METHODS AND SYSTEMS FOR SECURE MOBILE INTEGRATED LOTTERY GAMING

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ABSTRACT

A wireless lottery ticket sales system includes a cellular telephone, a short message service (SMS) gateway and an application server that is in electronic communication with a lottery operator's system. Aspects of the invention provide a new conduit for lottery players to purchase lottery ticket(s) electronically using a cellular telephone or similar wireless handheld device, while the lottery operator can collect proceeds of sales and maintain a non-volatile data record of the lottery ticket, including information such as time and date of purchase, numbers picked and amount paid by the player, confirmation of selected numbers and confirmation of winning numbers. The ticket sales system may comprise a feature for age and/or identity authentication to block out under-aged or otherwise unqualified players. The function of the SMS gateway may comprise receiving and replying to players' SMS messages and forwarding lottery purchases and selections to the application server. The function of the application server may be to manage electronic lottery purchase logistics, create and process SMS messages and interface with the lottery operator's system. The function of the lottery operator's system may be to manage random number generation, update lottery draw results and generate and manage data for electronic tickets.

Diagram:

- Players launch the gaming application on a smartphone
- Players pick game type, quantity and numbers and press ok to submit selections
- Players receive a SMS message and/or email outlining errors and must contact customer service
- Lottery draw occurs
- The lottery server will message players with the amount and numbers won via an application server and SMS gateway
- Players send a sms message to (e.g., LOTTO'S5886) with "Game Type" keyword, Quantity and Numbers
- Players receive a confirmation SMS message and/or email with game type, picked numbers, amount, ticket id, transaction id, purchase date and draw date
- Players receive a SMS message and/or email outlining errors and must contact customer service
- The lottery server will message players with how many numbers were match via an application server and SMS gateway
- Players send a sms message to (e.g., LOTTO'S5886) with "Game Type" keyword, Quantity and Numbers
FIGURE 1
Players Purchase Prepaid card at Lotto retail outlet

Players send SMS to application server with account ID and PIN from prepaid card

Application server validates account ID and PIN with lottery server

Lottery server sends confirmation request message to players via application server and SMS gateway

Players reply to message via SMS to complete registration process

Lottery server receives players' reply via application server and SMS gateway

Lottery server message players with customer service number to call

Players receive registration successful message from lottery server

FIGURE 2
PlayLotto or Cellphone 350 Application

Players launch the gaming application 360 or smartphone
Players picks game type, ticket
quantity and numbers and presses ok
to submit selections

Is selection valid?

Players receive a SMS message
and/or email outlining errors
and must contact customer service

No

Players receive a confirmation SMS
message and/or email with game
type, picked numbers, amount, ticket
id, transaction id, purchase date
and draw date

Yes

Lottery draw occurs

Ticket Won?

No

Lottery Server will message players
with amount and numbers won via
Application server and SMS gateway

Did players opt for auto-notification?

Yes

Lottery Server will message players with
how many numbers were match
via Application server and SMS gateway

No

FIGURE 3
Lottery Operators/System
For smartphone application users

FIGURE 4
METHODS AND SYSTEMS FOR SECURE MOBILE INTEGRATED LOTTERY GAMING

RELATED APPLICATIONS

[0001] This application claims the benefit of the priority of U.S. application No. 60/824,768 which was filed on 6 Sep. 2006 and which is hereby incorporated herein by reference.

TECHNICAL FIELD

[0002] The present invention relates generally to methods and systems for playing and/or facilitating lottery games and playing and/or facilitating other suitable games of chance. Particular embodiments of the invention provide methods and systems for playing and/or facilitating lottery games over a cellular telephone network using a cellular telephone handset or similar wireless handheld device.

BACKGROUND

[0003] Many people enjoy playing games of chance, such as lotteries, keno and the like. In many jurisdictions, lotteries and other games of chance are heavily regulated. Such regulation can complicate the process of playing the game and decrease player enjoyment. For example, a player may be required to go to their lottery store each time that they want to purchase a lottery ticket and to show age verification information, identification or the like that demonstrates that the player is legally allowed to play the game under the application legislation.

