**Abstract**

A player establishes a player account and may associate tickets with the player account by identifying the player’s account when purchasing a ticket. The player may identify the account in various ways. Each ticket purchased by the player is associated with the player’s account. The player may then use an account checking service to obtain information about tickets associated with the player’s account. The information provided may include results information, allowing a player to learn whether a ticket is a winning ticket without manually checking the ticket. The system is operated using a lottery computer system that includes a lottery database. The lottery database is used to store ticket information relating to tickets, player account information relating to player accounts and ticket association information relating to associations between player account and tickets.
FIG. 3

Ticket Vendor Terminal

Tag: $1 per play

How many draws would you like to play?

Play category 7 - $5
08 12 17 25 31
42 56

Play category 10 - $10
14 23 45 52 58
62 64 65 68 70

Play category 4 - $2
17 35 41 64

Tag 645849
Not Played

$85.00

Web Check ID: SONIA4
Ticket Code: 6230-8324-9026-3987
Verification Code 54152
Terminal 19982

Note: The image contains a diagram of a ticket vendor terminal with various labels and numbers indicating different sections and functionalities.
FIG. 4

Ticket Vendor Terminal
Ticket Vendor Terminal

FIG. 5

Over / Under
(5c: 4523)

October 25, 2003

Event 12 - October 25, 2003
College Football
Syracuse at Pittsburgh
Over 42.5 points Odds - 1.6

Event 13 - October 25, 2003
College Football
Tennessee at Alabama
Under 45.5 points Odds - 1.8

Event 22 - October 25, 2003
NHL Hockey
Washington at Toronto
Under 5.5 points Odds 1.7

Event 33 - October 25, 2003
NHL Hockey
Colorado at Nashville
Under 5.5 points Odds 1.6

Event 42 - October 26, 2003
NFL Football
Denver at Baltimore
Over 38.5 points Odds 1.8

All five predictions must be correct to win

Wager $20.00
x Odds 12.53
= Payout $250.80

Account ID Code: SONIA4
Ticket Code: 9227-3486-59726.578
Verification Code 3287
Terminal 76254
Initiate account creation service

Enter proposed account ID code and account information

Proposed account ID code and other account info acceptable?

Create player account record in player account table

Start

Player selects and completes selection slip, including account identification region, and gives the selection slip to a ticket vendor

Transmit Ticket Issue Request to ticket issuing server

Issue a ticket based on the Ticket Issue Request

Ticket issuing server adds ticket to lottery database and associates it with the specified player account

Send Ticket Receipt Data to ticket vendor terminal and print ticket

Give ticket receipt to player

End

Start

Transmit Error Message to ticket vendor terminal

End

FIG. 7

FIG. 8
FIG. 9

Start

Conduct draw

Update draw record 518 with winning number(s)

Check on-line lottery tickets valid for the draw

Update prize information in draw record 518

End

FIG. 10

Start

Wait for event to be completed

Update event record 534 based on actual event outcome

Check on-line game tickets that mature with the completed event

End

FIG. 11

Start

Transmit Ticket Redemption Request message to ticket server

Is the Ticket Status set to "Winner-Not Redeemed"?

Yes

Can ticket vendor redeem prize?

Yes

Transmit "Ticket Redeem Ticket message to ticket server

No

Transmit "Non-Redeemable Ticket" message to ticket server

End

No

Transmit "Ticket Redemption Information" message to ticket server

End
Welcome to the State Lottery Website

If you already have an account, enter your Account ID Code and Password and click on "Enter"

Enter Your Account ID Code Here: SONIA4
Enter Your Account Password Here: ********

If you don't have an account, click on "Create Account" to create one
## STATE LOTTERY

**Player Account Status as of November 2, 2003 2:00 p.m.**

### Account Summary

(The information below relates to your valid tickets. Expired and otherwise invalid tickets are not included. Click here for complete rules.)

- You have won $82 in on-line lotteries (not including prizes on tickets with draws remaining).
- You have redeemed $2 in on-line lottery prizes.
- You have won $188 on tickets that have one or more draws remaining.
- You have two tickets with one or more draws remaining.
- You have won $250.60 in on-line games.
- You have not redeemed $250.60 in on-line game prizes.
- You have one ticket with events remaining.

### Ticket Summary

You have 5 valid on-line lottery tickets:

<table>
<thead>
<tr>
<th>Lottery</th>
<th>Ticket Code</th>
<th>Draw Date(s)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lotto 7/47</td>
<td>2130-2131-4983-2342</td>
<td>Oct 10, 2003</td>
<td>$82 Winner (Redeemed)</td>
</tr>
<tr>
<td></td>
<td>2131-4556-8878-2902</td>
<td>Oct 24 to</td>
<td>$188 Winner (1 draw remaining)</td>
</tr>
<tr>
<td></td>
<td>2133-2234-9823-4020</td>
<td>Nov 7, to</td>
<td>Not drawn yet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nov 14, 2003</td>
<td></td>
</tr>
<tr>
<td>KENO</td>
<td>4227-0234-9293-7401</td>
<td>Oct 24 to</td>
<td>Not a winner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oct 26, 2003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4230-3241-0234-8012</td>
<td>Oct 28, 2003</td>
<td>$2 Winner (Not redeemed)</td>
</tr>
</tbody>
</table>

You have 4 valid on-line game tickets:

<table>
<thead>
<tr>
<th>Game</th>
<th>List</th>
<th>Ticket Code</th>
<th>Purchase Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Line</td>
<td>4523</td>
<td>9114-9354-1347-4789</td>
<td>Oct 24, 2003</td>
<td>Not a winner</td>
</tr>
<tr>
<td></td>
<td>4523</td>
<td>9114-6534-8836-3837</td>
<td>Oct 25, 2003</td>
<td>Not a winner</td>
</tr>
<tr>
<td>Over/Under</td>
<td>4523</td>
<td>9227-3486-5972-6578</td>
<td>Oct 24, 2003</td>
<td>$250.60 Winner (Not redeemed)</td>
</tr>
<tr>
<td></td>
<td>4524</td>
<td>9245-1942-6572-9234</td>
<td>Oct 31, 2003</td>
<td>Events not completed</td>
</tr>
</tbody>
</table>

Click on a ticket code to get a detailed report for that ticket.

FIG. 14
STATE LOTTERY
Player Account Status as of November 2, 2003 2:01 p.m.
Detailed Ticket Status Report

Ticket Code: 2130-2485-3245-2352
Valid for LOTTO 7/47
Draw: October 10, 2003

Your played number sets
LOTTO 7/47: 11 17 32 39 42 46
08 11 17 23 42 43
TAG: 234979 (Not Played)

Summary of Ticket Results
This ticket has won $82. This prize has been redeemed.

Detailed Ticket Results
(a matching regular number is underlined,
and a matching bonus number is bold, italicized and underlined)

October 10, 2003
Winning Numbers
LOTTO 7/47: 02 08 13 19 23 42 43 Bonus: 05
TAG: 220639

Your Results
LOTTO 7/47: 11 17 32 39 42 46
08 11 17 23 42 43 Winner - $82
TAG: 234979
Sorry - Tag not played
You would have won $5

Return to Account Summary
STATE LOTTERY

Player Account Status as of November 2, 2003 2:01 p.m.
Detailed Ticket Status Report

Ticket Code: 2131-4556-8878-2902

Valid for LOTTO 7/47 and TAG
Draws: 3 draws between October 24, 2003 to November 7, 2003

Your played number sets

LOTTO 7/47: 02 07 09 11 22 43 47
05 10 17 23 32 36 47

TAG: 909207

Summary of Ticket Results
You have won $188.00 on this ticket.
Your ticket is still valid for one more draw on November 7, 2003.
You must wait until all draws are complete to redeem this ticket.

Detailed Ticket Results
(a matching regular number is underlined,
a matching bonus number is bold, italicized and underlined)

October 24, 2003

Winning Numbers
LOTTO 7/47: 04 05 17 20 36 41 47 Bonus: 22
TAG: 873207

Your Results
LOTTO 7/47: 02 07 09 11 22 43 47
05 10 17 23 32 36 47 Winner - $17.00

TAG: 909207 Winner - $25.00

October 31, 2003

Winning Numbers
LOTTO 7/47: 02 07 11 17 22 36 43 Bonus: 23
TAG: 258952

Your Results
LOTTO 7/47: 02 07 09 11 22 43 47 Winner - $146.00
05 10 17 23 32 36 47

TAG: 909207

November 7, 2003 - Draw not held yet.

Return to Account Summary

FIG. 16
STATE LOTTERY

Player Account Status as of November 2, 2003 2:02 p.m.
Detailed Ticket Status Report

Ticket Code: 9227-3486-5972-6578
Valid for Over/Under - List 4523

Summary of Ticket Results
You have won $250.60 on this ticket.
Your have not redeemed this prize.

Detailed Ticket Results
(Incorrect predictions are bold, italicized and underlined)

<table>
<thead>
<tr>
<th>Event</th>
<th>Your Prediction</th>
<th>Actual Outcome</th>
<th>Odds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event 12 - October 25, 2003 College Football Syracuse at Pittsburgh</td>
<td>Over 46.5 points</td>
<td>Over</td>
<td>1.6</td>
</tr>
<tr>
<td>Event 13 - October 25, 2003 College Football Tennessee at Alabama</td>
<td>Under 45.5 points</td>
<td>Under</td>
<td>1.6</td>
</tr>
<tr>
<td>Event 32 - October 25, 2003 NHL Hockey Washington at Toronto</td>
<td>Under 5.5 points</td>
<td>Under</td>
<td>1.7</td>
</tr>
<tr>
<td>Event 33 - October 25, 2003 NHL Hockey Colorado at Nashville</td>
<td>Under 5.5 points</td>
<td>Under</td>
<td>1.6</td>
</tr>
<tr>
<td>Event 42 - October 26, 2003 NFL Football Denver at Baltimore</td>
<td>Over 38.5 points</td>
<td>Over</td>
<td>1.8</td>
</tr>
</tbody>
</table>

All of your predictions are correct. **THIS TICKET IS A WINNER!!!!**

Wager $20.00
x Odds 12.53
= Payout $250.60

Click [here](#) to find out how you can redeem your winning ticket.

Return to Account Summary

FIG. 17
**STATE LOTTERY**
Player Account Status as of October 27, 2003 10:33 a.m.
Detailed Ticket Status Report

Ticket Code: 9113-4234-2342-3047
Valid for Sports Line - List 4523

Summary of Ticket Results
This ticket is not a winner.

**Detailed Ticket Results** *(Incorrect predictions are **bold, italicized and underlined**)*

<table>
<thead>
<tr>
<th>Event</th>
<th>Your Prediction</th>
<th>Actual Outcome</th>
<th>Odds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event 12 - October 25, 2003 College Football Syracuse Win Syracuse Win 4.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event 33 - October 25, 2003 NHL Hockey Nashville Win Colorado Win 3.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event 43 - October 26, 2003 NFL Football Tie Tie 1.2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All of your predictions must be correct to win. At least one of your predictions is incorrect. Sorry, better luck next time.

Wager $5.00
x Odds 14.40
= Payout $72.00

You would have won $72 if all of your predictions had been correct.
How many draws would you like to play?

- 1 draw
- 2 draws
- 3 draws
- 4 draws
- 5 draws
- 6 draws
- 7 draws
- 8 draws
- 9 draws
- 10 draws

Mark Your Account ID Code Here

Ticket Vendor Terminal

LOTTO 7/47
Mar 5 2004 - Apr 2 2004
(5 draws)

03 12 16 20 28 31 46
15 21 25 26 30 34 38

Auto Pick Number Set:
04 23 34 38 39 43 45

$30.00

Account ID Code: KARIN2
Ticket Code:
2234-3495-3894-3940
Verification Code 2329
Terminal 94921

FIG. 21
Start

Stop player account server 1262 access to secondary lottery database 1260b

Copy changes from secondary lottery database to primary lottery database 1260a

Replace secondary lottery database with copy of updated primary lottery database

Allow player account server to access new secondary lottery database

End

FIG. 24
**Ticket Summary**

You have 5 valid on-line lottery tickets:

<table>
<thead>
<tr>
<th>Lottery</th>
<th>Reference Code</th>
<th>Draw Date(s)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOTTO 7/47</td>
<td>L-0052</td>
<td>Oct 10, 2003</td>
<td>$82 Winner (Redeemed)</td>
</tr>
<tr>
<td></td>
<td>L-0053</td>
<td>Oct 24 - Nov 7, 2003</td>
<td>$188 Winner (1 draw remaining)</td>
</tr>
<tr>
<td></td>
<td>L-0054</td>
<td>Nov 7 - Nov 14, 2003</td>
<td>Not drawn yet</td>
</tr>
<tr>
<td>KENO</td>
<td>K-0235</td>
<td>Oct 24 - Oct 26, 2003</td>
<td>Not a winner</td>
</tr>
<tr>
<td></td>
<td>K-0236</td>
<td>Oct 28, 2003</td>
<td>$2 Winner (Not redeemed)</td>
</tr>
</tbody>
</table>

You have 4 valid on-line game tickets:

<table>
<thead>
<tr>
<th>Game</th>
<th>List</th>
<th>Reference Code</th>
<th>Purchase Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Line</td>
<td>4523</td>
<td>SL-2343</td>
<td>Oct 24, 2003</td>
<td>Not a winner</td>
</tr>
<tr>
<td></td>
<td>4523</td>
<td>SL-2344</td>
<td>Oct 25, 2003</td>
<td>Not a winner</td>
</tr>
<tr>
<td>Over/Under</td>
<td>4523</td>
<td>OU-0023</td>
<td>Oct 24, 2003</td>
<td>$250.60 Winner (Not redeemed)</td>
</tr>
<tr>
<td></td>
<td>4524</td>
<td>OU-0024</td>
<td>Oct 31, 2003</td>
<td>Events not completed</td>
</tr>
</tbody>
</table>

Click on a reference code to get a detailed report for that ticket.
STATE LOTTERY
Player Account Identification Card
Present this card to a ticket vendor when buying a ticket to add the ticket to your player account.

How many draws would you like to play?

Lotto 7/47
$2 per Board

FIG. 27
Player presents account identification device 1476 to a ticket vendor and requests a ticket 2802. If required, ticket server 1464 looks up player's account identification code 2805. Ticket issuing server 1464 adds ticket to lottery database 1460 and associates it with the specified player account 2810. Ticket receipt data 554 is sent to ticket vendor terminal 1404 and ticket receipt 114 is given to the player 2812. If the ticket server 1464 looks up the player's account identification code and there is no ticket associated with the specified player account, error message is transmitted to ticket vendor terminal 104 2808. The process ends.
STATE LOTTERY
Account ID Code: Karina Jones (KARINA1022)

Lotto 747 Purchase Voucher Creation Page
You may play up from 1 to 4 boards with one voucher. On each board, mark a set of 7 played numbers.

<table>
<thead>
<tr>
<th>Board 1</th>
<th>Board 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>8 9 10 11 12 13 14</td>
<td>8 9 10 11 12 13 14</td>
</tr>
<tr>
<td>15 16 17 18 19 20 21</td>
<td>15 16 17 18 19 20 21</td>
</tr>
</tbody>
</table>

Add up to 10 Auto-Pick played number sets:
Add up to 10 Tag numbers to your ticket:
How many draws to you wish to play:

Create Voucher

LOTTO 747
Account ID Code: KARINA1022

Lotto 747 Ticket Purchase Voucher
Account ID Code: KARINA1022
You will receive a ticket for four draws after you use this voucher. This voucher can be used at any time that a Lotto 747 can be purchased.

Lotto 747 Played Number Sets:
You manually selected 2 played numbers sets:
08 12 23 29 32 37 45
02 18 24 28 33 39 42
You selected 1 automatically played number set for Lotto 747.
You selected 2 automatically selected Tag played numbers.
The cost of your ticket will be $32.00.
Present this voucher to any lottery retailer to purchase your ticket.

Voucher Code: V1653-564-5685-165

FIG. 33
STATE LOTTERY
Account ID Code: Karina Jones (KARINA1022)
Sports Line Purchase Voucher Creation Page
Mark your prediction for 3 to 6 events and enter a wager between $2 to $100.

