also, for example, the screens may be shown in a full screen. When used on a full screen, graphics and/or more stylized text may be used, for example, based on the trademarks and other graphics of the particular lottery, other sponsors, etc.

[0042] The process illustrated in FIG. 3 may be performed at any suitable regular or irregular frequency. For example, in some example embodiments, the process flow of FIG. 3 may be performed every day. Historical winner data considered by the process flow may also be updated daily. In this way, the lottery terminals may receive updated winner display data every day. Also, in some example embodiments, the process flow of FIG. 3 may be performed constantly and in real time. This may allow the lottery terminals to receive updated data on a real time basis. It will be appreciated that the process flow may be performed at any other suitable time interval including, for example, weekly, monthly, bi-weekly, etc.

[0043] According to various example embodiments, some or all of the processing performed by the host in the process flow may be pushed to the terminals. For example, FIG. 9 illustrates one embodiment of a process flow for displaying winner display data where additional processing actions are performed by the terminal. Actions in the column 91 may be performed by the host, while actions in the column 92 may be performed by the terminal. At 9202, the host may maintain historical winner data, as described above with respect to 3200. Again, it will be appreciated that the historical winner data for a given terminal may be maintained by the host, or by a central prize clearing location in addition to, or instead of at the terminal.

[0044] At 9204, the terminal may transmit the historical winner data to the host (e.g., via e-mail). The host may receive the same at 9102. At 9104, the host may aggregate the historical winner data, for example, as described above. At 9106, the host may transmit terminal specific aggregated historical winner data to each terminal under its control. The terminal may receive the terminal specific aggregated historical winner data at 9206. Terminal specific aggregated historical winner data may include historical winner data describing all of the geographic areas to which a terminal belongs. For example, in a geographic hierarchy similar to that shown in FIG. 4, terminal specific aggregated historical winner data may include terminal historical winner data, municipality historical winner data, county historical winner data and state historical winner data for the municipality, county and state including the terminal. At 9208, the terminal may apply thresholds to determine the terminal winner display data. This may occur in a manner similar to that described above with respect to 3104 and process flows 500, 600 and 700, except that the processing may be performed by the terminal. At 9210, the terminal may display the winner display data, for example, as described above.

[0045] It will be appreciated that all of the disclosed methods, games, and procedures described herein can be implemented using one or more computer programs or components. These components may be provided as a series of computer instructions on any conventional computer readable medium, including RAM, ROM, flash memory, magnetic or optical disks, optical memory, or other storage media. The instructions may be configured to be executed by a processor, which when executing the series of computer instructions performs or facilitates the performance of all or part of the disclosed methods, games, and procedures.
In the preceding specification, the present invention has been described with reference to specific example embodiments thereof. It will, however, be evident that various modifications and changes may be made thereunto without departing from the broader spirit and scope of the present invention as set forth in the claims that follow. The specification and drawings are accordingly to be regarded in an illustrative rather than restrictive sense.

We claim:

1. A method of facilitating the operation of a lottery system, the method comprising:
   receiving historical winner data for a plurality of lottery clients, wherein the historical winner data for each of the plurality of lottery clients comprises information concerning prizes won from chances associated with the lottery client;
   for each of a plurality of lottery clients, determining winner display data, wherein the determining winner display data comprises:
   determining whether the historical winner data from the lottery client meets a predetermined criteria;
   conditioned on the historical winner data from the lottery client meeting the predetermined criteria, determining winner display data for the lottery client based on the historical winner data for the lottery client; and
   conditioned on the historical winner data from the lottery client failing to meet the predetermined criteria, determining the winner display data for the lottery client based on historical winner data for a set of lottery clients comprising the lottery client; and
   transmitting the corresponding winner display data for each lottery client in the plurality of lottery clients to the respective lottery clients.

2. The method of claim 1, wherein the set of lottery clients including the lottery client comprises lottery clients in a common geographic area.

3. The method of claim 2, wherein the common geographic area is selected from the group consisting of a municipality, a county and a state.

4. The method of claim 1, wherein the set of lottery clients including the lottery terminal comprises lottery terminals at a common retail chain.

5. The method of claim 1, wherein the transmitting comprises preparing an e-mail message to each lottery client in the plurality of lottery clients and sending the e-mail messages to the respective lottery clients.

6. The method of claim 1, further comprising repeating the determining winner display data and the transmitting periodically.