[0004] There is a general desire to make it easier and/or more enjoyable for players to take part in lotteries and/or other games of chance.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] In drawings which depict non-limiting embodiments of the invention:

[0006] FIG. 1 is a schematic flowchart of a method for registering to play a lottery and for purchasing lottery tickets according to a particular embodiment of the invention;

[0007] FIG. 2 is a schematic flowchart of a registration process according to a particular embodiment of the invention suitable for use with the method of FIG. 1;

[0008] FIG. 3 is a schematic flowchart of a mobile lottery ticket purchase process according to a particular embodiment of the invention suitable for use with the method of FIG. 1; and

[0009] FIG. 4 is a generalized block diagram for an example system capable of implementing the methods shown in FIGS. 1-3.

DETAILED DESCRIPTION

[0010] Throughout the following description, specific details are set forth in order to provide a more thorough understanding of the invention. However, the invention may be practiced without these particulars. In other instances, well known elements have not been shown or described in detail to avoid unnecessarily obscuring the invention. Accordingly, the specification and drawings are to be regarded in an illustrative, rather than a restrictive, sense.

[0011] Particular aspects of the invention provide methods for conducting and/or playing a lottery over a cellular telephone network. In one embodiment, a lottery conducting method comprises receiving a ticket purchase request from a lottery player at an application server via a cellular telephone network. The ticket purchase request may include identification of a lottery game and an indicator of one or more numbers to play in the lottery game. The method also comprises sending a confirmation message from the application server to a cellular handset of the lottery player via the cellular telephone network. The confirmation message may include information which identifies the lottery game and information which indicates the numbers played in the lottery game. Once the lottery draw is conducted, if the numbers played in the lottery game include winning numbers, the method comprises sending a winning message from the application server to the cellular handset of the lottery player via the cellular telephone network. The winning message may include an indication of an amount that the lottery player won and an indication of the winning numbers.

[0012] FIG. 1 is a generalized flowchart of an overall method 100 for playing a lottery game according to a particular embodiment of the invention. Method 100 includes a registration process 110 (a particular example of which is schematically depicted in FIG. 2), a mobile lottery ticket purchase process 115 (a particular example of which is schematically depicted in FIG. 3) and a mobile lottery feedback process 120 (a particular example of which is also schematically depicted in FIG. 3).

[0013] FIG. 2 is a schematic flowchart of a lottery game registration process 110 according to a particular embodiment of the invention. Registration process 110 includes a first registration path 200 for users of prepaid gaming accounts, which may be referred to herein as prepaid cards. Registration process 110 includes a second registration path 250 for internet users (including users who access the internet from cellular handsets). For prepaid gaming account registration (path 200), players purchase a prepaid gaming account (which may be in the form of a prepaid gaming card) at a lottery retail outlet (block 210) and register by sending a registration request SMS to an application server (block 220). The block 220 registration request SMS may be sent from the player’s cellular handset to the application server. A SMS (Short Message Service) message is an example of a text-based protocol for sending text messages over cellular networks. Other text-based cellular protocols or more complex cellular protocols may be used to send the block 220 registration request message. In one particular embodiment, the block 220 registration request message comprises: a command code (e.g. a textual command code) indicating that the particular message is a registration request message; an account ID, and a PIN or other password. The account ID and the password may be particular to the prepaid card. In other embodiments, a command code is not required.

[0014] Once the application server receives the block 220 registration request message from a player, the application server parses the block 220 registration request message to discover that the message contains the registration command code. Assuming that the block 220 registration request message was constructed in the correct syntax, then the application server proceeds to parse the account ID and
password from the registration request. Some cellular networks or cellular handset manufacturers place header text and/or footer text on outgoing SMS messages. These headers and/or footers are often delimited by special characters. For example, headers may be delimited by round brackets and footers may be delimited by angular brackets. Some cellular networks forward outgoing messages on behalf of a sender and when forwarding such messages include the sender’s telephone number as a part of the message. Such telephone numbers may also be delimited by special characters. It may be desirable for the application server to look for special characters or perform some other technique to remove headers, footers and/or other superfluous message information (e.g. sender phone number) prior to parsing the remainder of the block 220 registration request message.

[0015] Once the account ID and password are parsed from the block 220 registration request message, the application server validates the player’s account ID and password with a lottery server (block 230). Method 110 then reaches block 240 which involves an inquiry as to whether the account ID and password supplied in block 220 are valid. If the account ID and password are valid (block 245), the application server will activate the account and send the player a registration confirmation message (e.g. by return SMS or by return message according to the same protocol on which the block 220 registration request was sent). The block 245 registration confirmation message is sent from the application server to the player’s cellular handset. On the other hand, if the account ID and/or password is invalid (block 247), the application server will send the player a registration rejection message (e.g. by return SMS or by return message according to the same protocol on which the block 220 registration request was sent) which outlines the error and possibly provides a customer service number to call.