<table>
<thead>
<tr>
<th>EVENT</th>
<th>SPORT TIME</th>
<th>HOME</th>
<th>VISITOR</th>
<th>WIN</th>
<th>TIE</th>
<th>V WIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday, November 12, 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>CFB 12:00 pm</td>
<td>TXAM</td>
<td>OKLA</td>
<td>5.20</td>
<td>4.00</td>
<td>1.20</td>
</tr>
<tr>
<td>18</td>
<td>CFB 12:00 pm</td>
<td>MRYL</td>
<td>NCAR</td>
<td>2.60</td>
<td>3.00</td>
<td>2.00</td>
</tr>
<tr>
<td>23</td>
<td>CFB 2:00 pm</td>
<td>KTKY</td>
<td>VDBB</td>
<td>5.00</td>
<td>3.90</td>
<td>1.30</td>
</tr>
<tr>
<td>30</td>
<td>CFB 6:00 pm</td>
<td>WSHG</td>
<td>ARIZ</td>
<td>5.20</td>
<td>4.00</td>
<td>1.20</td>
</tr>
<tr>
<td>44</td>
<td>HKY 1:00 pm</td>
<td>WSH</td>
<td>NYJ</td>
<td>2.20</td>
<td>8.50</td>
<td>1.50</td>
</tr>
<tr>
<td>45</td>
<td>HKY 7:00 pm</td>
<td>TOR</td>
<td>MTL</td>
<td>2.00</td>
<td>6.00</td>
<td>1.60</td>
</tr>
<tr>
<td>Sunday, November 13, 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>FTB 1:00 pm</td>
<td>KC</td>
<td>BUF</td>
<td>2.40</td>
<td>2.80</td>
<td>2.30</td>
</tr>
<tr>
<td>57</td>
<td>FTB 1:00 pm</td>
<td>SF</td>
<td>CHI</td>
<td>5.20</td>
<td>4.00</td>
<td>1.20</td>
</tr>
<tr>
<td>60</td>
<td>FTB 9:00 pm</td>
<td>DAL</td>
<td>PHI</td>
<td>2.42</td>
<td>2.90</td>
<td>2.40</td>
</tr>
<tr>
<td>67</td>
<td>HKY 8:00 pm</td>
<td>DAL</td>
<td>ANA</td>
<td>1.70</td>
<td>6.00</td>
<td>1.90</td>
</tr>
<tr>
<td>68</td>
<td>HKY 10:00 pm</td>
<td>DET</td>
<td>VAN</td>
<td>1.90</td>
<td>6.00</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Wager: $10.00
Total Multiplier: x124.80
You Could Win: $124.80

Create Voucher

Sports Line Ticket Purchase Voucher
Account ID Code: KARINA1022
You must use this voucher before 11:45 am on Saturday, November 12, 2005.

Your Predictions:

- College Football: Oklahoma defeat Texas Am by 4 or more points
- College Football: Maryland defeat North Car by 4 or more points
- NFL Football: Dallas beat Philadelphia by 4 or more points
- NHL Hockey: Mil defeat Toronto (excluding OT and shootout)
- NFL Football: Dallas defeat Philadelphia

Your Wager: $10.00
Odds: x 124.80
You Could Win: $124.80

Present this voucher to any lottery retailer to purchase your ticket.

Voucher Code: V1654-470-6336-332

FIG. 35
### STATE LOTTERY

**Account ID Code:** Karina Jones (KARINA1022)

**Over/Under Purchase Voucher Creation Page**

Mark your predictions for 3 to 6 events and enter a wager between $2 to $100.

<table>
<thead>
<tr>
<th>Event Sport Time</th>
<th>Home</th>
<th>Visitor</th>
<th>Over</th>
<th>#</th>
<th>Under</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday, November 12, 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 CFB 12:00 pm TXAM OKLA</td>
<td>1.70</td>
<td>38.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 CFB 12:00 pm MRYS NGAR</td>
<td>1.70</td>
<td>37.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23 CFB 2:00 pm KTYK VDRB</td>
<td>1.70</td>
<td>33.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 CFB 8:00 pm WSHG ARIZ</td>
<td>1.70</td>
<td>36.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44 HKY 1:00 pm WSH NYJ</td>
<td>1.70</td>
<td>6.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 HKY 7:00 pm TOR MTL</td>
<td>1.70</td>
<td>5.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunday, November 13, 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 FTB 1:00 pm KC BUF</td>
<td>1.70</td>
<td>43.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57 FTB 1:00 pm SF CHI</td>
<td>1.70</td>
<td>44.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 FTB 9:00 pm DAL PHI</td>
<td>1.70</td>
<td>43.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87 HKY 8:00 pm DAL ANA</td>
<td>1.70</td>
<td>5.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>88 HKY 10:00 pm DET VAN</td>
<td>1.70</td>
<td>5.5</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Wager:** $4.00

**Total Multiplier:** x 4.91

**You Could Win:** $19.64

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**Summary of Your Ticket:**

**Your Predictions:**

- **Sunday, November 13, 2005**
  - NFL Football: Kansas City and Buffalo score under 43.5 points
  - San Fran. and Chicago score over 44.5 points
  - Dallas and Philadelphia score over 43.5 points

**Your Wager:** $4.00

**Total Multiplier:** x 4.91

**You Could Win:** $19.64

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**Create Voucher**

**Lottery Computer System**

**Ticket Vendor Terminal**

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**OVER / UNDER**

- Event 56 - November 13, 2005
  - College Football: Kansas City and Buffalo under 43.5 / Odds - 1.7
  - Event 57 - November 13, 2005
  - College Football: San Francisco and Chicago over 44.5 / Odds - 1.7
  - Event 58 - November 13, 2005
  - NFL Football: Dallas and Philadelphia over 43.5 / Odds - 1.7

**All three predictions must be correct to win**

**Wager:** $4.00

**x Odds:** 4.91

**Payout:** $19.64

**Account ID Code:** KARINA1022

**Ticket Code:** 3578-5696-1598-2584

**Verification Code:** 2432

**Terminal:** 45876
FIG. 37A
FIG. 37C

3000
Start

Player accesses the player account server 162.

3002
Access Allowed?

Yes

3004
Display Error Message

3006
End

3008
Select on-line lottery or on-line game

3010
Make selections for selection on-line lottery or on-line game

3012
Transmit Ticket Purchase Voucher Request

3014
Add Ticket Purchase Voucher to Lottery Database

3016
Generate ticket purchase voucher 113

3018
Transmit ticket purchase voucher to player terminal

End

3100
Start

3102
Present ticket purchase voucher to vendor

3104
Scan ticket purchase voucher and transmit voucher code to ticket server

3106
Issue ticket

End

FIG. 38

FIG. 41
Welcome to the State Lottery Website

If you already have an account, enter your Account ID Code and Password and click on "Enter"

Enter Your Account ID Code Here: KARINA1022
Enter Your Account Password Here: ******

If you don't have an account, click on "Create Account" to create one

Create Account

Welcome, Karina

Please select a Lottery or Game for which you wish to make a ticket purchase voucher.

Lotto 7/47  KENO
SportsLine  Over/Under

If you don't have an account, click on "Create Account" to create one

FIG. 39

FIG. 40
The State Lottery
Ticket Purchase Voucher

Account ID Code: KARINA1022

Present this voucher to a lottery retailer to purchase the tickets set out below. This voucher does not expire. You may use it as often as you like.

Ticket 1: LOTTO 7/47
Manual Lotto 7/47 Played Number Sets: 2
08 12 23 29 32 37 45
02 18 24 29 33 38 42
Auto-Picks: 1
Tag: 2
Advance Play: 4 draws
Price: $22

Ticket 2: KENO
Manual Keno Played Number Sets: 2
Play Cat. Played Numbers: Wager
1 1 2 7 9 10 16 22 $2
8 12 25 27 43 46 64 66 $10
Auto-Picks: 1
Pay Cat. Wager: 2
$5
Advance Play: 2 Draws
Price: $34.00.

Ticket 3: LOTTO 7/47
Manual Lotto 7/47 Played Number Sets: 0
Auto-Picks: 5
Tag: 0
Advance Play: No
Price: $5

Voucher Code: V1680-428-8383-367

FIG. 42
SYSTEMS AND METHODS FOR TICKET CHECKING SERVICES FOR ON-LINE LOTTERIES AND ON-LINE GAMES

FIELD

[0001] The present invention relates to on-line lotteries and on-line games. More particularly, it relates to systems, apparatus and methods that allow a player to obtain information relating to the player’s tickets for on-line lotteries or on-line games or both.

BACKGROUND

[0002] Many lotteries operated by state lottery or gaming commissions and other bodies require a player to select a set of numbers from a larger set of numbers. A player selects a set of played numbers, typically by marking the played numbers on a selection slip. The selection slip is processed using a ticket vending terminal and a lottery computer system. The player is issued a ticket receipt setting out the selected played numbers. These lotteries, some examples of which are described in greater detail below, are referred to herein as on-line lotteries.

[0003] Typically, on-line lotteries are operated by a lottery operator who conducts periodic draws of the on-line lottery. The lottery operator operates the on-line lottery using a lottery computer system. The lottery computer system is coupled to one or more ticket vending terminals. A ticket vending terminal is used to process paper selection slips marked by a lottery player to select played numbers. The term “on-line” refers to the use of the ticket vending terminals and the lottery computer system to process a selection slip and to issue a ticket to the player.

[0004] The ticket may include a set of played numbers selected by the player or selected automatically for the player or both. Many on-line lotteries allow (or require) a player to request a ticket with played numbers chosen by the lottery computer system or a ticket vending terminal, either randomly, pseudo-randomly, using one or more rotating lists of played numbers or through some other method of automatically selecting played numbers. Played numbers selected in this fashion for a player are referred to herein as automatically selected numbers or automatically selected played numbers.

[0005] The set of numbers chosen by the player or automatically selected for the player is referred to herein collectively as a set of played numbers or a played number set. Depending on the rules of a particular on-line lottery, a played number set may consist of one or more played numbers.

[0006] At the time a ticket is sold to a player, information about the ticket is recorded in the lottery computer system. Typically, the lottery computer system includes a lottery database and creates a ticket record for the newly sold ticket in the lottery database. The player is given a ticket receipt setting out some or all of the information recorded in ticket record. The ticket receipt is the player’s record of the ticket the player has purchased. The ticket record is the lottery operator’s record of the ticket it has sold. The word “ticket” is often used in common parlance to refer to the ticket receipt given by a ticket vendor to a lottery player.

[0007] For example, one on-line lottery operated by a lottery operator in this manner requires a player to select six different played numbers between 1 and 49, inclusive. Alternatively, the player may have six numbers automatically selected for the player, as described above. In either case, the played number set in this on-line lottery consists of six different played numbers between 1 and 49.

[0008] The played number set selected by the player or automatically selected for the player by a ticket vending terminal are transmitted from the ticket vending terminal to the lottery computer system. The lottery computer system records the played number set in a lottery database and transmits instructions to the ticket vending terminal to print a lottery ticket receipt for the player. Typically, the played numbers are recorded on the ticket receipt, along with additional information such as the date of a draw (or draws) of the lottery for which the ticket is valid.

[0009] At the time set for the draw, in this exemplary on-line lottery, a set of winning numbers consisting of six different regular numbers and a bonus number (different from all of the regular numbers), all between 1 and 49, inclusive, is drawn. The set of winning numbers are referred to collectively as a winning number set. The winning number set is usually publicized by the lottery operator, often in newspapers, advertisements posted by lottery ticket vendors on or world-wide-web sites (“web sites”) using the Internet. For example, see the web sites operated by the New York Lottery at www.nylottery.com and by the Ontario Lottery and Gaming Commission at www.olgc.ca. Various combinations of the regular numbers and the bonus number are defined as winning combinations. Some of the winning combinations may be: all six regular numbers, any five of the regular numbers and the bonus number, any five of the regular numbers, any four of the regular numbers and any three of the regular numbers. If the played number set includes any of the winning combinations, the player is awarded a prize.

[0010] The process of comparing a played number set to the corresponding winning number set, which may be referred to as checking the played numbers or checking the ticket, can be time consuming and is prone to errors. A single ticket may contain numerous played number sets. Each played number set must be individually compared with the corresponding winning number set. A player may have numerous tickets for different draws of the on-line lottery, and accordingly may have many played number sets to compare to different winning number sets. When the player has chosen a set of played numbers that she does not use often, or has a ticket with automatically selected played number sets, the task can require even more care since the player may not be familiar with the played numbers. In some cases, a single ticket may include played number sets for more than one on-line lottery, requiring the player to properly compare each played number set with the correct winning number set. In some cases, a ticket may be valid for more than one draw of an on-line lottery, and the player must be careful to ensure that each played number set is compared with all of the corresponding winning number sets for all of the draws.

[0011] The difficulty in checking a ticket can result in some players reducing the number of tickets they purchase and can result in other players failing to purchase any tickets at all. Even when a player does buy a ticket, there is a risk that a player may incorrectly check a ticket or may fail to check the ticket at all, thereby missing a prize to which the player is entitled, or incorrectly concluding that a ticket is a winning ticket.

[0012] Some lottery operators and other entities have attempted to provide a system to allow players to check their tickets. Some world-wide-web (WWW) sites allow a player to check a ticket by manually entering a set of played numbers
from the ticket receipt into a form on a web page and have these played numbers compared to one or more sets of winning numbers from past draws for certain on-line lotteries. Winning combinations of the played numbers may be identified and the prize awarded for the combination may be displayed. The process must be repeated for each set of played numbers. For example, see the ticket checker function at the website www.merseylotteries.com, which allows a player to manually enter one or more sets of played numbers from a ticket receipt and have the entered numbers compared to winning numbers from one or more draws of some on-line lotteries operated by the United Kingdom National Lottery. These systems still require a player to accurately enter his played numbers. A player may have one or more played number sets to check for one or more draws. Some of these played number sets may be familiar to the player (i.e. regularly played number sets) but some of them may be unfamiliar (i.e. automatically selected number sets or infrequently played number sets). In either case, the player must accurately and laboriously enter all of the played numbers in each played number set. The player must repeat the process each time he wishes to check his lottery tickets. These partially automated processes for checking a ticket remain laborious and prone to errors.

Some lottery and gaming commissions operate on-line gambling or betting games in which players predict the outcome of one or more events, such as sporting events and wagers or bets some amount of money that he or she has correctly predicted the outcomes in some or all of the events. Such games will be referred to here as on-line games. A player purchases a ticket for such on-line games by selecting one or more events (often a minimum and maximum number of events are specified) and predicting an outcome for each of the events. The predictions made by the player are referred to herein as a set of predictions or as a prediction set. The player makes a bet that his predictions will be correct. The player also selects a wager amount for the bet. The player marks the prediction set and wager on a selection slip. The selection slip is processed using a ticket vending terminal and lottery computer system. The player is given a ticket receipt setting out his prediction set at the time he purchases the ticket. If a player successfully predicts the outcome of the event according to the rules of the on-line game, he is entitled to a prize. The value of the prize depends on the wager selected by the player.

In one exemplary version of an on-line game, a game operator (who will be generally referred to herein as a lottery operator, since in many cases, on-line lotteries and on-line games are operated by the same operator) publishes a list of future sporting events and provides odds on the likelihood that a home team will win the event, that a visiting team will win the event and that the two teams will tie. The definition of a tie for the listed events is set out by the lottery operator and does not always coincide with the definition used in the actual rules of the events. In other on-line games, the lottery operator may provide odds that one team will defeat the other by a specified point spread. In other on-line games, the lottery operator may specify a total number of goals or points and provide odds that the two teams (or one of the teams) will score over or under the specified number of goals or points.

In one such on-line game, a player purchases a ticket by marking a set of predictions for three to six events on a selection slip. The player also indicates the amount of his wager on the selection slip. The player gives the selection slip to a ticket vendor, as in the on-line lottery described above. The ticket vendor uses a ticket vending terminal to send the information on the selection slip to a lottery computer system. The lottery computer system records details about the player's prediction set in a lottery database and transmits instructions to the ticket vending terminal to print a ticket receipt for the player. The ticket receipt sets out the amount of the bet made by the player, the selected events and the player's prediction set.

The ticket receipt also sets out a payout value based on a function of the odds defined for the set of predictions made by the player and the player's wager. For example, the odds may be defined as numbers greater than one that correspond to likeliness of each outcome, in the judgment of the lottery operator. When using this method for setting odds, the lottery operator sets the odds at a higher number for a less likely outcome. The odds for all of the predicted outcomes are multiplied together to give the payout value. After the selected events have taken place, if the player has correctly guessed the correct outcomes for each event, he receives a prize equal to the payout value.

The process of checking a ticket for such an on-line game can also be time-intensive and subject to error. A player may misinterpret the results of an event, especially since the rules for interpreting the results of the event for the purpose of the on-line game can be different from the rules in the real event and for various other reasons. A player who has many tickets to check based on many different events may make a mistake and miss a prize to which he is entitled or incorrectly conclude that the player has won a prize.

Accordingly, there is a need for improved systems, apparatus and methods for providing information about tickets for on-line lottery and on-line game to lottery players.

**SUMMARY**

The present invention allows a lottery player to obtain information about the player's lottery tickets, including results information, without manually comparing played numbers on the player's lottery tickets to the corresponding winning numbers. The results information for a ticket indicates whether the ticket is a winning ticket and may also indicate what prizes the ticket has won.

Similarly, the present invention allows a player to obtain information about the results for the player's on-line game tickets, including results information, without manually comparing the player's predictions for events in an online game to the actual outcome of those events.

A lottery operator uses a lottery computer system to operate one or more on-line lottery or on-line game, or both. The lottery computer system includes a lottery database that is used to store information relating to the on-line lotteries or on-line game, or both, operated by the lottery operator. The term “lottery database” as used herein may include any data recording system suitable for recording data. The lottery database is not restricted to any particular type of data structure, system or mechanism. For example, a lottery database may be a relational database, a non-relational database, a data file, a set of data files, a flat file or any other mechanism, structure or system for recording data.

The present invention allows a player to create a player account and to associate a plurality of tickets with the player account. The account is created using a player terminal and the lottery computer system. Player account information
relating to the player account is recorded in the lottery database. The player account information about the account includes an account identification code. In addition, the player account information may optionally include an account password and personal information relating to the player. An account password may optionally be recorded in a modified form, such as an encrypted or hashed form.

[0023] The player may purchase on-line lottery or on-line game tickets and associate the tickets with player’s account. When purchasing the tickets, the player identifies the player’s account. The player may identify the player’s account in various ways.