7. The method of claim 6, wherein the period is selected from the group consisting of a day, a week, and a partial week.

8. The method of claim 1, wherein the receiving further comprises receiving the historical winner data from the plurality of lottery clients.

9. The method of claim 1, wherein the receiving further comprises receiving the historical winner data from a central prize clearing location.

10. The method of claim 1, further comprising selecting the set of lottery clients, wherein selecting comprises:
   determining whether historical winner data from a first geographic area where the lottery client is located meets a second predetermined criteria;
   conditioned on the historical winner data from the first geographic area meeting the second predetermined criteria, setting the winner awareness display data equal to the historical winner data from the first geographic area; and
   conditioned on the historical winner data from the first geographic area failing to meet the predetermined criteria, determining whether historical winner data from a second geographic area where the lottery client is located meets a third predetermined criteria.

11. The method of claim 10, wherein the second geographic area comprises the first geographic area.

12. The method of claim 10, wherein the selecting further comprises: conditioned on the historical winner data from the second geographic area meeting the third predetermined criteria, setting the winner display data equal to the historical winner data from the second geographic area.

13. The method of claim 11, wherein the historical winner data comprises at least one of a count of winning chances associated with the lottery client; and
   a sum of all winnings originating from chances associated with the lottery client; and
   an indication of a highest prize associated with the lottery client during a predetermined time period.

14. The method of claim 13, wherein, conditioned on the historical winner data from the lottery client not meeting the predetermined criteria, the winner display data comprises at least one of a count of winning chances associated with the set of lottery clients comprising the lottery client, a sum of all winnings originating from chances associated with the set of lottery clients comprising the lottery client, and a highest prize won during a predetermined time period from chances associated with the set of lottery clients comprising the lottery client.

15. The method of claim 1, further comprising aggregating the historical winner data from the plurality of lottery clients by sets of lottery clients.

16. The method of claim 1, wherein the historical winner data for each lottery client comprises a description of at least one prize won from a chance that was at purchased at the lottery client in a predetermined time period.

17. The method of claim 16, wherein the predetermined time period is selected from the group consisting of a current week and a previous week.

18. The method of claim 1, wherein the winner display data comprises descriptions of prizes won from chances on a single lottery game.

19. The method of claim 1, wherein the winner display data comprises descriptions of prizes won from chances on a single category of lottery games.

20. The method of claim 1, wherein the historical winner data comprises a description of at least one prize won from a chance purchased at the lottery client.

21. The method of claim 1, wherein the historical winner data comprises a description of at least one prize won from a chance redeemed at the lottery client.

22. The method of claim 1, further comprising modifying the predetermined criteria.

23. The method of claim 1, wherein the predetermined criteria is common to all of the plurality of clients.

24. The method of claim 1, further comprising receiving from a first lottery client selected from the plurality of lottery clients the predetermined criteria for the first lottery client.
25. The method of claim 1, further comprising displaying the winner display data.

26. A lottery host system to provide players with winner display data, the system comprising at least one processor programmed to:
   receive historical winner data for a plurality of lottery clients, wherein the historical winner data for each of the plurality of lottery clients comprises information concerning prizes won from chances associated with the lottery client;
   for each of a plurality of lottery clients, determine winner display data, wherein determining the winner display data comprises:
   determining whether historical winner data from the lottery client meets a predetermined criteria;
   conditioned on the historical winner data from the lottery client meeting the predetermined criteria, determining winner display data for the lottery client based on the respective historical winner data for the lottery client; and
   conditioned on the historical winner data from the lottery client failing to meet the predetermined criteria, determining the winner display data for the lottery client based on historical winner data for a set of lottery clients comprising the lottery client; and
   transmit the corresponding winner display data for each lottery in the plurality of lottery clients to the respective lottery clients.

27. The lottery host system of claim 26, wherein the at least one processor is further programmed to receive historical winner data from a plurality of lottery clients.

28. The lottery host system of claim 26, wherein the at least one processor is further programmed to display the winner display data.

29. A method of facilitating the operation of a lottery system, the method comprising:
   determining winner display data, wherein determining the winner display data comprises:
   determining whether historical winner data from a lottery client meets a predetermined criteria, wherein the historical winner data for the lottery client comprises a description of at least one prize won from a chance associated with the lottery client;
   conditioned on the historical winner data from the lottery client meeting the predetermined criteria, determining corresponding winner display data for the lottery client based on the historical winner data from the lottery client; and
   conditioned on the historical winner data from the lottery client failing to meet the predetermined criteria, determining winner display data for the lottery client based on historical winner data for a set of lottery clients comprising the lottery client; and
   displaying the winner display data.