[0016] For online registration (path 250), players access a lottery registration website (block 255), where they complete an online registration form (block 260) with information which may include age verification, geographic location verification, email address, cellular phone number, payment method or the like. Such age verification and the like is not explicitly shown in prepaid card registration path 200, as such verification preferably takes place at the point of purchase of the prepaid gaming account. As a part of block 260, the player submits the form and the corresponding verification information to the lottery server. Once the lottery server receives the registration form and verifies the information provided, the lottery server will send a registration confirmation request message to the player via the application server and/or the SMS gateway (block 265). Preferably, the player then replies to the registration confirmation request message via registration confirmation message (block 270) to complete the registration process. The block 270 registration confirmation message may include a command code indicating that the particular message is a registration confirmation message. The block 270 registration confirmation message may also include an account ID and a PIN or other password. The application server may parse the command code and any other information from the block 270 registration confirmation message in manner similar to that discussed above for the block 220 registration request. As discussed above, SMS represents one particular text-based cellular protocol. Other cellular protocols may be used in place of SMS messaging for blocks 265 and 270.

[0017] Once the block 270 registration confirmation message is appropriately parsed (if required), the application server may forward the player’s block 270 confirmation message to the lottery server. Method 110 then proceeds to block 240. Assuming the registration is valid (block 245), the application server activates the account with the lottery server and sends a registration confirmation message (e.g. by SMS or email) to the player. If there is an error in the player’s block 270 confirmation message (block 247), the lottery server may send a registration rejection message (e.g. by SMS or email) to the player with an identification of the error and possibly with a customer service number to call.

[0018] FIG. 3 is a schematic depiction of a method 300 for playing/conducting a lottery game. Method 300 includes a method 115 for purchasing lottery numbers and a method 120 for receiving lottery feedback. Purchasing method 115 process includes a first mobile lottery ticket purchase path 310 for basic phone users and a second mobile lottery ticket purchase path 350 for the users of so-called “smart phones”.

[0019] In block 320, a player with a basic text phone may send a ticket purchase request message (e.g. via SMS) to the lottery server via the SMS gateway and the application server with text commands indicating the particulars of their purchase (e.g. a “Game Type” code, a quantity of tickets and selected lottery numbers). The application server parses the block 320 ticket purchase request in a manner similar to that discussed above for the block 220 registration request. As discussed above, SMS represents one particular text-based cellular protocol. Other text-based cellular protocols may be used in place of SMS messaging to implement the block 320 ticket purchase. For a player with a smart phone, the player may launch a gaming application and submit their game and number selection (ticket purchase request) to the application server via the gaming application (block 360).

[0020] Once the player selects their numbers (makes a ticket purchase request), method 300 proceeds to block 370 which involves an inquiry into whether the player’s purchase selection is valid. The block 370 inquiry may involve the application server validating the player’s purchase selection with the lottery server. If the player’s purchase selection is valid (block 375), a ticket ID and a transaction ID will be issued by the lottery server and the application server will send the player a confirmation message with the particulars of their purchase (e.g. game type, picked numbers, cost, ticket ID and transaction ID, purchase date and draw date). This block 375 confirmation message may be sent via return SMS or other cellular messaging protocol (i.e. from the application server to the player’s cellular handset) or by other form of return message (e.g. if the user has a smart phone running a gaming application). If the ticket purchase request sent by player was invalid (block 380), the application server will then send the player a message (e.g. by SMS, other text-based cellular protocol or other form of cellular phone message) outlining the applicable error and possibly providing a customer service number to call.

[0021] The lottery draw occurs in block 385. After the block 385 lottery draw, method 300 proceeds to lottery feedback method 120. Lottery feedback method 120 determines whether particular players are winners in block 387. Players with winning tickets receive a winning message (e.g. by SMS, other text-based cellular protocol or other form of cellular phone message) with an amount and numbers won
from the lottery server via the application server and the SMS gateway (block 390). Players without a winning ticket but subscribed to an optional auto-notification service may receive a message (block 395) with how many of their numbers were matching (e.g. by SMS, other text-based cellular protocol or other form of cellular phone message) and an invitation to play again prior to the next draw date. Although not explicitly shown in FIG. 3, winners may also receive an invitation to play again prior to the next draw date.