[0024] In some embodiments, the player may purchase a ticket by using a player terminal to log into the player’s account at a website (or other interface, depending on the nature of the player terminal) operated by the lottery operator. The player authenticates the player’s right to access the player’s account by providing the account identification code and a password for the player’s account. Once the player has done so, the player is able to make selections for on-line lottery or on-line game tickets, or both. The player’s selections for each ticket are transmitted to a ticket server in the lottery computer system, which issues the ticket. The tickets purchased while logged into the player’s account are associated with the player’s account in the lottery database.

[0025] In some embodiments, the player uses a ticket purchase voucher to purchase tickets that are associated with the player’s account. The ticket purchase voucher includes selections for one or more tickets that the player wishes to purchase and is associated with the player’s account. In some embodiments, the ticket purchase voucher may have a ticket purchase voucher record in the lottery database and the account identification code of the associated player account may be recorded in the ticket purchase voucher record. In other embodiments, the ticket purchase voucher may have the player’s account identification code encoded into the ticket voucher. The ticket purchase voucher includes a machine readable version of a ticket purchase voucher code that is unique to the ticket purchase voucher. The player presents the ticket purchase voucher to a ticket vendor who scans the ticket purchase voucher code at a ticket vending terminal. The ticket vending terminal transmits the ticket purchase voucher code to the ticket server. The ticket server issues each of the tickets requested on the ticket purchase voucher. Each of the tickets is associated with the player’s account in the lottery database.

[0026] In some embodiments, the player uses a player account identification device such as a card with a magnetic strip or bar code, an RFID tag or another device that can be scanned and identified by a scanner coupled to a ticket vending terminal. The player presents the player account identification device and a request for a ticket to a ticket vendor. The request for a ticket may be in the form of a completed selection slip that is not specific to the player’s account or a verbal request for a ticket with automatically selected numbers. The ticket vendor scans the player account identification device at the ticket vending terminal. The ticket vendor also enters the request for a ticket into the ticket vending terminal by either scanning the selection slip or entering the verbal request. The ticket vending terminal transmits a ticket request to the ticket server. The ticket request identifies the player account identification device. The ticket server obtains the account identification code corresponding to the account identification device from the lottery database and issues the ticket. The ticket server associates the ticket with the player’s account in the lottery database. In some embodiments, the account identification device includes a machine readable version of the player’s account identification code. In such embodiments, the ticket request identifies the player’s account and the ticket server need not obtain it from the lottery database.

[0027] In some embodiments, a player may also be able to identify the player’s account when purchasing a lottery ticket by marking the player’s account identification code on a selection slip that has an account identification region. The selection slip is scanned at a ticket vending terminal, which sends a ticket request identifying the player’s account. The ticket server issues a ticket corresponding to the player’s selections on the selection slip and associates the ticket with the player’s account.

[0028] Any particular embodiment may permit a player to use any one or more of these methods to obtain a ticket that is associated with the player’s account. In embodiments that provide selection slips that have an account identification region, the lottery operator may specify rules for the composition of account identification codes that correspond to the layout of the account identification region.

[0029] The player may use an account checking service to access the lottery computer system and obtain information about tickets associated with the player’s account. The player accesses the account checking service using a player terminal. The player terminal communicates with a player account server that is part of the lottery computer system. The player identifies the player’s account by entering the account identification code for the player’s account at the player terminal. In an embodiment in which player accounts have passwords, the player may be required to authenticate the attempt to access the account checking service by also providing the account password for the player account.

[0030] In some embodiments, a player account may have a username in addition to an account identification code. A player may be required to provide the username rather than the account identification code to access the account checking service. If the player account also has a password, the player may be required to provide the username and the password to access the account checking service.

[0031] When a player accesses the account checking service, the player account server obtains information about the player’s tickets from the lottery database and transmits the information to the player terminal, where the information is displayed for the player to view.

[0032] The information displayed at the player terminal may include information about played numbers on the player’s tickets and results for the player’s tickets. As lottery draws are completed, the results for each ticket that is valid for the draw are determined by comparing each played number set on the lottery ticket to the corresponding winning number set. If a player accesses the account checking service after the draw for a lottery ticket has been conducted and the tickets for the draw have been checked, the account checking service provides the player with the results for the ticket. The player is able to learn whether a ticket is a winning ticket, without manually comparing a played number set with the corresponding winning number set.

[0033] In some embodiments, when a ticket is checked by the lottery computer system after a lottery draw, ticket results information relating to the results for the ticket is recorded as part of the ticket information for the ticket. When a player uses the account checking service to obtain information about
the ticket, the player account server obtains the ticket results information from the lottery database and transmits it to the player terminal.

[0034] In other embodiments, ticket results information is not recorded with the ticket information for a ticket. Instead, ticket results information is recorded in a winning ticket file, which identifies winning tickets and the prizes won by those tickets. In such an embodiment, the player account server may provide only the ticket results information recorded in the winning ticket’s file for a winning ticket. Alternatively, or additionally, the player account server may calculate additional ticket results information for a ticket and provide the calculated ticket results information to the player terminal.

[0035] In some embodiments the ticket server and the player account server access the same lottery database when issuing tickets and when providing the account checking service. In other embodiments, the ticket server may access and update a primary lottery database and the player account server may access and update a secondary lottery database. The two databases may be periodically synchronized.

[0036] The ticket server typically provides the ticket issuing function described above and may also provide a ticket redemption function that is described below. The structures of the primary and secondary databases may be identical or different. For example, the primary database may be designed to accommodate and expedite the ticket issuing and redemption functions provided by the ticket server. The secondary database may be designed to accommodate and expedite account checking functions provided by the player account server.

[0037] A player is thus able to use the account checking service to obtain information about tickets purchased using a ticket vending terminal as well as tickets purchased through other means offered by the lottery operator.

[0038] The invention is capable of being adapted for use with many different on-line lotteries and on-line game offered by different lottery operators. Various features and embodiments of the invention are further described below in the detailed description of several exemplary embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0039] Several exemplary embodiments of the present invention will now be described in detail with reference to the drawings, in which:

[0040] FIG. 1 is a block diagram of a system according to the present invention;
[0041] FIG. 2 illustrates a first selection slip and a corresponding ticket receipt for an on-line lottery;
[0042] FIG. 3 illustrates a second selection slip and a corresponding receipt for an on-line lottery;
[0043] FIG. 4 illustrates a third selection slip and a corresponding receipt for an on-line game;
[0044] FIG. 5 illustrates a fourth selection slip and a corresponding receipt for an on-line game;
[0045] FIGS. 6a and 6b illustrate a database of system 100;
[0046] FIG. 7 is a flowchart illustrating a method of creating a player account;
[0047] FIG. 8 is a flowchart illustrating a method of selling an on-line lottery or on-line game ticket to a player and correspondingly allowing a player to purchase a ticket;
[0048] FIG. 9 is a flowchart illustrating a method for updating draw records for draws of on on-line lotteries and for checking on-line lottery tickets;
[0049] FIG. 10 is a flowchart illustrating a method for updating event records for events in on-line games and for checking on-line game tickets;
[0050] FIG. 11 is a flowchart illustrating a method for redeeming tickets;
[0051] FIG. 12 is a flowchart illustrating a method of providing a lottery player with information about on-line lottery and on-line game tickets associated with a player account;
[0052] FIG. 13 illustrates a welcome web page that is part of a player website of system 100;
[0053] FIG. 14 is an example account summary report setting out summary information about a player account and tickets associated with the player account;
[0054] FIGS. 15, 16, 17 and 18 are example detailed ticket status reports setting out detailed information about tickets associated with a player account;
[0055] FIGS. 19 and 20 illustrate other selection slip according to the invention;
[0056] FIG. 21 illustrates another selection slip and a corresponding ticket receipt according to the invention;
[0057] FIG. 22 also illustrates another selection slip and a corresponding ticket receipt according to the invention;
[0058] FIG. 23 illustrates another system according to the invention;
[0059] FIG. 24 illustrates a method used to synchronize a primary lottery database and a secondary lottery database of the embodiment of FIG. 23;
[0060] FIG. 25 illustrates another ticket receipt and part of a report according to the present invention;
[0061] FIG. 26 illustrates another system illustrating various methods of selling a ticket that is associated with a player account;
[0062] FIG. 27 illustrates an account identification device and a selection slip of the embodiment of FIG. 26;
[0063] FIG. 28 illustrates a relationship between identification card records and player records in the system of FIG. 26;
[0064] FIG. 29 is a method of selling and purchasing a ticket with an account identification device;
[0065] FIG. 30 illustrates a player account table, a player characteristics table and an advertisement table of another system according to the invention;
[0066] FIG. 31 illustrates a web page on a lottery operator website with an advertisement region;
[0067] FIG. 32 is a block diagram of an embodiment in which tickets are sold using ticket purchase vouchers;
[0068] FIGS. 33 to 36 illustrate example ticket purchase voucher creation screens and a ticket purchase vouchers according to the embodiment of FIG. 32;
[0069] FIGS. 37a-c illustrates part of a lottery database according to the exemplary embodiment of FIG. 32;
[0070] FIG. 38 illustrates a method for creating and printing a ticket purchase voucher;
[0071] FIG. 39 illustrates a welcome web page of a player website of the embodiment of FIG. 1;
[0072] FIG. 40 illustrates a ticket voucher selection page of the player website;
[0073] FIG. 41 illustrates a method for selling and purchasing a ticket using a ticket purchase voucher; and
[0074] FIG. 42 illustrates a ticket purchase voucher for purchasing multiple tickets.

[0075] In the following description of exemplary embodiments, reference numerals in the main body of the descrip-
tion, preceding Appendix A, refer to FIGS. 1-31 and reference numerals in Appendix A refer to FIGS. 32-42, unless otherwise stated.

**DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS**

**[0076]** A first exemplary embodiment of the invention will be described with reference to several exemplary on-line lotteries and on-line games. As used herein, the word “exemplary” refers to examples of various items and does not denote a preferred or necessary feature of any embodiment or of the invention.

**[0077]** The first exemplary on-line lottery will be referred to as Lotto 7/47. In this on-line lottery, a lottery player selects a set of seven different played numbers between 1 and 47 (inclusive of numbers 1 and 47). The set of seven played numbers is referred to as a Lotto 7/47 played number set. Subsequently, a lottery operator conducts a draw to select a set of winning numbers consisting of seven different regular numbers and a bonus number, also between 1 and 47. The bonus number is different from all of the winning numbers. The player may win different prizes if his played numbers match the winning numbers and/or the bonus number in various winning combinations, as follows:

<table>
<thead>
<tr>
<th>Winning Combination</th>
<th>Prize Won</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/7 regular numbers</td>
<td>Grand Prize</td>
</tr>
<tr>
<td>6/7 regular numbers and bonus number</td>
<td>Second Prize</td>
</tr>
<tr>
<td>6/7 regular numbers</td>
<td>Third Prize</td>
</tr>
<tr>
<td>5/7 regular numbers</td>
<td>Fourth Prize</td>
</tr>
<tr>
<td>4/7 regular numbers</td>
<td>Fifth Prize</td>
</tr>
<tr>
<td>3/7 regular numbers and bonus number</td>
<td>Sixth Prize</td>
</tr>
<tr>
<td>3/7 regular numbers</td>
<td>Free ticket</td>
</tr>
</tbody>
</table>

**[0078]** Some of the prizes a player may win in this exemplary on-line lottery are shared prizes. Shared prizes are calculated by first determining a total prize amount for a particular winning combination and then dividing the total prize value by the number of tickets that have the winning combination to determine what share of the total prize amount each ticket will win. The Grand Prize is a shared prize and the total prize value for the Grand Prize is determined by the lottery operator prior to each draw of the on-line lottery. For example, if the total prize value for the Grand Prize is $10 million and 4 tickets have the 7/7 regular numbers winning combination, then each ticket wins $2.5 million. Some shared prizes may be pari-mutuel prizes, for which the total prize amount may be determined as a portion of the ticket sales revenue for the on-line lottery. The second, third, fourth, fifth and sixth prizes are pari-mutuel prizes. One of the prizes is a fixed prize with the same prize being awarded for each ticket having the specified winning combination. The free ticket prize for the 3/7 regular numbers winning combination is a fixed prize. The present invention may be used with on-line lotteries and games having any type or any combination of types of prizes.

**[0079]** For the purpose of this exemplary embodiment of the invention, the lottery operator conducts a draw of the Lotto 7/47 on-line lottery each week on Friday at 9 p.m. Eastern Standard Time.

**[0080]** The second exemplary on-line lottery will be referred to as Tag. In this on-line lottery, a six digit played number is automatically selected for the lottery player. The played number may be referred to as a Tag played number. The single six digit played number is a played number set for the Tag on-line lottery and may also be referred to as a Tag played number set. Subsequently, the lottery operator selects a six digit winning number for the Tag on-line lottery. The winning number may be referred to as a Tag winning number or a Tag winning number set. The player may win different prizes if various winning combinations of digits in his played number match corresponding digits in the winning number, as follows:

<table>
<thead>
<tr>
<th>Winning combination</th>
<th>Prize Won</th>
</tr>
</thead>
<tbody>
<tr>
<td>All six digits</td>
<td>$250,000</td>
</tr>
<tr>
<td>Last five digits</td>
<td>$1,000</td>
</tr>
<tr>
<td>Last four digits</td>
<td>$100</td>
</tr>
<tr>
<td>Last three digits</td>
<td>$25</td>
</tr>
<tr>
<td>First digit and last digit</td>
<td>Free play of host on-line lottery with Tag</td>
</tr>
<tr>
<td>First digit</td>
<td>Free play of host on-line lottery with Tag</td>
</tr>
</tbody>
</table>

**[0081]** This exemplary Tag on-line lottery may only be played in conjunction with another on-line lottery, such as the Lotto 7/47 on-line lottery described above. The Lotto 7/47 on-line lottery is referred to as a host on-line lottery and the Tag on-line lottery is referred to as an associated on-line lottery. A player may request that one or more Tag played number sets be added to a ticket for the Lotto 7/47 on-line lottery. On draw dates for the Lotto 7/47 on-line lottery, the lottery operator draws a winning number set for the host Lotto 7/47 and also draws a winning number for the associated Tag on-line lottery.

**[0082]** The prize for matching the first or the last digit of the Tag winning number is a free play of the host on-line lottery in the next draw after the ticket is redeemed, including a free played number for the Tag on-line lottery draw on the same date. Players who elect to play the Tag on-line lottery on a ticket may win a prize in the Lotto 7/47 on-line lottery, the Tag on-line lottery or in both on-line lotteries.

**[0083]** The third exemplary on-line lottery will be referred to as Keno. In this on-line lottery, a lottery player is asked to select a play category between two and ten. If the player chooses play category two, he then chooses a set of two different played numbers between 1 and 70 (inclusive of numbers 1 and 70). Similarly, if the player chooses play category ten, the player chooses a set of ten different played numbers between 1 and 70. Similarly, if the player chooses any of play categories three to nine, the player chooses a corresponding amount of different played numbers between 1 and 70. The player’s set of played numbers is referred to as a Keno played number set. Subsequently, the lottery operator conducts a draw to select a winning number set consisting of 20 different winning numbers between 1 and 70. The player may win a prize depending on the play category chosen and how many of the played numbers match the winning numbers. Various winning combinations are defined as follows:
If the player's played number set includes a winning combination, the player is awarded a prize equal to the amount wagered by the player for the set of played numbers multiplied by the wager multiplier. For example, a player who chooses play category seven will choose a set of seven different played numbers between 1 and 70. In this exemplary Keno on-line lottery, the player may wager from $1, $2, $5 or $10 for each set of played numbers. If the seven played numbers match seven of the twenty winning numbers, the player wins 5,000 times the amount wagered.

For the purpose of this example, the lottery operator conducts a draw of the Keno on-line lottery every day at 9 p.m. Eastern Standard Time.

This exemplary Keno on-line lottery is also a host lottery for the Tag on-line lottery. When the lottery operator conducts a draw to select a winning number set for the Keno on-line lottery, the lottery operator also conducts a draw to select a winning number for the associated Tag on-line lottery.

As described above, the Lotto 7/47 on-line lottery is a weekly lottery with draws on Fridays and the Keno on-line lottery is a daily lottery. As a result, on Fridays, draws for both the Lotto 7/47 on-line lottery and the Keno on-line lottery will be conducted. The lottery operator may set the rules for the on-line lotteries such that each host lottery will have a separate draw for its associated Tag on-line lottery, or such that only one draw will be conducted for the Tag on-line lottery and the drawn Tag winning number will apply to both Lotto 7/47 and Keno tickets on which the associated Tag on-line lottery has also been played. In the present exemplary embodiment, the lottery conducts separate draws of the associated Tag on-line lottery for each host on-line lottery.

A player number set or played number for an on-line lottery that includes a winning combination may be referred to as a winning played number set or as a winning played number. A ticket that includes at least one winning played number set or winning played number may be referred to as a winning on-line lottery ticket, a winning lottery ticket or more generally as a winning ticket.