30. The method of claim 29, further comprising repeating the determining winner display data and displaying the winner display data periodically.

31. The method of claim 30, wherein the period is selected from the group consisting of a day, a week and a partial week.

32. The method of claim 29, further comprising selecting the set of lottery clients, wherein the selecting comprises:
   determining whether historical winner data from a first geographic area comprising the lottery client meets a second predetermined criteria;
   conditioned on the historical winner data from the first geographic area meeting the second predetermined criteria, setting the winner display data equal to the historical winner data from the first geographic area; and
   conditioned on the historical winner data from the first geographic area failing to meet the predetermined criteria, determining whether data from a second geographic area comprising the lottery client meets a third predetermined criteria.

33. The method of claim 32, wherein the second geographic area comprises the first geographic area.

34. The method of claim 32, wherein the selecting further comprises: conditioned on the historical winner data from the second geographic area meeting the third predetermined criteria, setting the winner display data equal to the historical winner data from the second geographic area.

35. The method of claim 29, wherein the historical winner data comprises at least one of a count of winning chances associated with the lottery client; a sum of all winnings originating from chances associated with the lottery client; and an indication of a highest prize associated with the lottery client during a predetermined time period.

36. The method of claim 35, wherein conditioned on the historical winner data from the lottery client failing to meet the predetermined criteria, the winner display data comprises at least one of a count of winning chances associated with the set of lottery clients comprising the lottery client, a sum of all winnings originating from chances associated with the set of lottery clients comprising the lottery client, and a highest prize during a predetermined time period associated with the set of lottery clients comprising the lottery client.

37. The method of claim 29, wherein the historical winner data comprises a description of at least one prize won from a chance that was purchased at the lottery client in a predetermined time period.

38. The method of claim 37, wherein the predetermined time period is selected from the group consisting of a current week and a previous week.

39. The method of claim 29, wherein the winner display data comprises descriptions of prizes won from chances on a single lottery game.

40. The method of claim 29, wherein the winner display data comprises descriptions of prizes won from chances on a single category of lottery games.

41. The method of claim 29, wherein the geographic area is selected from the group consisting of a municipality, a county and a state.

42. The method of claim 29, wherein the historical winner data comprises a description of at least one prize won from a chance redeemed at the lottery client.

43. The method of claim 29, wherein the historical winner data comprises a description of at least one prize won from a chance purchased at the lottery client.

44. The method of claim 29, further comprising modifying the predetermined criteria.

45. A system for facilitating the operation of a lottery system, the system comprising at least one processor programmed to:
   determine winner display data, wherein determining the winner display data comprises:
   determining whether historical winner data from a lottery client meets a predetermined criteria, wherein the historical winner data for the lottery client comprises
a description of at least one prize won from a chance associated with the lottery client;
conditioned on the historical winner data from the lottery client meeting the predetermined criteria, setting
the winner display data equal to the historical winner data; and
conditioned on the historical winner data from the lottery client failing to meet the predetermined criteria,
setting the winner display data equal to geographic historical winner data describing at least one prize
won from a chance associated with a geographic area comprising the lottery client; and

46. A system for facilitating the operation of a lottery system, the system comprising:
a plurality of lottery clients configured to allow players to purchase chances in a lottery game, each client configured to: report sales of chances in the lottery game to a central host and display winner display data;
a central sales recording system configured to receive and store information from the plurality of lottery clients identifying chances sold at the lottery clients;
a winner log configured to store, for each of the chances associated with one of the plurality of lottery clients, the value of prizes awarded for the chances sold at the lottery clients;
a winner display data analysis system configured to, for each of the plurality of lottery clients:
compile historical winner data for the lottery client, the historical winner data comprising information concerning prizes won from chances associated with the lottery client;
determine whether historical winner data from the lottery client meets a predetermined criteria;
conditioned on the historical winner data from the lottery client meeting the predetermined criteria, determining the winner display data for the lottery client based on the historical winner data for the lottery client;
conditioned on the historical winner data from the lottery client failing to meet the predetermined criteria, determining the winner display data for the lottery client based on historical winner data for a set of lottery clients comprising the lottery client; and
transmit the corresponding winner display data to the lottery client.

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