[0022] FIG. 4 is a generalized block diagram which schematically depicts an example implementation of a system 400 suitable for carrying out the methods of FIGS. 1-3. As shown in FIGS. 2-4, players with basic text message phones 410A, 410B, 410C may send SMS message(s) to, and receive SMS message(s) from, a lottery operator’s system 420 (and more particularly, lottery server 425) via cellular telephone network 430, SMS gateway 435 and application server 440. A player with a smart phone 442 may launch a gaming application and may send communication(s) to, and receive communication(s) from, lottery operator’s system 420 via cellular telephone network 430, secure TCP network 445 and application server 440. In some embodiments, players with smart phones 442 may also send SMS messages to and/or receive SMS messages from lottery operator system 420 via cellular telephone network 430, SMS gateway 435 and application server 440. As discussed above, SMS messaging represents only one possible text-based cellular messaging protocol and other text-based cellular protocols may be used in the place of SMS messaging.

[0023] Certain implementations of the invention comprise computer processors which execute software instructions which cause the processors to perform various method of the invention. For example, one or more processors in a secure mobile lottery system may implement data processing steps in the methods described herein by executing software instructions retrieved from a program memory accessible to the processors. The invention may also be provided in the form of a program product. The program product may comprise any medium which carries a set of computer-readable instructions which, when executed by a data processor, cause the data processor to execute a method of the invention. Program products according to the invention may be in any of a wide variety of forms. The program product may comprise, for example, physical media such as magnetic data storage media including floppy diskettes, hard disk drives, optical data storage media including CD ROMs, DVDs, electronic data storage media including ROMs, flash RAM, or the like. The instructions may be present on the program product in encrypted and/or compressed formats.

[0024] Where a component (e.g. a software module, processor, assembly, device, circuit, etc.) is referred to above, unless otherwise indicated, reference to that component (including a reference to a “means”) should be interpreted as including as equivalents of that component any component which performs the function of the described component (i.e. that is functionally equivalent), including components which are not structurally equivalent to the disclosed structure which performs the function in the illustrated exemplary embodiments of the invention.

[0025] As will be apparent to those skilled in the art in the light of the foregoing disclosure, many alterations, additions and/or modifications are possible in the practice of this invention without departing from the spirit or scope thereof. For example:

[0026] Players may be notified via text message of winning numbers.

[0027] Player winnings may be directly deposited to a pre-paid card or to an online wallet account. The limit may be defined by the lottery operator.

[0028] Players may be notified via text of pending draws or similar games.

[0029] Players may select previously picked numbers or computer generated random numbers or may manually enter their own new ticket numbers.

[0030] The system may incorporate an ability to cross market additional lottery or similar gaming products via SMS and/or email.

[0031] Players may join multi-ticket community pooling, which can be initiated by players and/or the lottery operator.

[0032] Players may retrieve ticket/transaction history via text or email. The archive limit may be set by the lottery operator.

[0033] Players may retrieve statistics (e.g. winning numbers) from the lottery operator.

[0034] Players may be able to reload their pre-paid cards at a lottery center.

[0035] Players may be able to reload their pre-paid cards via the internet.

[0036] Players may request a “keyword command table” by sending a SMS with a suitable command line (e.g. “Keyword Table”) to the application server.

[0037] Players may request instruction on how to play the mobile lottery by sending a SMS with a suitable command line (e.g. “Help”) to the application server.

[0038] The systems and methods disclosed herein have application beyond lotteries to purchasing tickets or the like for other similar games of chance or for purchasing services generally.

Accordingly, the scope of the invention should be construed in accordance with the substance of the following claims.

What is claimed is:

1. A method for conducting a lottery, the method comprising:

   receiving a ticket purchase request from a lottery player at an application server via a cellular telephone network, the ticket purchase request comprising identification of a lottery game and an indicator of one or more numbers to play in the lottery game;

   sending a confirmation message from the application server to a cellular handset of the lottery player via the cellular telephone network, the confirmation message comprising information which identifies the lottery game and information which indicates the numbers played in the lottery game; and
if the numbers played in the lottery game include winning numbers, sending a winning message from the application server to the cellular handset of the lottery player via the cellular telephone network, the winning message comprising an indication of an amount that the lottery player has won and an indication of the winning numbers.

2. A method according to claim 1 wherein sending the confirmation message and sending the winning message respectively comprise sending the confirmation message via a text-based cellular protocol and sending the winning message via the text-based cellular protocol.