Two exemplary on-line games used in this description of exemplary embodiments of the invention will be referred to as Sports Line and Over/Under. In these exemplary on-line games, each week the lottery operator provides an event list of sporting events and various odds corresponding to various possible outcomes of the events. For example, part of a list of odds may include the following events and corresponding odds for the Sports Line and the Over/Under on-line games:

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Visitor</th>
<th>Home</th>
<th>V</th>
<th>T</th>
<th>H</th>
<th>O</th>
<th>#</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 25, 2003 College Football</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 12:00 p</td>
<td>Syracuse</td>
<td>Pittsburgh</td>
<td>4.0</td>
<td>3.6</td>
<td>1.4</td>
<td>1.6</td>
<td>42.5</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>13 3:30 p</td>
<td>Tennessee</td>
<td>Alabama</td>
<td>1.7</td>
<td>3.3</td>
<td>3.0</td>
<td>1.2</td>
<td>45.5</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Oct. 26, 2003 NFL Football</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 8:00 p</td>
<td>Washington</td>
<td>Toronto</td>
<td>3.0</td>
<td>4.0</td>
<td>1.5</td>
<td>1.7</td>
<td>5.5</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>33 8:00 p</td>
<td>Colorado</td>
<td>Nashville</td>
<td>1.5</td>
<td>4.0</td>
<td>3.0</td>
<td>1.8</td>
<td>5.5</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>42 1:00 p</td>
<td>Denver</td>
<td>Baltimore</td>
<td>3.7</td>
<td>3.6</td>
<td>1.5</td>
<td>1.8</td>
<td>38.5</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>43 4:00 p</td>
<td>Dallas</td>
<td>Tampa Bay</td>
<td>2.8</td>
<td>1.2</td>
<td>1.8</td>
<td>1.8</td>
<td>36.5</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

The odds for the Sports Line on-line game are set out under the three columns labeled “V”, “T” and “H” under the heading “Sports Line”. For each event, three possible outcomes may occur: “V” means that the visiting team wins the event; “T” means that the two teams will tie and “H” means that the home team will win the event. The definition of a win or tie is set by the lottery operator and may not match the rules used in the actual event. For example, in this exemplary Sports Line on-line game, for NFL football games the lottery operator has defined a tie as the teams having three or fewer points separating them in the final score. For some events, a tie may not be defined—such as for baseball games, where the rules do not provide for tie games. The odds indicate the lottery operator’s estimate of how likely each outcome is.
higher value indicates that the lottery operator believes the outcome is less likely to occur.

[0091] In this exemplary Sports Line on-line game, the lottery operator has specified that a player may make a bet by selecting between three and six events and specifying a wager amount. If the player correctly predicts the outcome of all of the selected events, the player wins the bet and wins a prize. The predictions made by the player are collectively referred to as a Sports Line prediction set.

[0092] A payout value for the Sports Line prediction set is calculated by multiplying the player’s wager by the odds for all of the predicted outcomes. For example, if a player wagers $5 and predicts that Syracuse will beat Pittsburgh in event 12, Nashville will beat Colorado in event 33 and that Dallas will tie Tampa Bay in event 43, then the payout value is $5 x 4.0 x 3.0 x 1.2 = $72. If the player successfully predicts the outcome of all three games, the player receives the payout value as his or her prize.

[0093] The odds for the Over/Under on-line game are set out under the three columns marked “O”, “U” and “U”. The value in the “ ” column indicates the threshold number of points. A player may predict that the combined scores of the teams in each event will be over this threshold number of points or under it. The outcome of the event is “Over” if the total points scored by the teams is over the threshold. The outcome of the event is “Under” if the total points scored by the teams is under the threshold. For example, in event 32, a player who wishes to make a bet on the over/under odds for this event may bet that Washington and Toronto will score over or under 5.5 goals in their hockey game. In this example Over/Under on-line game, the player makes a bet by selecting between two and six events and predicting whether the outcome will be Over or Under the threshold in each event. The player also selects a wager amount for the bet. The predictions made by the player are collectively referred to as an Over/Under prediction set. A payout value for the Over/ Under prediction set is determined by multiplying the player’s wager by the odds of the all of the predicted outcomes. The player wins the bet and is entitled to receive the payout value if all of the player’s predictions are correct.

[0094] In event list 4523, each event is shown with odds for the Sports Line on-line game and for the Over/Under on-line game. In this example, the two on-line games are separate and a lottery operator may optionally use different selection slips to allow players to make bets in the different on-line games. Alternatively, a single selection slip allowing bets to be made on either or both of the on-line games may be used. In another on-line game, players could be permitted to make bets that have both Sports Line and Over/Under outcomes selected.

[0095] An on-line game ticket on which a player has won his or her bet may be referred to as a winning on-line game ticket, a winning game ticket or more generally as a winning ticket. In both the Sports Line and Over/Under on-line games described above, all of the predictions made by a player in the prediction set must be correct for the player to win the bet. In other embodiments, an on-line game ticket will be a winning on-line game ticket as long as the prediction set on the ticket (or at least one of the prediction sets, if multiple prediction sets are permitted) matches the appropriate corresponding criteria set by the lottery operator.

[0096] The present invention allows a player to establish a player account with the lottery operator and to associate tickets with the account. In the present embodiment, the lottery operator operates both on-line lotteries and on-line games and the tickets associated with the account may be for on-line lotteries or on-line games or both. A player may use the present invention to obtain information about tickets associated with the player’s account (which will also be referred to as the “player’s account” herein). Such information may include, for example, the details of the selections (i.e. played numbers sets for on-line lotteries or prediction sets for on-line games), the draws for which the ticket is valid and details of any prizes won by the player’s tickets.

[0097] The lottery operator operates a lottery computer system including a player account server that players can access to create their player accounts. After creating a player account, a player can visit a ticket vendor and purchase tickets for on-line lotteries or on-line games and associate the tickets with the player account. Subsequently, the player can use a player terminal to access the player account server and obtain information about the tickets associated with the player’s account. The player account server may include several player interfaces. One of the player interfaces is a worldwide-web compatible interface which includes a website that players can visit to access the player account server. The player account server also includes other interfaces, in addition to the website, that players can use to access the player account server from different types of player terminals.

[0098] In this embodiment, the unique account identification code for each player account is a combination of 6 to 12 different characters selected from the twenty-six letters (A-Z) and ten numerals (0-9). For example, a valid account identification code may be SONIA4 or BR1AN237. In this embodiment, each character (letter or number) in the account identification code must be unique or different. The order of the characters is not relevant. The characters in the account identification code SONIA4 may be ordered as SONIA4, 4AINOS, AINOS4 or OIS4NA or any other permutation of these characters. In each case, the account identification code remains the same since it consists of the same characters. The set of characters from which an account identification code may be selected may be referred to as an account identification code character set. In this embodiment, the account identification code character set consists of thirty six characters: the twenty-six letters and the ten numerals.

[0099] In other embodiments of the invention, an account identification code for a player account may be permitted to include multiple instances of the same letter character. In other embodiments, the order of the letters in an account identification code may be used to distinguish between different codes that otherwise consist of the same characters. Various rules for account identification codes in different embodiments are described below.

[0100] FIG. 1 illustrates a system 100 that includes a lottery computer system 102, ticket vending terminals 104 and player terminals 106. A system according to the present embodiment will include at least one ticket vending terminal 104 and at least one player terminal 106.

[0101] The lottery computer system 102 is operated by a lottery operator (not shown), who may operate various types of lotteries and games, including the exemplified on-line lotteries and on-line games described above and other on-line lotteries or on-line games.

[0102] The ticket vending terminals 104 are operated by ticket vendors (not shown). Each ticket vending terminal 104 is coupled, or is capable of being coupled, to the lottery computer system 102 to permit data communication between the ticket vending terminal 104 and the lottery computer
Some of the ticket vending terminals 104 may be coupled to the lottery computer system 102 through a private communication network 108. The private communication network 108 may be a wide area network (WAN), a private data communication network comprising proprietary (owned, rented or leased) data lines or any other type of data network. The private communications network 108 may be a combination of two or more of these and other types of data communication networks. Ticket vending terminals 104 and 104c are coupled to the lottery computer system 102 through private communication network 108.

Some or all of the ticket vending terminals 104 may be coupled to the lottery computer system 102 through dial-up telephone connections or another type of point-to-point connection that permits data communication between the lottery computer system 102 and the ticket vending terminal 104. For example, ticket vending terminal 104a is coupled to the lottery computer system 102 through a dial-up telephone connection 109, which may be maintained at all times or may be established when required to allow data communication between ticket vending terminal 104a and lottery computer system 102.

Some or all of the ticket vending terminals 104 may be coupled to the lottery computer system 102 through a publicly accessible communications network (a “public network”), such as the Internet. For example, ticket vending terminal 104d is coupled to the lottery computer system 102 through public network 110. Ticket vending terminals 104 coupled to the lottery computer system 102 through the public network 110 may be coupled using a virtual private network or another secure communications protocol or methodology.

The connections between the lottery computer system 102 and the various ticket vending terminals 104 need not be the same. Different connections may be made using different types of data communications networks and lines. A ticket vending terminal 104 may be coupled, or may be capable of being coupled, to the lottery computer system 102 in more than one way, to provide an alternative method of communication if a primary method has failed or is unavailable.

The connection between lottery computer system 102 and any particular ticket vending terminal 104 may be persistent or it may be intermittently made as required for data communication between the lottery computer system 102 and the ticket vending terminal 104. If the coupling provides a publicly accessible network, such as the Internet, communications between the lottery computer system 102 and any of the ticket vending terminals 104 may be secured using an encryption system or other security technique. A security technique or mechanism may optionally be used to secure all communications between the lottery computer system 102 and any ticket vending terminal 104, regardless of the type of connection between the lottery computer system 102 and the ticket vending terminal 104.

The ticket vending terminals 104 are used by ticket vendors to sell tickets and provide ticket receipts to players. As is described more fully below, ticket vendors receive selection slips 112 from players and use ticket vending terminals 104 to process the selection slips 112 and to issue ticket receipts 114 to the players.

Lottery computer system 102 may be coupled to some or all of the player terminals 106 through public network 110. Some player terminals 106 may also be coupled to the lottery computer system 102 directly (for example, using a dial-up connection) or through another network. Each of the player terminals 106 is capable of communicating with lottery computer system 102 and typically includes one or more output devices (such as a display screen or printer) and one or more input devices (such as a keypad, keyboard, computer mouse or remote control device). A player terminal 106 may be any type of device that is capable of being coupled to and communicating with the lottery computer system 102. For example, different player terminals 106 may be personal computers, Internet-enabled television sets, Internet-enabled set-top-boxes used with cable, satellite or other digital communication systems, portable wireless communications devices such as personal data assistant (PDA) devices, cellular phones and wireless portable computers. Players use player terminals 106 to access lottery computer system 102 to create and access their player accounts and to obtain information about tickets associated with their player accounts. Optionally, communications between the lottery computer system 102 and a player terminal 106 may be secured using an encryption system or other security technique. A player terminal 106 used by a player may be referred to as the player’s terminal.

Reference is next made to FIG. 2, which illustrates a selection slip 116 according to this first exemplary embodiment, a corresponding exemplary ticket receipt 118 and ticket vending terminal 104d. Selection slip 116 allows a player to participate in the Lotto 7/47 on-line lottery with up to five Lotto 7/47 played number sets, optionally participate in the Tag on-line lottery with up to 10 automatically selected Tag played numbers and to participate in one to 10 draws of each on-line lottery.

The exemplary Lotto 7/47 selection slip 116 has various sections or regions. Selection slip 116 includes a lottery play region 120 and an account identification region 136.

The player uses the lottery play region 120 to select one or more played number sets for the Lotto 7/47 on-line lottery, select one or more played numbers for the associated Tag on-line lottery, and to select the number of draws the player wishes to purchase a ticket for. Lottery play region 120 includes five Lotto 7/47 played number selection boards 121, 122, 123, 124, and 125, a tag selection region 132 and a draw selection region 134. Each of the Lotto 7/47 played number selection boards 121-125 may be used to selection played number set. A board may also be referred to a played number selection region or as a panel.

Each board 121, 122, 123, 124, 125 has a played number selection region 119 containing forty seven cells numbered from 1 to 47. A player selects a played number set by marking seven of the forty seven cells. Each board also has a cell identified as an “Auto Pick” cell 126. If the player marks the auto pick cell 126 on a board, then a set of played numbers is automatically selected for the player. Each board also has a cell identified as a “Void” cell 127. If the player marks the void cell 127 on a board, then the board is ignored. A player may mark the void cell on a board if he has marked an incorrect played number or has changed his mind about his selections on the board.

Tag selection region 132 has ten cells numbered from 1 to 10. Tag selection region 132 allows the player to select the number of Tag played numbers that the player wishes to add to a ticket for the associated Tag on-line lottery.
If the player does not wish to participate in the Tag on-line lottery, the player may leave all the cells in the tag selection region 132 unmarked.

[0114] Draw selection region 134 has nine cells numbered from 2 to 10, which allow the player to select the number of draws for which the player wishes to buy a ticket. If the player does not mark any cell in the draw selection region 134, a ticket will be issued for only the next draw of the Super 7/47 on-line lottery and, if at least one Tag played number is selected, the corresponding draws of the Tag-on-line lottery.

[0115] On selection slip 116, boards 121 and 122 are marked to select two sets of played numbers for the Lotto 7/47 on-line lottery: 2, 7, 9, 11, 22, 43, and 47; and 5, 10, 17, 23, 32, 36, and 47. The Tag selection region 132 has been marked to select one played number set for the Tag on-line lottery. As described above, in the exemplary Tag on-line lottery, the player does not choose his played number set, but rather a played number set consisting of a six digit Tag played number is automatically selected by a ticket vending terminal 104. Draw selection region 134 has been marked to select 3 draws of each on-line lottery. In the present exemplary embodiment, a ticket for an on-line lottery is issued for the selected number of draws immediately following the time at which the ticket is issued. In an alternative embodiment, a lottery operator might issue tickets for non-consecutive draws or draws selected in any way. For example, if a lottery has draws twice a week on Wednesdays and Saturdays, the lottery operator may issue a ticket for only the Saturday draws. In another alternative embodiment, the lottery operator may issue a ticket that is valid only for draws where the largest prize exceeds some specified amount of money.

[0116] Account identification region 136 has thirty-six cells containing the twenty-six letters and ten numerals that may be used in an account identification code in this embodiment. The thirty-six cells may be referred to as a set of primary cells. A player marks an account identification code in the account identification region by marking the primary cells corresponding to all of the letters and numbers in the player's account identification code.

[0117] In FIG. 2, account identification region 136 has been marked with an account identification code SONIA4 by marking the cells corresponding to each of the letters and the number in this account identification code.

[0118] Typically, a player will purchase a ticket from a ticket vendor by giving a selection slip 112 to a ticket vendor and paying a fee set by the lottery operator for each set of played numbers. In the present example, the fee for each Lotto 7/47 played number set is $2 and the fee for each Tag played number is $1. The total fee for the exemplary ticket corresponding to selection slip 116 is $15, calculated as follows: ($2 x 2 Lotto 7/47 played number sets + $1 for one Tag played number) x 3 draws.

[0119] The ticket vendor uses a ticket vending terminal 104 to scan the selection slip 112. The ticket vending terminal 104 transmits the selections made by the player to lottery computer system 102 as part of a Ticket Issue Request 552 (FIG. 1). If the player has requested any automatically selected played number sets, the ticket vending terminal 104 automatically selects the requested played number sets and transmits the automatically selected played number sets to the lottery computer system 102 as part of the Ticket Issue Request 552.

[0120] Lottery computer system 102 processes the Ticket Issue Request 552 and transmits Ticket Receipt Data 554 (FIG. 1) to ticket vending terminal 104. The Ticket Receipt Data 554 includes data or instructions (or both) for printing a ticket receipt 114 and the ticket vending terminal 104 prints out ticket receipt 114 according to the instructions. These instructions include text or graphics (or both) to be printed on the ticket receipt 114. Ticket Issue Requests 552 and Ticket Receipt Data 554 are described in greater detail below in relation to method 2200 (FIG. 8).

[0121] The exemplary ticket receipt 118 includes the name 140 of the on-line lottery indicating that it is a ticket for the Lotto 7/47 lottery, a date range 142 indicating that it is valid for three draws between Oct. 24, 2003 and Nov. 7, 2003. Ticket receipt 118 also sets out the two Lotto 7/47 played number sets 144, 146 chosen by the player. In addition, ticket receipt 118 contains a Tag played number set 148 for the Tag on-line lottery and the word “Played” to indicate that the player has chosen to participate in the associated Tag on-line lottery. The tag played number set 148 consists of a single six digit played number 909207 on this exemplary ticket receipt 118.

[0122] Ticket receipt 118 also contains a human readable ticket code 150, which in this example is a sixteen digit number set out in four sets of four digits: 2131-4556-8878-2902. A ticket code is assigned by the lottery computer system 102 to every ticket that is issued. In this exemplary embodiment, the ticket code is printed on the ticket receipt 114 in a human-readable form. The ticket code is also set out in a machine readable bar code 158, allowing the ticket code to be scanned by a machine, such as a ticket vending terminal 104. In alternative embodiments, the ticket code may be set out in only a human readable form or a machine readable form. In alternative embodiment, a first ticket code for the ticket may be set out in human readable form and a different second ticket code for the ticket may be set out in machine readable form.

[0123] The ticket code allows the ticket to be uniquely identified from all other tickets issued by the lottery operator, at least during a selected time period prior to the issuance of the ticket (for example, one year or five years). The lottery operator may select various mechanisms for assigning ticket codes for tickets, including mechanisms that encode information in the ticket code. Such encoded information may include the particular on-line lottery or on-line game that the ticket is issued for, the draws the ticket is issued for and check digits that can be used to ensure the validity of the ticket code, the ticket receipt 118 and the ticket.

[0124] A ticket receipt 114 may optionally contain a vendor terminal code 152. The vendor terminal code 152 identifies the ticket vending terminal 104 used to issue ticket receipt 114. Alternatively, the vendor terminal code 152 may identify the ticket vendor who operates the ticket vending terminal, so that tickets issued at different ticket vending terminals operated by the same ticket vendor have the same vendor terminal code. In the present exemplary embodiment, the vendor terminal code 152 uniquely identifies the specific ticket vending terminal 104 at which the ticket was issued, and accordingly different ticket vending terminals operated by the same ticket vendor are identified by different vendor terminal codes.

[0125] A ticket receipt 114 may optionally contain a verification code 154. The verification code 154 may be used to verify the integrity of ticket receipt 114. Verification code 154 may be generated using a formula based on other components of the ticket and other data (such as the date and time on which the ticket is issued) or it may be created for the ticket randomly, pseudo-randomly (i.e. based on a seed value or other
initial value), using a list of rotating values or verification codes, or using any other formula or method. The verification code 154 may be used in the place of, or in addition to, the use of check digits in the ticket code 150.

[0126] At reference number 156, the ticket receipt 118 has the account identification code SONIA4 printed on it, corresponding to the account identification code marked on selection slip 116.

[0127] In the present embodiment, all of the characters in an account identification code are marked in a single set of cells in the account identification region 136 on a selection slip 112. Since each player account has a unique account identification code consisting of a different combination of characters than all other account identification codes, the order of characters in an account identification code is not relevant. Any particular account identification code may be uniquely identified by marking all of the characters in the account identification code in a single set of cells.

[0128] In alternative embodiments utilizing the present invention, the order of characters in an account identification code may be relevant. Such embodiments are discussed below.

[0129] If the player had chosen not to play the Tag on-line lottery on this ticket (by leaving Tag selection area 132 blank on selection slip 116), the ticket could optionally have not included a Tag played number, or could optionally still include the Tag played number but have an indication that the player had chosen not to play the Tag on-line lottery on this ticket.

[0130] FIG. 3 illustrates an exemplary selection slip 216 and ticket receipt 218 for the Keno on-line lottery. Selection slip 216 has a lottery play region 220 that includes four Keno played number selection boards 221, 222, 223 and 224. Each of the boards has a player number selection region 219 including seventy cells numbered from 1 to 70, allowing a player to select up to four sets of play numbers for the Keno on-line lottery. In addition, each board has a play category selection region 228 and a wager selection region 229. A player selects a play number set for the Keno on-line lottery by marking a board as follows. The player marks a play category between 2 and 10 in play category selection region 228, marks a wager in wager selection region 229 and by marking two to ten cells in the player number selection region 219, depending on the play category the player has selected for each board. Lottery play region 220 also has a Tag selection region 232 and a draw selection region 234. The Keno selection slip 216 also has an account identification region 236 that is similar to the account identification region 136 on Lotto 7/47 selection slip 116 (FIG. 2).

[0131] Keno selection slip 216 has been completed to select three Keno played number sets 244, 245 and 246 that are set out on Keno ticket receipt 218. Keno played number set 246 is an automatically selected played number set, as requested by the player on board 223. No cell in the Tag selection region 232 has been selected. The account identification region 236 has been marked to identify the SONIA4 account identification code.

[0132] Ticket receipt 218 also shows the name of the Keno on-line lottery at 240, the wagers for each of the played number sets 244, 245 and 246, the SONIA4 account identification code at 256, a ticket code 250, a verification code 254, a terminal code 252 and a bar code 258. The exemplary Keno ticket receipt 218 also includes a Tag played number at 248, along with an indication that the player chose not to participate in the associated Tag on-line lottery. Alternatively, the Tag played number could have been omitted entirely from the ticket receipt 218.

[0133] FIG. 4 illustrates an exemplary selection slip 316 and corresponding ticket receipt 318 for the Sports Line on-line game. Selection slip 316 has a game play region 320 and an account identification region 336.

[0134] Game play region 320 includes six Sports Line event selection boards 321, 322, 323, 324, 325 and 326 and a wager selection region 329. Each board 321-326 has an event number region (under the heading “Mark Event Number”) in which the number of an event may be marked. Each board also has a prediction region (under the heading “Mark Predicted Result”) in which a player may mark a prediction for the selected event. A player makes a prediction for an event by marking the event number (as identified in the event list) in the event number region and by marking a prediction in the prediction region. In addition, each board has a void cell 327, which a player may mark if the particular board has been marked incorrectly and the player would like the board to be ignored. Wager selection region 329 has a number of wager amounts and a player marks one of these amounts to select a wager for the ticket.

[0135] The account identification region 336 is similar to the account identification region 136 on Lotto 7/47 selection slip 116 (FIG. 2).

[0136] A player sets out a bet in the Sports Line on-line game by marking predictions for between 3 to 6 events and by marking a wager amount on the selection slip 316. Selection slip 316 is marked with three predictions: in event 12, the home team (Syracuse) is predicted to win; in event 33, the visiting team (Nashville) is predicted to win; and in event 43, the teams (Dallas and Tampa Bay) are predicted to tie. A wager of $5 has been marked for this ticket. An account identification code BRIAN237 has been marked in the account identification region on selection slip 316.

[0137] At 340, the ticket receipt 318 indicates the name of the on-line game and the list number for which the ticket was issued indicating that it is a ticket receipt for the Sports Line on-line game and is based on the events and odds on list 4523. The ticket receipt also contains the date 342 on which the ticket was purchased, the three predictions 344, 345, 346 made by the player, a payout value 349 based on the odds set for the predicted outcomes and the wager, a ticket code 350, a vendor terminal code 352, a verification code 354, an account identification code 356 and a bar code 358 corresponding to the ticket code 350. The account identification code is BRIAN237 and corresponds to the cells marked on the account identification region 336 on selection slip 316.

[0138] FIG. 5 illustrates an exemplary selection slip 416 and corresponding ticket receipt 418 for the Over/Under on-line game. Selection slip 416 has a game play region 420 and an account identification region 436. The game play region 420 has six Over/Under event selection boards 421, 422, 423, 424, 425 and 426 and a wager selection region 429. Each board 421-426 has an event number region (under the heading “Mark Event Number”) in which the number of an event may be marked. Each board also has a prediction region (under the heading “Mark Predicted Result”) in which a player may mark a prediction for the selected event. A player makes a prediction for an event by marking the event number (as identified in the event list) in the event number region and by marking a prediction in the prediction region. In addition, each board has a void cell 427, which a player may mark if the
player would like the board to be ignored. Wager selection region 429 has a number of wager amounts and a player marks one of these amounts to select a wager for the ticket. The account identification region 436 is similar to the account identification region 136 on Lotto 7/47 selection slip 116 (FIG. 2).

[0139] A player sets out a bet in the Over/Under on-line game by making predictions for between 2 to 6 events and by marking a wager amount on the selection slip 416. The exemplary selection slip 416 is marked with five predictions: in event 12, the two teams are predicted to score over the threshold of 42.5 points; in event 13, the two teams are predicted to score under the threshold of 45.5 points; in event 32, the two teams are predicted score under the threshold of 5.5 goals; in event 33, the two teams are predicted to score under the threshold of 5.5 goals; and in event 42, the two teams are predicted to score over the threshold of 38.5 points. A wager of $20 has been marked for this ticket. The account identification code SONIA4 has been marked in the account identification region on selection slip 316.

[0140] At 440, the ticket receipt 418 indicates the name of the on-line game and the list number based on which the ticket was issued indicating that it is a ticket receipt for the Over/Under on-line game based on the events and odds on list 4523. The ticket receipt also contains the date 442 on which the ticket was purchased, the five predictions 444, 445, 446, 447, 448 made by the player, a payout value 449 based on the odds set for the predicted outcomes and the wager, a ticket code 450, a vendor terminal code 452, a verification code 454, an account identification code 456 and a bar code 458 corresponding to the ticket code 450. The account identification code is SONIA4 and corresponds to the cells marked on the account identification region 436 on selection slip 416.

[0141] Lotto 7/47 selection slip 116 (FIG. 2), Keno selection slip 216 (FIG. 3), Sports Line selection slip 316 (FIG. 4) and Over/Under selection slip 416 (FIG. 5) are examples of different selection slips that a lottery operator may make available to players. A lottery operator may make various types of selection slips for different on-line lotteries and on-line games available.

[0142] Typically, the different types of selection slips used by a lottery operator will be marked to allow them to be distinguished by a ticket vending terminal 104. Referring to FIG. 2, Lotto 7/47 selection slip 116 has a selection slip identification region 130 that contains a set of pre-marked cells in two columns. The positioning of the pre-marked cells in the two columns allows a ticket vending terminal 104 to identify the selection slip and to interpret the marks made by a player on the selection slip.

[0143] Referring to FIG. 3, Keno selection slip 216 also has a selection slip identification region 230. The arrangement of pre-marked cells in this selection slip identification region 230 differs from the pre-marked cells in selection slip identification region 130 (FIG. 2) to allow the Lotto 7/47 selection slip and the Keno selection slip to be distinguished from each other. Similarly, Sports Line selection slip 316 (FIG. 4) has a selection slip identification region 330 and Over/Under selection slip 416 (FIG. 4) has a selection slip identification region 430, each with a different arrangement of pre-marked cells than the other selection slips.

[0144] Reference is again made to FIG. 2. Each selection slip 112 used by a lottery operator may contain markings to allow the position of cells on the selection slip to be detected and identified. Selection slip 112 has a set of pre-marked alignment cells 131 arranged along one side (in this case, the bottom side) of the selection slip. The alignment cells 131 are used by a ticket vending terminal 104 when a selection slip is scanned to determine the locations of cells on the selection slip and may also be used to determine whether the selection slip has been inserted into the ticket vending terminal at an angle. The other selections slips similarly have pre-marked alignment cells 231, 331 and 431. The use of alignment cells, on one or more sides of a selection slip, or other positions on a selection slip to indicate the positions of other cells on the selection slip is well understood by skilled persons and is not explained further here.

[0145] Each selection slip 112 has a play region and an account identification region. The play region on a selection slip for an on-line lottery (such as lottery play region 120 (FIG. 2) or lottery play region 220 (FIG. 3)) allows a player to select played number sets for the on-line lottery. The play region on a selection slip for an on-line game (such as game play region 320 (FIG. 4) or game play region 420 (FIG. 4)) allows a player to mark a bet for the on-line game. The contents of the play region on each selection slip are dictated generally by the rules of the on-line lottery or on-line game that the selection slip relates to and by the options given to a player relating to a host or an associated on-line lottery or an on-line game, the purchasing of tickets for multiple draws and other options permitted by the lottery operator.

[0146] Optionally, a lottery operator may choose to set out the account identification region on different types of selection slips in substantially the same position on the selection slip and with substantially the same layout, so that players may develop a familiarity with the position and layout. In the present exemplary embodiment, the account identification regions 136, 236, 336 and 436 described above are positioned in the same general region of each selection slip (below the play region) and have substantially the same layout on each of the respective selection slips. Some of the account identification regions differ slightly in the placement of the account identification region on the selection slips and in the placement of cells within the account identification region. For example, in account identification region 136 (FIG. 2) the cells for the letters U and V are spaced further apart than the cells for the letters V and W. The cells in account identification region 136 are aligned with the alignment cells 131 to allow their positions to be determined when the selection slip is scanned by a ticket vending terminal 104 to determine which cells have been marked by a player. In account identification region 236 (FIG. 3), the cells for the letters U and V are spaced apart the same distance as the cells for the letters V and W. The cells in account identification region 236 are aligned with alignment cells 231. Such minor differences between the precise arrangements of cells in the account identification regions on different selection slips are not material and do not affect the substantial similarity of the account identification regions.

[0147] In another embodiment, a lottery operator may choose to use two or more different positions and layouts for the account identification regions on two different groups of selection slips. For example, a lottery operator that offers both on-line lotteries and on-line games may use one layout and position for selections slips for on-line lotteries and a different layout and position for selection slips for the on-line games.

[0148] The present invention may be used with selection slips based on many different systems. The selection slips
described in this exemplary embodiment are based on “mark-sense” or “bubble-card” technology and utilize cells that are marked by players, typically using a pen or pencil. The marks are detected by an optical scanning device in a ticket vending terminal to determine which cells have been marked. In some cases, the lottery operator may require that the cells be marked with a special ink that can be detected by the scanning or imaging devices in a ticket vending terminal. The positions of cells are determined using pre-marked alignment cells, as described above. Other selection slips may not have alignment cells and may rely on specific positioning of cells on a selection slip. Other selection slips may be punch cards, on which a hole is formed to mark a cell, or other systems, or a combination of systems. The present invention is not restricted to use with any particular system for marking selection slips or for detecting marks on selections slips.

A lottery operator may choose to utilize the present invention with some or all of the on-line lotteries and/or on-line games offered by the lottery operator. For example, a lottery operator that operates five different on-line lotteries may choose to use the present invention only with one of the on-line lotteries, or may choose a subset of the on-line lotteries with which the lottery operator will use the invention. If some of the on-line lotteries are weekly or bi-weekly and some of the other on-line lotteries are daily lotteries, the lottery operator may choose to use the invention with only the weekly or bi-weekly on-line lotteries or with only the daily lotteries. The lottery operator will provide at least one type of selection slip having a play region and an account identification region for each on-line lottery or on-line game with which the invention is used.

Reference is again made to FIG. 1. Lottery computer system 102 includes a lottery database 160, a player account server 162 and a ticket server 164. Player account server 162 includes one or more player interfaces 166.

Lottery computer system 102 may be a single computer or may include various interconnected computers and other devices, including communication and data storage devices. Lottery database 160, player account server 162 and ticket server 164 may reside and operate on one or more of the computers or related systems that comprise lottery computer system 102.

Lottery database 160 is used to store information about player accounts, draws of the on-line lotteries, events in the on-line games and about tickets issued by the lottery operator. Many different data structures may be used to store information about player accounts, on-line lottery draws, on-line game events and tickets and the present invention is not limited to any particular data structure or data structures for doing so. Several exemplary data structures for storing such information will be described here. Skilled persons will be able to design different data structures to accommodate different types of on-line lotteries and games and to accommodate different computers, other devices, operating systems and software that may be used as part of a lottery computer system.

FIGS. 6a and 6b illustrate a portion of lottery database 160. Referring to FIG. 6a, lottery database 160 includes a player account table 502, on-line lottery draw tables 504 and on-line lottery ticket tables 506. Lottery database 160 includes a Lotto 7/47 draw table 516, a Lotto 7/47 ticket table 522, a Keno draw table 526 and a Keno ticket table 528.

The player account table 502 includes a player account record 514 for each player account. Each draw table 504 includes a draw record 518 for each draw of the corresponding on-line lottery. Each on-line lottery ticket table 506 includes one or more on-line lottery ticket records 524. Each on-line lottery ticket record 524 corresponds to one ticket issued for the corresponding on-line lottery.

Each player account record 514 contains information about one player account. Three player account records 514 are illustrated in FIG. 6a. Player account table 502 also contains other player account records 514. In this exemplary embodiment, each player account record 514 includes the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account</td>
<td>The account identification code for the player account. In this</td>
</tr>
<tr>
<td>ID Code</td>
<td>field, the characters in the account identification code are set</td>
</tr>
<tr>
<td>Preferred</td>
<td>The player’s preferred order for the characters in the account</td>
</tr>
<tr>
<td>ID Code</td>
<td>identification code.</td>
</tr>
<tr>
<td>Order</td>
<td></td>
</tr>
<tr>
<td>Account</td>
<td>A password that the player must provide to access information</td>
</tr>
<tr>
<td>Password</td>
<td>about tickets associated with the player account. The password</td>
</tr>
<tr>
<td>Name</td>
<td>The player’s name.</td>
</tr>
<tr>
<td>Address</td>
<td>The player’s address.</td>
</tr>
<tr>
<td>Phone</td>
<td>The player’s phone number.</td>
</tr>
<tr>
<td>Fax</td>
<td>The player’s fax number.</td>
</tr>
<tr>
<td>E-mail</td>
<td>The player’s e-mail address.</td>
</tr>
<tr>
<td>Birth Date</td>
<td>The player’s birth date.</td>
</tr>
<tr>
<td>Sex</td>
<td>The player’s sex.</td>
</tr>
<tr>
<td>Income</td>
<td>The player’s income range.</td>
</tr>
<tr>
<td>Player</td>
<td>This field contains a link or reference to each of the tickets</td>
</tr>
<tr>
<td>Ticket List</td>
<td>associated with the player account, allowing the tickets to be</td>
</tr>
<tr>
<td></td>
<td>identified. The reference to the tickets may be any mechanism for</td>
</tr>
<tr>
<td></td>
<td>identifying tickets. The reference may be direct (such as a list</td>
</tr>
<tr>
<td></td>
<td>of ticket codes or ticket record identifiers) or indirect (such as a</td>
</tr>
<tr>
<td></td>
<td>pointer to or the name of a list, index or table containing ticket</td>
</tr>
<tr>
<td></td>
<td>codes or ticket record identifiers).</td>
</tr>
</tbody>
</table>
A player account record is created according to method 2100 (FIG. 7). As part of creating a player account, a player selects an account identification code. As described above, in the present exemplary embodiment of the invention, each account identification code consists of a unique combination of 6 to 12 different characters selected from the twenty-six letters and the ten numerals. As a result, SONIA4 and NAOS4I are different arrangements or permutations of the same combination of characters in the same account identification code. A player may have a preferred order for the characters in his account identification code. This preferred arrangement is recorded in the Preferred ID Code Order field. The account identification code is recorded in the Account ID Code field, with the characters sorted into alphanumeric order, with letters preceding numerals. The player account records 514 in the player account table 502 may be sorted or indexed in alphanumeric order using the Account ID Code field to allow an individual player account record to be accessed more quickly.