3. A method according to claim 2 wherein receiving the ticket purchase request comprises receiving the ticket purchase request via the text-based cellular protocol.

4. A method according to claim 2 wherein receiving the ticket purchase request comprises receiving the ticket purchase request from a gaming application which is running locally on the cellular handset of the lottery player.

5. A method according to claim 1 wherein, prior to receiving a ticket purchase request, the method comprises conducting a series of registration communications which occur at least in part over the cellular telephone network.

6. A method according to claim 5 wherein conducting the series of registration communications comprises:

receiving a registration request message from the cellular handset of the lottery player at the application server via the cellular telephone network, the registration request message comprising an account identifier and a password; and

sending a registration confirmation message from the application server to the cellular handset of the lottery player via the cellular telephone network, the registration confirmation message comprising an indication that the lottery player is registered.

7. A method according to claim 6 wherein receiving the registration request message and sending the registration confirmation message respectively comprise receiving the registration request message via a text-based cellular protocol and sending the registration confirmation message via the text-based cellular protocol.

8. A method according to claim 6 wherein the account identifier and password correspond to a prepaid gaming account.

9. A method according to claim 8 wherein the method comprises selling the prepaid gaming account to the lottery player via a lottery vendor in an over-the-counter transaction between individual people.

10. A method according to claim 9 wherein selling the prepaid gaming account comprises the lottery vendor obtaining information from the lottery player to verify that the lottery player is legally allowed to play the lottery game under applicable legislation.

11. A method according to claim 6 wherein receiving the registration request message comprises receiving the registration request message from a gaming application which is running locally on the cellular handset of the lottery player.

12. A method according to claim 5 wherein conducting the series of registration communications comprises:

receiving an online registration request at the application server via a TCP/IP network, the online registration request comprising information relating to the lottery player for verifying that the lottery player is legally allowed to play the lottery game under applicable legislation;

sending a registration confirmation request from the application server to the cellular handset of the lottery player via the cellular telephone network; and

receiving a registration confirmation message from the cellular handset of the lottery player to the application server via the cellular telephone network.

13. A method according to claim 12 wherein sending the registration confirmation request and receiving the registration confirmation message respectively comprise sending the registration confirmation request via a text-based cellular protocol and receiving the registration confirmation message via the text-based cellular protocol.

14. A method according to claim 1 comprising, after completion of the lottery game, notifying the lottery player of pending lottery games via the cellular telephone network.

15. A method according to claim 1 wherein the indicator of one or more numbers to play in the lottery game comprises an indicator to have the one or more numbers randomly generated by a computer.

16. A method according to claim 1 wherein the indicator of one or more numbers to play in the lottery game comprises an indicator to play a recurring set of one or more numbers.

17. A method according to claim 1 comprising:

receiving a help request from a lottery player at an application server via a cellular telephone network, the help request comprising a help command;

sending a help message from the application server to the cellular handset of the lottery player via the cellular telephone network, the help message comprising information on how to play the lottery game in accordance with the method.

18. A system for conducting a lottery via a cellular telephone network, the method comprising an application server configured to execute program components, the program components comprising:

a ticket purchase request receiving component configured to receive a ticket purchase request from a lottery player via the cellular telephone network, the ticket purchase request comprising identification of a lottery game and an indicator of one or more numbers to play in the lottery game;

a confirmation sending component configured to send a confirmation message to a cellular handset of the lottery player via the cellular telephone network, the confirmation message comprising information which identifies the lottery game and information which indicates the numbers played in the lottery game; and

a winning message sending component configured, if the numbers played in the lottery game include winning numbers, to send a winning message from the application server to the cellular handset of the lottery player via the cellular telephone network, the winning message comprising an indication of an amount that the lottery player has won and an indication of the winning numbers.

19. A computer program embodied in a computer readable medium for controlling a lottery gaming system which
operates over a cellular telephone network, the computer program comprising code segments which direct one or more processors to:

receive a ticket purchase request from a lottery player at an application server via a cellular telephone network, the ticket purchase request comprising identification of a lottery game and an indicator of one or more numbers to play in the lottery game;

send a confirmation message from the application server to a cellular handset of the lottery player via the cellular telephone network, the confirmation message comprising information which identifies the lottery game and information which indicates the numbers played in the lottery game; and

if the numbers played in the lottery game include winning numbers, send a winning message from the application server to the cellular handset of the lottery player via the cellular telephone network, the winning message comprising an indication of an amount that the lottery player has won and an indication of the winning numbers.