Optionally, a player may be permitted to use the characters in an account identification code more than once when setting out the player’s preferred order for the characters. For example, a player may have the account ID code ADEJNY206, but may have a preferred order of JAYDEN2006, in which the character “0” appears twice.

Each player account has a password, which is stored in the Password field in the player account record 514. The password may optionally be stored in an encrypted form.

Personal information about a player is stored in the Name, Address, Phone, Fax, E-mail, Birth Date, Sex and Income fields of the player account record 514. A player may choose not to provide some of this information, and the corresponding field may be left empty or omitted from a particular player account record 514, depending on the data structure used to store a player account record.

An exemplary player account record 514 for the account identification code SONIA4 may contain the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account ID Code</td>
<td>AINOS4</td>
</tr>
<tr>
<td>Preferred ID Code</td>
<td>SONIA4</td>
</tr>
<tr>
<td>Order</td>
<td></td>
</tr>
<tr>
<td>Account Password</td>
<td>*******</td>
</tr>
<tr>
<td>Name</td>
<td>Sonia Smith</td>
</tr>
<tr>
<td>Address</td>
<td>123 Anystreet Rd Anytown, Anystate 21342</td>
</tr>
<tr>
<td>Phone</td>
<td>(123)234-3424</td>
</tr>
<tr>
<td>Fax</td>
<td>None</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:sonia@isp.com">sonia@isp.com</a></td>
</tr>
<tr>
<td>Birthdate</td>
<td>Jan. 16, 1963</td>
</tr>
<tr>
<td>Sex</td>
<td>Female</td>
</tr>
<tr>
<td>Income</td>
<td>$50,001-$85,000</td>
</tr>
<tr>
<td>Player Ticket List</td>
<td>Lotto 7:47 Tickets:</td>
</tr>
<tr>
<td></td>
<td>2130-2131-4983-2342</td>
</tr>
<tr>
<td></td>
<td>2131-4556-8878-2902</td>
</tr>
<tr>
<td></td>
<td>2135-2234-9823-4020</td>
</tr>
<tr>
<td>Keno Tickets</td>
<td>4227-0224-9293-7401</td>
</tr>
<tr>
<td></td>
<td>4230-3241-0234-8012</td>
</tr>
<tr>
<td>Sports Line Tickets</td>
<td>(List 4523):</td>
</tr>
<tr>
<td></td>
<td>9114-9354-1347-4789</td>
</tr>
<tr>
<td></td>
<td>9114-6534-8636-3837</td>
</tr>
<tr>
<td></td>
<td>9114-6204-2340-4826</td>
</tr>
<tr>
<td>Over/Under Tickets</td>
<td>(List 4523):</td>
</tr>
<tr>
<td></td>
<td>9227-3486-5972-6578</td>
</tr>
<tr>
<td></td>
<td>Over/Under Tickets (List 4524):</td>
</tr>
<tr>
<td></td>
<td>9245-1942-8572-9234</td>
</tr>
</tbody>
</table>

The Player Ticket List field in the player account record 514 for Sonia Smith’s player account includes a reference to an Over/Under ticket with the ticket code 9245-1942-8572-9234. This ticket is valid for the Over/Under online game and is based on the events on event list 4524 (not shown). Event list 4524 is similar to event list 4523 in that it sets out events for the Over/Under on-line game (and for the Sports Line on-line game), but relates to a different time period and to events that occur within that time period. In this example, event list 4524 includes events that occur between Oct. 30, 2003 and Nov. 5, 2003. Lottery database 160 includes
an event table and a ticket table for the Over/Under on-line game with data about events and tickets relating to event list 4524. In this embodiment, event tables and ticket tables relating to different event lists are stored as separate tables.

An exemplary player account record 514 for the account identification code BRIAN237 may contain the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account ID Code</td>
<td>AB2R237</td>
</tr>
<tr>
<td>Preferred ID Code</td>
<td>BRIAN237</td>
</tr>
<tr>
<td>Account Password</td>
<td>********</td>
</tr>
<tr>
<td>Name</td>
<td>Brian Jones</td>
</tr>
<tr>
<td>Address</td>
<td>589 Mystreet Rd, Mysometown, Mystate 28597</td>
</tr>
<tr>
<td>Phone</td>
<td>(123) 893-0123</td>
</tr>
<tr>
<td>Fax</td>
<td>(123) 893-2349</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:brian@workplace.com">brian@workplace.com</a></td>
</tr>
<tr>
<td>Birthdate</td>
<td>Jul. 23, 1955</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
</tr>
<tr>
<td>Income</td>
<td>$25,001-$50,000</td>
</tr>
</tbody>
</table>

In the present embodiment, a player may optionally create an anonymous account, for which personal information that could identify the player is not recorded. The Account ID Code, the Preferred ID Code Order, the Account Password and the Player Ticket List fields are required for the operation of a player account and the information stored in these fields is required even for an anonymous account. However, a player may optionally not provide some or all of the information for the personal information fields described above. A player may choose not to provide his name and address, but could optionally provide sex and income information to allow some demographic analysis of lottery players. Alternatively, the player may not provide any personal information.

In an alternative embodiment, a lottery operator may designate some personal or other information as required information. For example, the lottery operator may require a lottery player to provide the player’s birth date to allow the lottery operator to ensure that only players of a certain age access the player account. Any combination of information may be designated as required information or optional information by a lottery operator. The personal information fields described in relation to the present embodiment are only an example.

In another alternative embodiment, a lottery operator may choose not to collect any personal information and may make all player accounts anonymous accounts. In such an embodiment, a player account record 514 may comprise only an Account ID field, a Preferred ID Code Order field, an Account Password field and a Player Ticket List field.

In another embodiment, a lottery operator may not require a player to enter a password when accessing a player account. In such an embodiment, a player account record would not include an Account Password field.

In another embodiment, a lottery operator may not permit a player to specify a preferred order for the characters in an account identification code. In such an embodiment, a player account record would not include a Preferred ID Code Order field.

In the present embodiment, player account records can be indexed or sorted using the Account ID Code field, in which the characters in each account identification code are sorted using a standardized sort order. This allows the player account records to be searched to determine if a particular account identification code has already been assigned to a player account. In alternative embodiments, the player account records may not be sorted or indexed or they may be ordered, sorted or indexed using another field.

Each draw record 518 in the draw tables 504 contains information about a draw of an on-line lottery, such as the date of the draw, the draw number, winning numbers for the host on-line lottery and for any associated on-line lottery and prize information for the host on-line lottery and any associated on-line lottery.

Each of the draw records 518 in the Lotto 7/47 draw table 516 contains information about one draw of the Lotto 7/47 on-line lottery and the corresponding draw of the associated fig on-line lottery on the same draw date. In this exemplary embodiment, a single draw record is used to maintain information about both the host on-line lottery and its associated on-line lottery, since the two on-line lotteries share information such as their draw date and since the tickets valid for the associated on-line lottery are a subset of those valid for the host on-line lottery. Alternatively, separate draw tables could be used for the two on-line lotteries.

Six draw records 518 for draws between Oct. 10, 2003 and Nov. 14, 2003 are illustrated in FIG. 6a. Draw table 516 also includes additional draw records for draws preceding and following these draws. In this exemplary embodiment, each draw record 518 in the Lotto 7/47 draw table includes the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw ID</td>
<td>An identifier for the draw. This may be a draw number, or any other type of identifier for the draw. This field is optional, especially if the date (or date and time) of the draw, or another field such as a record number field, can be used to uniquely identify the draw. In this exemplary embodiment, each draw is assigned a numerical draw number, in sequential order.</td>
</tr>
</tbody>
</table>
The Lotto 7/47 Winning Number Set and Tag Winning Number fields in a draw record 518 will not contain information about winning numbers until after the draws of the on-line lottery or lotteries have been conducted on the draw date and the winning numbers have been determined. If any of the prizes for the on-line lottery are determined based on the number of winners, as in the case of a shared prize, then the prize values will only be known after the draw. If the prizes are pre-determined, as in the case of the Tag on-line lottery, the relevant prize information may be filled in when the draw record is created by the lottery operator. Where the prizes for an on-line lottery are the same for each draw (or for a series of draws), the corresponding prize information may be stored elsewhere in the lottery database 160 (for example in a lottery table (not shown), which may contain rules and other standard information about each on-line lottery, including any fixed or standard prizes). The corresponding prize information field may be omitted, or may contain a reference to the corresponding information stored elsewhere. In the present exemplary embodiment, the Tag Prize Information field is completed after a draw to record the number of winners of each prize offered in the Tag on-line lottery. The actual value of the prizes is recorded separately from the draw record 518. This information may, for example, be stored in a Tag on-line lottery information file or record (not shown) as another part of the lottery database 160 and is available to the lottery computer system 102.

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw Date</td>
<td>The date on which the draw is scheduled to be conducted. In another embodiment, this field may also include the time of the draw, particularly if more than one draw for the on-line lottery is conducted on a particular day.</td>
</tr>
<tr>
<td>Lotto 7/47 Winning Number Set</td>
<td>The winning number set for this draw of the Lotto 7/47 on-line lottery.</td>
</tr>
<tr>
<td>Lotto 7/47 Prize Information</td>
<td>Information about prices for each winning combination for this draw of the Lotto 7/47 on-line lottery.</td>
</tr>
<tr>
<td>Tag Winning Number</td>
<td>The winning number for the Tag associated on-line lottery.</td>
</tr>
<tr>
<td>Tag Prize Information</td>
<td>Information about prices for each combination of winning numbers for this draw of the Tag on-line lottery.</td>
</tr>
<tr>
<td>Draw Ticket List</td>
<td>This field contains a link or reference to each of the tickets valid for the draw, allowing the tickets valid for the draw to be identified. The reference to the tickets may be any mechanism for identifying the tickets valid for the draw. The reference may be direct or indirect, as is described above in relation to the Player Ticket List field of the player account records 514. In the present embodiment, this field is a pointer to an index that contains a reference to the lottery ticket records for all tickets that are valid for the draw. In FIG. 6a, the link between the draw record 518 and lottery ticket records 524 for tickets valid for each draw is illustrated by lines connecting them. Lottery database 160 includes an index for each draw. The index includes a reference to each ticket that is valid for the draw. In another embodiment, this link may be omitted and the lottery ticket valid for a draw may be identified by searching the Valid Draw Dates field in lottery ticket records in the appropriate ticket table.</td>
</tr>
</tbody>
</table>

[0172] Records in the draw table for each lottery are created by the lottery operator to store relevant information about each draw. An exemplary draw record 518 for the Oct. 24, 2003 draw of the Lotto 7/47 lottery could have the following contents prior to the draw:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw ID</td>
<td>895</td>
</tr>
<tr>
<td>Draw Date</td>
<td>Oct. 24, 2003</td>
</tr>
<tr>
<td>Lotto 7/47 Winning Number Set</td>
<td>Unknown when the record is created.</td>
</tr>
<tr>
<td>Lotto 7/47 Prize Information</td>
<td>Unknown when the record is created, since most Lotto 7/47 prizes are shared prizes. The fixed prize of a free ticket for the winning combination of 3/7 regular numbers may be recorded here.</td>
</tr>
<tr>
<td>Tag Winning Number</td>
<td>Unknown when the record is created.</td>
</tr>
<tr>
<td>Tag Prize Information</td>
<td>Link or reference to pre-determined Tag on-line lottery prize information stored elsewhere in the lottery database 160.</td>
</tr>
<tr>
<td>Draw Ticket List</td>
<td>Link or reference to an index of lottery ticket records for tickets valid for this draw. The index includes references to lottery ticket records for the following ticket codes: 2131-4556-8878-2902 2132-1789-4345-0283</td>
</tr>
</tbody>
</table>
Each on-line lottery ticket record 524 in the on-line lottery ticket tables 506 contains information relating to a ticket issued for one or more draws of the on-line lottery and any associated lottery. Several ticket records 524 are shown in each of the ticket tables 506. Each ticket table 506 also contains additional ticket records (not shown) corresponding to additional tickets for the on-line lottery. In this exemplary embodiment, each lottery ticket record 524 includes the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket Code</td>
<td>The ticket code for the ticket.</td>
</tr>
<tr>
<td>Issue Date/Time</td>
<td>The date and time at which the ticket was issued by the lottery operator.</td>
</tr>
<tr>
<td>Host On-line Lottery</td>
<td>The played number sets selected by the player, or automatically selected for the player, for the host lottery.</td>
</tr>
<tr>
<td>Played Number Sets</td>
<td>An indication of whether the Tag on-line lottery has been played on this ticket, and if so, a list of the Tag played number sets. This field may contain one or more Tag played number sets selected for the ticket, even if the player elected not to play the Tag on-line lottery.</td>
</tr>
<tr>
<td>Associated On-line Lottery Information</td>
<td>A reference to the draws for which the ticket is valid. In the present embodiment, the date or dates of the draws for which the ticket is valid are set out in this field. In another embodiment, this field may contain a list of draw identification corresponding the Draw ID field in the draw records 518, the date of a draw or a list or range of dates of draws for which the ticket is valid.</td>
</tr>
<tr>
<td>Vendor Terminal Code</td>
<td>The vendor terminal code described above.</td>
</tr>
<tr>
<td>Verification Code</td>
<td>The verification code described above.</td>
</tr>
<tr>
<td>Associated Player Account</td>
<td>Account identification code for the player account with which the ticket is associated. If the ticket is not associated with a player account, this field will be blank or may be omitted.</td>
</tr>
<tr>
<td>Prize Data</td>
<td>Data relating to prizes won by the ticket. This field is described in greater detail below.</td>
</tr>
<tr>
<td>Ticket Status</td>
<td>The current status of the on-line lottery ticket with respect to the completion of the draws for which the ticket is valid and with respect to the redemption or prizes won by the ticket, if any. The status may be one of the following: i. Draws Not Complete, indicating that at least one draw for which ticket is valid has not been conducted; ii. Not A Winner, indicating that the draws for which the ticket is valid for have been conducted and the ticket has not won a prize; iii. Winner-Not Redeemed, indicating that the draws for which the ticket is valid for have been conducted, the ticket has won at least one prize and that the prize has not been redeemed; or iv. Winner-Redeemed, indicating that the draws for which the ticket is valid have been conducted, the ticket has won at least one prize and the prizes have been redeemed.</td>
</tr>
</tbody>
</table>

Information that is displayed on the ticket receipt 114 may be stored in the format that is used on the ticket or in another corresponding format. For example, the played numbers in a played number set for the Lotto 7/47 on-line lottery may be stored as six different values, or may be stored as a code representing the played numbers, or both. The lottery ticket record may contain additional information, such as the method by which the player paid for ticket, and other information.

The Prize Data field for the ticket includes information based on a comparison of the played number sets with the corresponding winning numbers. The prize data may be recorded in a summary form, such as a simple value indicating the total value of any prize or prizes the ticket has won, or identifying any non-monetary prize the ticket has won. The prize data may alternatively be very detailed, including details of the comparison of each played number to the corresponding winning numbers, the separate result for each played number set and a total result for all played number sets. The prize data may also be in any other format that relates to or is based on a comparison of the played number sets and played numbers on a ticket to the corresponding winning numbers. In the present example, the Prize Data field is used to identify the winning combination, if any, for each played number set for each completed draw that the ticket is valid for. The Prize Data field in an on-line lottery ticket record 524 is updated in method 2300, described below.

Lottery ticket records 524 for seven tickets L1-L7 are illustrated in Lotto 7/47 ticket table 522. The draw record 518 for the Oct. 24, 2003 draw is linked to the lottery ticket records 524 for tickets L3 and L4 indicating that they are valid for that draw. Ticket L3 corresponds to ticket receipt 118 (FIG. 2) and is also valid for the Oct. 31, 2003 and Nov. 7, 2003 draws. Ticket L4 is valid for the Oct. 24, 2003 and Oct. 31, 2003 draws. The ticket record 525 for ticket L3 may contain the following information when it is first created:
Field | Information recorded in field
---|---
Ticket Code | 2131-4556-8878-2902
Issue Date/Time | Oct. 23, 2003 — 7:18 pm
Host On-line Lottery | Set 1: 2, 7, 9, 11, 22, 43, 47
Played Number Sets | Set 2: 5, 10, 17, 23, 32, 36
Associated On-line | Played
Lottery Information | Played Number 1: 909207
Oct. 31, 2003
Nov. 7, 2003
Vendor Terminal | 19862
Code | Verification Code
| 5283
Associated Player | AIN084
Account | Prize Data
| Unknown (draws not conducted yet)
Ticket Status | Draws Not Complete

[0178] Keno draw table 526 and Keno ticket table 528 are similar to Lotto 7/47 draw table and Lotto 7/47 ticket table and contain information relating to draws and tickets for the Keno on-line lottery. Keno draw table 526 contains draw records 518 for daily draws of the Keno on-line lottery. Lottery ticket records 524 for six tickets K1-K6 for the Keno on-line lottery are illustrated in the keno Ticket table 528 in FIG. 6a. If the lottery operator operates other on-line lotteries, the lottery database 160 will have a draw table and a ticket table for each other on-line lottery.

[0179] Referring to FIG. 6b, lottery database 160 also includes on-line game event tables 508 and on-line game ticket tables 510. Player account table 502 is also illustrated in FIG. 6b. Lottery database 160 includes a Sports Line event table 532, a Sports Line ticket table 536, an Over/Under event table 540 and an Over/Under ticket table 542. In the present embodiment, the lottery database includes a separate event table 508 and on-line game ticket table 510 for each on-line game. The event tables and on-line game ticket tables in FIG. 6b are for the Sports Line and Over/Under on-line games based on event list 4523.

[0180] Each event table 508 contains one or more event records 538. Each event record 534 contains information about an event for an on-line game, such as the date and time of the event, the teams participating in the event, the various predicted outcomes that a player may choose, the odds set by the lottery operator for those outcomes and other information. [0181] In this exemplary embodiment, each event record 534 in the Sports Line event table 532 includes the following fields:

Field | Information recorded in field
---|---
Event number | The event number as indicated on the event list.
Date/Time | The date and time of the event. This may be the time after which a player cannot select the event for a ticket. Typically, the lottery operator will not allow a player to select an event less than a selected time (for example, 30 minutes) before the beginning of an event.
Event Type | The name of sport, league or other classification of the event.
Visitor Name | The name of the visiting team
Home Name | The name of the home team
Visitor Odds | The odds set by the lottery operator for the visiting team winning the event according to the rules of the Sports Line on-line game.
Home Odds | The odds set by the lottery operator for the home team winning the event according to the rules of the Sports Line on-line game.
Tie Odds | The odds set by the lottery operator for a tie in the event according to the rules of the Sports Line on-line game.
Actual Outcome | The actual outcome of the event, according to the rules of the Sports Line on-line game.

[0182] In this exemplary embodiment, each event record 534 in the Over/Under event table 540 includes the following fields:

Field | Information recorded in field
---|---
Event number | The event number as indicated on the event list.
Date/Time | The date and time of the event. As with the event records for the Sports Line on-line game, this may be the time after which a player cannot select the event for a ticket.
Event Type | The name of sport, league or other classification of the event.
Event Name | A description of the event. This field identifies the teams participating in the event.
Threshold | The threshold number of points.
Over Odds | The odds set by the lottery operator for the teams scoring over the threshold number of points according to the rules of the Over/Under on-line game.
Under Odds | The odds set by the lottery operator for the teams scoring under the threshold number of points according to the rules of the Over/Under on-line game.
Actual Outcome | The actual outcome of the event, according to the rules of the Over/Under on-line game.

[0183] The Actual Outcome field in an event record 534 will be blank until the event has been completed and the outcome is known. In the Sports Line event table 532, the event record 534 for event 43 on list 4523 has the following contents when it is first created:

Field | Information recorded in field
---|---
Event number | 43
Date/Time | October 26, 2003 - 4:00 pm
Event Type | NFL Football
Visitor Name | Dallas
Home Name | Tampa Bay
Visitor Odds | 2.8
Home Odds | 1.8
Tie Odds | 1.2
Actual Outcome | Unknown

[0184] In the Over/Under event table 532, the event record 534 for event 33 on list 4523 has the following contents when it is first created:

Field | Information recorded in field
---|---
Event number | 33
Date/Time | October 25, 2003 - 8:00 pm
Event Type | NHL Hockey
Event Name | Colorado at Nashville
Threshold | 5.5
Over Odds | 1.8
[0185] Each on-line game ticket table 510 contains on-line game ticket records 538. Each on-line game ticket record 538 contains information relating to a ticket sold for an on-line game. In this exemplary embodiment, the ticket records 538 in the Sports Line ticket table 536 include the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Odds</td>
<td>1.6</td>
</tr>
<tr>
<td>Actual Outcome</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

[0186] Each on-line game ticket table 510 has a Maturation Event Index (not shown) that provides an index of the ticket records 538 in the ticket table ordered by the event identified in the Maturation Event field in each of the ticket records. The Maturation Event Index may be used to identify ticket records 538 that correspond to tickets which mature after a particular event. The Sports Line ticket table 536 has a Sports Line Maturation Event Index (not shown). The Over/Under ticket table 542 has an Over/Under Maturation Event Index (not shown). In another embodiment, ticket records that have a specific maturation event may be identified by searching through each ticket record in a ticket table.
Sports Line ticket table 536 contains seven on-line game ticket records 538 corresponding to seven Sports Line on-line game tickets SL1-SL7. Ticket SL3 corresponds to ticket receipt 318 (FIG. 4). The ticket record 539 for ticket SL3, when it is first created has the following contents:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket Code</td>
<td>9113-4234-2342-3047</td>
</tr>
<tr>
<td>Issue Date/Time</td>
<td>October 24, 2003 - 3:45 pm</td>
</tr>
<tr>
<td>Predicted Outcomes</td>
<td>Event 12 - Visitor win</td>
</tr>
<tr>
<td></td>
<td>Event 33 - Home win</td>
</tr>
<tr>
<td></td>
<td>Event 43 - Tie</td>
</tr>
<tr>
<td>Vendor Terminal</td>
<td>85462</td>
</tr>
<tr>
<td>Verification Code</td>
<td>6546</td>
</tr>
<tr>
<td>Associated Player</td>
<td>ABINR237</td>
</tr>
<tr>
<td>Account</td>
<td></td>
</tr>
<tr>
<td>Wager</td>
<td>$5,00</td>
</tr>
<tr>
<td>Maturation Event</td>
<td>Event 43</td>
</tr>
<tr>
<td>Payout Value</td>
<td>$72</td>
</tr>
<tr>
<td>Ticket Status</td>
<td>Events Not Complete</td>
</tr>
</tbody>
</table>

Over/Under ticket table 542 contains six on-line game ticket records 538 corresponding to six Over/Under on-line game ticket OU1-OU6. Ticket OU2 corresponds to ticket receipt 418 (FIG. 5). The ticket record 541 for ticket OU2, when it is first created has the following contents:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket Code</td>
<td>9227-3486-5972-6578</td>
</tr>
<tr>
<td>Issue Date/Time</td>
<td>October 25, 2003 - 9:18 am</td>
</tr>
<tr>
<td>Predicted Outcomes</td>
<td>Event 12 - Over</td>
</tr>
<tr>
<td></td>
<td>Event 32 - Under</td>
</tr>
<tr>
<td></td>
<td>Event 33 - Under</td>
</tr>
<tr>
<td></td>
<td>Event 42 - Over</td>
</tr>
<tr>
<td>Vendor Terminal</td>
<td>78254</td>
</tr>
<tr>
<td>Verification Code</td>
<td>3287</td>
</tr>
<tr>
<td>Associated Player</td>
<td>AINOS84</td>
</tr>
<tr>
<td>Account</td>
<td></td>
</tr>
<tr>
<td>Wager</td>
<td>$20</td>
</tr>
<tr>
<td>Maturation Event</td>
<td>Event 42</td>
</tr>
<tr>
<td>Payout Value</td>
<td>$250.60</td>
</tr>
<tr>
<td>Ticket Status</td>
<td>Events Not Complete</td>
</tr>
</tbody>
</table>

Player account server 162 manages the creation of player accounts and enables players to access their player accounts using a player terminal 106. Each player interface 166 facilitates communications between the player account server 162 and one or more of the player terminals 106. In the present embodiment, player interface 166a includes a player website 167a, which players may access by using a web browser operating on a player terminal 106, such as a personal computer or any other web-enabled computing device. Player interface 166a communicates with web browsers to receive information from the player terminals 106 and to transmit information to the player terminals 106. For example, player interface 166a receives information about new player accounts and creates a corresponding player account record 514 in the lottery database 160. This is further described below in relation to method 2100. Player interface 166a obtains information relating to tickets associated with a player account from the lottery database 160 and transmits it to a player terminal 106. The information is displayed on the player terminal 106. This is further described below in relation to method 2600.

Other player interfaces 166 may be configured to allow other types of player terminals 106 to access the player account server to create player accounts or to obtain information relating to tickets associated with a player account. For example, other player interfaces 166 may be adapted to communicate with portable communication devices with small display screens such as portable digital assistant (PDA) devices or portable telephone devices. Other player interfaces 166 may be adapted to communicate with computer programs executing on a player terminal 106 and to control the display of information by such computer programs.

FIG. 7 illustrates a method 2100 for creating a player account. Method 2100 begins in step 2102 in which a player accesses player account server 162 by accessing a player interface 166. Method 2100 will be explained by way of example with reference to player interface 166a, which includes player website 167a.

Referring to FIG. 13, the player website 167a (FIG. 1) includes a welcome web page 602 that includes a “Create Account” button 604, which allows the player to initiate a player account creation service. The player account creation service operates under the control of the player account server 162.

Reference is again made to FIG. 7. In step 2102, the player uses a player terminal 106 to access the welcome page 602 and initiates the player account creation service by clicking on the Create Account button. In other embodiments of the invention, a player account creation service may be initiated through the use of any other type of control or option that a player may select or interact with.

Method 2100 next proceeds to step 2104. In step 2104, the player selects a player account identification code and provides other information for her player account. In this step, the player is presented with an account creation form. The account creation form is transmitted from the player website 167a to the player terminal 106 and is displayed on the player terminal 106. The account creation form has a number of fields to allow the player to enter information relating to a player account that the player wishes to create. The account creation form also allows the player to enter the personal information described above: the player’s name, address, phone number, fax number, e-mail address, birth date, sex and income range. When the player has completed the form, the information entered by the player is transmitted to the player account server. Method 2100 proceeds to step 2106.

In step 2106, the player account server 162 determines whether the proposed account identification code may be assigned to the player’s account. In the present embodiment, the player account server 162 checks whether:

1. Each of the characters in the proposed account identification code is in the account identification code character set;
2. The proposed account identification code is between 6 and 12 characters long;
3. All of the characters in the proposed account identification code are different from one another; and
4. The proposed account identification code has already been assigned to an existing player account.
To determine if the proposed account identification code has already been assigned to an existing player account, the player account server 162 compares the proposed account identification code with the account identification codes that have already been assigned to the existing player accounts (and which are recorded in the Account ID Code fields in the player account records 514 (Fig. 6a)). As described above, the characters in an account identification code are recorded in the Account ID Code field in each player account record 514 in an alphanumeric order with letter preceding numbers. The player account server 162 may sort the characters in the proposed account identification code in a corresponding order before comparing the proposed account identification code to the existing account identification codes. If the proposed identification code has not been assigned any of the existing player accounts and meets other requirements specified by the lottery operator for account identification codes, then it may be assigned to the new player account.

The player account server 162 also checks the account password proposed by the player to ensure that it complies with any rules set by the lottery operator. The lottery operator may specify rules for account passwords relating to minimum and maximum numbers of characters, use of different cases of letters (i.e., uppercase, lowercase, or mixed case), use of numerals in the password and other requirements.

The player account server 162 also checks the remaining information provided by the player to ensure that it meets any criteria set by the lottery operator. For example, the lottery operator may check to ensure that any required fields are completed. In the present example, the lottery operator allows players to create anonymous accounts without entering any personal information. In other embodiments, the lottery operator may require players to provide some or all of the personal information described here, as well as other personal information.

If the proposed identification code may be assigned to the new player account, and if the password and personal information meet any criteria imposed by the lottery operator, method 2100 proceeds to step 2108. Otherwise, method 2100 returns to step 2104.

In step 2108, a new player account record 514 is created in the player account table 502 for the new player account code. The proposed identification code is recorded in the Preferred ID Code Order field with the characters in the order in which the player entered them in step 2104. The proposed identification code is recorded in the Account ID Code field with the characters sorted in alphanumeric order. The proposed password is recorded in the Password field and any personal information provided by the player is recorded in the appropriate fields.

The Player Ticket List field does not contain any reference to any tickets at this point, since the player account is newly created and no tickets have been associated with the account.

Referring to FIG. 6a, three player account records 514 are illustrated. The player account record 514 with player account code R82E/W94 is newly created using method 2100 and has not yet been associated with any tickets. During step 2104, a player entered the proposed identification code R82E/W94 with the characters in the order preferred by the player, as well as a proposed password and personal information. In step 2106, the player account server 162 sorted the characters in the proposed identification code into alphanumeric order, ERW2489, and compared the proposed identification code with the account identification code for the existing player accounts. Since none of the existing player account identification codes (ABINR237 and AINOS4) are the same, player account server 162 created the player account record for the new player account in step 2108.

Method 2100 proceeds to step 2110. In step 2110, the player account server 162 confirms the creation of the new player account. The player account server 162 transmits a confirmation message to the player terminal 106 where the confirmation message is displayed.

Method 2100 ends when step 2110 is completed.

In another embodiment, in step 2110, the player account server 162 may also generate an image of the account identification region of a selection slip, or a whole selection slip, with cells corresponding to the player’s account identification code marked. The image of the account identification region is also sent to the player terminal 106 where it is displayed. The player may review the image to learn how to properly mark an account identification region to identify the player’s account on a selection slip. Optionally, the image of the account identification region may be printed in a printable format (such as an image format or a document format such as PDF), allowing the player to print the image and refer to it when completing a selection slip.

Typically, a lottery operator will allow a player to change some of the information recorded about the player and the player account in a player account record 514. For example, the player may be permitted to change the password associated with the player account or the personal information about the player. The lottery operator will provide an account modification service for this purpose. A skilled person will be able to provide an appropriate account modification service and the account modification is not further described here.

Referring to FIG. 1, the ticket server 164 communicates with ticket vending terminals 104 to issue on-line lottery tickets and on-line game tickets. The ticket server 164 receives requests from the ticket vending terminals 104 in the form of Ticket Issue Requests 552. If the ticket server 164 determines that a ticket may be issued based on a Ticket Issue Request, it instructs the ticket vending terminal 104 to print a ticket receipt by sending Ticket Receipt Data 554. The operation of the ticket server 164 to issue tickets and the contents and use of a Ticket Issue Request 552 and Ticket Receipt Data 554 are further described below with reference to method 2200 (FIG. 8).

The ticket server 164 also communicates with ticket vending terminals 104 to allow on-line lottery tickets and on-line game tickets to be redeemed. The operation of ticket server 164 to facilitate the redemption of tickets is further described below in relation to method 2500 (FIG. 11).

FIG. 8 illustrates method 2200. Method 2200 allows the lottery operator to sell a ticket to a player and correspondingly allows a player to purchase a ticket. The steps in method 2200 are explained with reference to two examples. The first example is based on the Lotto 7/47 on-line lottery, selection slip 116 and ticket receipt 118 (FIG. 2). The second example is based on the Sports Line on-line game, selection slip 316 and ticket receipt 318 (FIG. 4).

Method 2200 starts in step 2202 in which the player selects and completes a selection slip 112. As described above, a lottery operator may make various types of selection slips 112 available for players to choose from. In this exemplary embodiment, each selection slip 112 is related to at least one on-line lottery or on-line game. The player’s choice of selection slip 112 determines the on-line lottery (or lottery) or on-line game for which the player will purchase a ticket. The player completes both the play region (either a lottery play region on a selection slip for an on-line lottery or a game
play region on a selection slip on a selection slip for an on-line game) and the account identification region on the selection slip. After completing the selection slip 112, the player gives it to a ticket vendor.

[0215] In the present Lotto 7/47 based example, a lottery player, Sonia Smith, selects selection slip 116 and completes the lottery play region 120 by marking it as shown in FIG. 2 to select two sets of Lotto 7/47 played number sets, one Tag player number and three draws. She also completes the account identification region 336 by marking the cells corresponding to the characters in her account identification code SONIA4 (or AINOS4 in alphanumerical order). She then gives the completed selection slip 116 to the ticket vendor who operates ticket vending terminal 104d. For the purpose of this example, Sonia Smith completes step 2202 on Thursday Oct. 23, 2003 at 7:18 pm. The next scheduled draw for the Lotto 7/47 on-line lottery after this time is on Friday Oct. 24, 2003.

[0216] In the present Sports Line based example, a player, Brian Jones, selects selection slip 318 and completes the game play region 320 to make predictions for three events as shown in FIG. 4. He also completes the account identification region 336 by marking the cells corresponding to the characters in his account identification code, BRIAN237 (or ABINR237 in alphanumerical order). He then gives the completed selection slip 316 to the ticket vendor who operates ticket vending terminal 104c. For the purpose of this example, Brian Jones completes step 2202 on Oct. 24, 2003 at 3:45 pm.

[0222] (b) the number of draws for which the player has requested a ticket;
[0223] (c) the account identification code marked by the player on the selection slip;
[0224] (d) the ticket vending terminal code.

[0225] In this embodiment, a Ticket Issue Request 552 for an on-line game includes the following information:

[0226] (a) the identity of the on-line game for which the player has requested a ticket;
[0227] (b) the event number and predicted outcome for each prediction made by the player;
[0228] (c) the player's wager for the ticket;
[0229] (d) the account identification code marked by the player on the selection slip;
[0230] (e) the ticket vending terminal code.

[0231] The account identification code marked on a selection slip is set out in the Ticket Issue Request 552 in the alphanumerical order used in the present embodiment. In this embodiment, a ticket vending terminal 104 cannot determine which permutation of the characters marked in the account identification region on a selection corresponds to the player's preferred order for the account identification code.

[0232] In the present Lotto 7/47 based example, the Ticket Issue Request 552 contains the following information, which is based on the cells marked by player Sonia Smith on selection slip 116:

| (a) Host on-line lottery: Lotto 7/47 |
| Lotto 7/47 played number set 1: 2 7 9 11 22 |
| Lotto 7/47 played number set 2: 5 10 17 23 32 |
| (b) Number of draws: 3 draws |
| (c) Account ID Code: AINOS4 |
| (d) Ticket vending terminal code: 19862 |

[0233] In the present Sports Line based example, the Ticket Issue Request 552 contains the following information which is based on the cells marked by player Brian Jones on selection slip 316:

| (a) On-line game: Sports Line |
| (b) Events and Predictions: Event 12 - Visitor Win Event 33 - Home Win Event 43 - Tie |
| (c) Wager: $8 |
| (d) Account ID Code: ABINR237 |
| (e) Ticket vending terminal code: 85462 |

[0234] Method 2200 next proceeds to decision step 2206. In step 2206, the ticket server 164 determines whether a ticket may be issued based on the Ticket Issue Request 552 received from the ticket vending terminal 104 in step 2204. The ticket server 164 ensures that the player's selections comply with the rules of the on-line lottery or lotteries or on-line game or games for which the player has requested a ticket. For example, the ticket server 164 checks to ensure that the player has selected the correct number of played numbers for each played number set. The ticket server 164 may also check to ensure that any other requirements set by the lottery operator
are complied with. For example, the lottery operator may set a rule that tickets for a particular on-line lottery may not be purchased with 15 minutes before or after a draw of the on-line lottery. For an on-line game, the lottery operator may specify that a ticket will only be issued if the Ticket Issue Request is received prior to the time of the earliest event that the bet is based on.

[0235] In addition, the ticket server 164 determines if a player account with account identification code specified by the player exists in the player account table 502 (FIGS. 6a and 6b). If all of the rules of the on-line lottery or lotteries or on-line game are complied with, any other requirements set by the lottery operator are also complied with and if a player account with the specified account identification code exists, then a ticket may be issued based on the Ticket Issue Request 552 and method 2200 proceeds to step 2210. Otherwise, the ticket requested by the player cannot be issued. If the ticket cannot be issued, method 2200 proceeds to step 2208.

[0236] In the present Lotto 7/47 example, the selections made by Sonia Smith on selection slip 116 comply with the rules of Lotto 7/47 on-line lottery and a player account with the account identification code AINOS4 does exist. Method 2200 can proceed to step 2210.

[0237] Similarly, in the present Sports Line example, the selections made by Brian Jones on selection slip 316 comply with the rules of the Sports Line on-line game and a player account with the account identification code ABINR237 does exist. In this example, method 2200 can also proceed to step 2210.

[0238] In step 2208, the ticket server 164 transmits an Error Message to the ticket vending terminal from which the Ticket Issue Request 552 was received in step 2204. The Error Message indicates that a ticket cannot be issued based on the Ticket Issue Request 552 and may optionally also identify the reason why the ticket cannot be issued. Method 2200 ends after step 2208.

[0239] In step 2210, the ticket server 164 creates a new ticket record in the appropriate ticket table, based on the information in the Ticket Issue Request 552 and data generated by the ticket server. The ticket server 164 stores data in the fields of the ticket record based on the Ticket Issue Request and by generating additional data (such as the ticket code, the date and time at which method 2200 is being performed and a verification code). The ticket server 164 updates the draw records 518 (FIG. 6a) for which the new ticket is valid in the appropriate draw table 504 (FIG. 6a), if the ticket is for an on-line lottery, by adding the new ticket to the Draw List.

[0240] The ticket server 164 also updates the player account record 514 (FIGS. 6a and 6b) for the player account identified in the Ticket Issue Request by adding a reference to the new ticket to the Player Ticket List field. This associates the ticket with the player account.

[0241] If the Ticket Issue Request 552 identifies an on-line lottery, the ticket server 164 generates or determines the following information:

- **[0242]** (a) a ticket code, which is generated by the ticket server 164;
- **[0243]** (b) the date and time at which method 2200 is being performed;
- **[0244]** (c) the identity of the on-line lottery or lotteries for which the ticket is to be issued and the played number sets for each of the lotteries, as indicated in the Ticket Issue Request 552;
- **[0245]** (d) the dates of the draws for which the ticket will be issued, based on the number of draws indicated in the Ticket Issue Request 552 and based on the date and time at which the method 2200 is being performed;
- **[0246]** (e) the vendor terminal code identified in the Ticket Issue Request 552;
- **[0247]** (f) a verification code, which is generated by the ticket server 164; and
- **[0248]** (g) the account identification code with which the ticket will be associated, as indicated in the Ticket Issue Request 552.

[0249] In the present embodiment, the lottery operator issues a ticket for consecutive draws, starting with the next draw after the time at which method 2200 is performed. If the Ticket Issue Request 552 is for only one draw, then a ticket for the next draw of the on-line lottery is issued. In other embodiments, the lottery operator may determine the draws for which a ticket will be issued according to any set of rules. For example, if a lottery has twice weekly draws (i.e. on Wednesday and Saturday), the lottery operator may issue a ticket for the next three Saturday draws.

[0250] The ticket server 164 creates a new ticket record 524 (FIG. 6a) in the ticket table 506 for the indicated on-line lottery and completes the fields in the new ticket record 524. Since the record is newly created, and since the ticket is issued prior to the draw of the on-line lottery, the prize data for the ticket is unknown and the Prize Data field of the ticket record 524 cannot be completed. The Ticket Status field is set to “Draws Not Complete”.

[0251] In the present Lotto 7/47 example, the ticket server 164 determines or generates the following information:

| (a) ticket code: 2131-4556-8878-2902; |
| (b) date and time: Oct. 23, 2003 7:19 p.m.; |
| (c) Lotto 7/47: Lotto 7/47 played number set 1: 2 7 9 11 22 43 47 Lotto 7/47 played number set 2: 5 10 17 23 32 36 47 Tag: Tag played number set 1: 909207; |
| (e) ticket vending terminal code: 19862; |
| (f) verification code: 5283; and |
| (g) account identification code: AINOS4. |
As described above, ticket receipt 118 corresponds to ticket L3 (FIG. 6a). The ticket server 164 creates the ticket record 525 for ticket L3 and records the assembled data in it. The ticket record 525 for ticket L3 when it is first created is set out above. The ticket server 164 updates the drawn records 518 for the Oct. 24, 2003, Oct. 31, 2003 and Nov. 7, 2003 draws of the Lotto 7/47 on-line lottery by linking the Draw Ticket List field in each record to the new ticket record 524. The ticket server 164 updates the player account record 514 for Sonia Smith’s player account by adding a reference to the new ticket in Player Ticket List field.

If the Ticket Issue Request 552 identifies an on-line game, the ticket server 164 generates or determines the following information:

- (a) a ticket code, which is generated by the ticket server 164;
- (b) the date and time at which method 2200 is being performed;
- (c) the identity of the on-line game for which the ticket is to be issued and the prediction set, as indicated in the Ticket Issue Request 552;
- (d) the wager made by the player for the ticket;
- (e) the vendor terminal code identified in the Ticket Issue Request 552;
- (f) a verification code, which is generated by the ticket server 164;
- (g) the account identification code with which the ticket will be associated, as indicated in the Ticket Issue Request 552;
- (h) the maturation event for the ticket; and
- (i) the payout value for the ticket.

In the present embodiment, a Ticket Issue Request is for an on-line game, the date and time at which method 2200 is performed determines which event list a ticket will be issued for. The lottery operator will issue a ticket for the event list that is current when the ticket is issued (if a ticket may be issued as described above in relation to step 2206).

The ticket server 164 creates a new ticket record 538 (FIG. 6b) in the ticket table 510 for the indicated on-line game and completes the fields in the new ticket record 538. Since the new ticket is issued prior to any of the events for which the player has made a prediction taking place, the Ticket Status field is set to “Events Not Completed”.

In the present Sports Line Example, the ticket server 164 generates or determines the following information:

- (a) ticket code: 9113-4234-2342-3047;
- (b) date and time: Oct. 24, 2004 3:45 p.m.;
- (c) on-line game: Sports Line;
- (d) wager: $5;
- (e) ticket vending terminal code: 85462;
- (f) verification code: 6456;
- (g) account identification code: ABINR237;
- (h) maturation event: event 43; and
- (i) payout value: 72.

Since method 2200 is being processed on October 24 at 3:45 p.m., the current event list for the Sports Line on-line game is event list 4523. As described above, ticket receipt 318 (FIG. 4) corresponds to ticket SL3 (FIG. 6). The ticket server 164 creates a new ticket record 538 in the ticket table 516 for the Sports Line Ticket Table for event list 4523 and records the assembled data in the new ticket record 538. The ticket record 538 for ticket SL3 when it is first created is set out above. The ticket server 164 also updates the player record 514 for Brian Jones’ player account by adding a reference to the ticket code for the new ticket in the Player Ticket List field.

Method 2200 proceeds to step 2212. In step 2212, the ticket server 164 transmits Ticket Receipt Data 554 to the ticket vending terminal 104 from which the Ticket Issue Request 552 was received in step 2204. The Ticket Receipt Data 554 includes ticket information printed by the ticket vending terminal 104 on the ticket receipt 114 for the ticket. The ticket information includes the account identification code marked by the player in the account identification region on the selection slip 112 in step 2202. In the present embodiment, the ticket information includes the account identification code, as it is stored in the Preferred ID Code Order in the player account record 514, so that the player’s account identification code can be printed on the ticket receipt 114 with the characters in the order preferred by the player. The Ticket Receipt Data 554 may also include additional information, such as formatting information to indicate how the information printed on the ticket receipt 114 should be laid out. The ticket vending terminal 104 prints a ticket receipt 114 setting out the ticket information. The account identification code is printed on the ticket, indicating that the ticket issued in this method 2200 has been associated with the player’s account in the lottery database 160.

In the present Lotto 7/47 example, ticket vending terminal 104 (FIG. 2) prints out ticket receipt 118. In the Sports Line example, ticket vending terminal 104 (FIG. 4) prints out ticket receipt 318.

In another embodiment, the ticket vending terminal 104 may transmit a Ticket Receipt Issued message (not shown) to the server 164 as part of step 2212 after the ticket receipt 114 has been printed. The server 164 may use the Ticket Receipt Issued message to as a confirmation that the ticket purchase transaction has been successfully completed.

Method 2200 proceeds to step 2214, in which the ticket vendor gives the printed ticket receipt 114 to the player. The ticket vendor will also obtain payment from the player for the ticket.

Method 2200 then ends.

Method 2200 allows a player to identify the player’s account when purchasing a ticket for an on-line lottery or on-line game. A player may participate in an on-line lottery by using a lottery play region on a selection slip to select played number sets, request automatically selected numbers, participate in an associated lottery or select a number of draws to participate in, depending on the selections permitted by the lottery operator. The player may participate in an on-line game by using a game play region of selection slip to make predictions and wagers, depending on the selections permitted by the lottery operator. The present invention allows the player to identify the player’s account using an account identification region on a selection slip. The ticket server issues a ticket to the player and associates the ticket with the player’s account in step 2210. The player receives a ticket receipt setting out the player’s played number set or sets (for an on-line lottery) or his predictions (for an on-line game) and the player’s account identification code, indicating that the ticket is associated with the player’s account.
on-line lotteries and on-line games that the lottery operator offers may be programmed into the ticket vending terminal 104. In step 2204, the ticket vending terminal 104 may be programmed to determine if the player has properly marked the play region in accordance with the rules of the on-line lottery or on-line game to which the selection slip relates. Similarly, a list of valid account identification codes may be stored in the ticket vending terminal 104. The ticket vending terminal 104 may compare an account identification code marked on a selection slip to the list of valid account identification codes. If the play region is not marked correctly, or if the marked account identification code is not found in the list of valid account identification codes, the ticket vending terminal 104 may display an error message and will not send a Ticket Issue Request. To facilitate up-to-date checking of account identification codes, when a new player account is created according to method 2100, the new account identification code may be transmitted to all ticket vending terminals to be added to the list of valid account identification codes. Alternatively, the list of valid account identification codes could be updated periodically and a player who creates a new account may be unable to use the account until the player’s account identification code has been stored in the ticket vending terminals 104. For example, the list of valid account identification codes may be updated in each ticket vending terminal 104 each night. A player can use a player account the day after it is created. If the ticket vending terminal 104 determines that the play region is marked correctly and a valid account identification code has been marked in the account identification region on a selection slip, the ticket vending terminal 104 will send a Ticket Issue Request to the ticket server 164. The ticket server may repeat some of the checks performed by the ticket vending terminal 104 and may perform additional audits as well. In different embodiments, the ticket vending terminal 104 may perform some or all of the audits. For example, in another embodiment, the ticket vending terminal 104 may audit the information marked in the play region while the ticket server 164 audits both the play region and the account identification code marked in the account identification region.

In other embodiments, a ticket may be issued even if an invalid account identification code is marked on a selection slip. Optionally, the invalid account identification code may be ignored and a ticket may be issued as if no account identification code had been marked on the selection slip. Alternatively, the ticket receipt 114 may include a notice to the effect that an invalid account identification code had been marked on the selection slip and was ignored.

On the ticket receipts 114 illustrated in FIGS. 2-5, an account identification code is set out in full. Alternatively, only part of an account identification code may be set out on a ticket receipt. For example, the first and last characters may be set out with one or more spacer characters between them. The account identification code SONIA4 may be set out as S—4. This allows a player to confirm that the ticket has been associated with the player’s account, but does not reveal the player’s account identification code to other persons who may see the player’s ticket. In another embodiment, a player’s account identification code may not be printed on a ticket receipt 114. Instead, a confirmation phrase such as “Player Account Entered” may be printed on the ticket receipt 114 to inform the player that the ticket has been associated with a player account. This alternative does not allow a player to confirm that the player properly marked the player’s own account identification code on a selection slip.

In system 100, if a player requests that a played number set be automatically selected for the player, the ticket vending terminal 104 automatically selects the requested played numbers and includes the selected numbers in a Ticket Issue Request. Similarly, a ticket vending terminal 104 automatically selects played numbers for an on-line lottery in which all played numbers are automatically selected (such as the Tag on-line lottery). In another embodiment, the ticket vending terminal 104 may include the player’s request for an automatically selected played number set or to participate in an on-line lottery for which all played numbers are automatically selected to the ticket server 164. The ticket server may automatically select the requested played numbers and include them in a Ticket Receipt Data message.

Reference is next made to FIG. 9. For each on-line lottery, the lottery operator conducts a draw of the on-line lottery at the appointed date and time. In the case of a host on-line lottery with an associated on-line lottery, the lottery operator typically conducts a draw of both the host and associated on-line lotteries, depending on the rules for the on-line lotteries. In the present embodiment, the lottery operator then checks each ticket that is valid for the draw by comparing the played number sets for each ticket valid for the draw with the corresponding winning number sets to determine if the ticket has won any prizes and to determine the value of any shared prizes. FIG. 9 illustrates a method 2300 that a lottery operator may use to do so. Method 2300 will be explained using an example based on the Oct. 31, 2003 draw date for the host Lotto 7/47 on-line lottery and associated Tag on-line lottery and with reference to Lotto 7/47 ticket L3 (FIG. 6a), which corresponds to ticket receipt 118 (FIG. 2).

Method 2300 begins in step 2302 in which the lottery operator conducts the draw of the on-line lottery or lotteries.

In the present example based on the Oct. 31, 2003 draw of the Lotto 7/47 on-line lottery, the lottery operator draws a winning number set for the host Lotto 7/47 on-line lottery and a winning number for the associated Tag on-line lottery. The winning number set for the Lotto 7/47 on-line lottery consists of the winning numbers 2, 7, 11, 17, 22, 36, 43 and bonus number 23. The winning number for the associated Tag on-line lottery is 258952.

Method 2300 then proceeds to step 2304, in which the lottery operator updates the winning number field or fields in the appropriate draw record 518 for the draws conducted in step 2302 in the appropriate draw table 504. In the present example, the lottery operator updates the draw record 518 for the Oct. 31, 2003 draw in the Lotto 7/47 draw table 516. The lottery operator records the Lotto 7/47 winning number set in the Lotto 7/47 Winning Number Set field and records the Tag winning number in the Tag Winning Number field as follows:

<table>
<thead>
<tr>
<th>Lotto 7/47 Winning Number Set</th>
<th>Tag Winning Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 7, 11, 17, 22, 36, 43 Bonus Number 23</td>
<td>258952</td>
</tr>
</tbody>
</table>

Method 2300 then proceeds to step 2306, in which an on-line lottery ticket checking program (not shown) is executed by the lottery operator. The on-line lottery ticket checking program is executed on the lottery computer system
and has access to the lottery database 160. The on-line lottery ticket checking program uses the Draw Ticket List field in the draw record 518 for the draw conducted in step 2302 to obtain the ticket record 524 (FIG. 6a) for each ticket valid for the draw. The on-line lottery ticket checking program compares the played number sets on each ticket to the corresponding winning number sets for the draw and updates the Prize Data field in the ticket record for the ticket based on the comparison. The on-line lottery ticket checking program counts the number of winning played number sets for each different winning combination for each lottery to allow the lottery operator to determine the value of any shared prizes and for information purposes. In other embodiments, the on-line lottery ticket checking program may count only the number of winning number sets for winning combinations that have shared prizes.

If a ticket is valid for more than one draw, the played number sets on the ticket are compared to the corresponding winning numbers sets after each draw and the Prize Data field in the ticket record 524 is updated to reflect the results for the ticket as of the most recent draw. If all of the draws for which the ticket is valid have been conducted, the on-line lottery ticket checking program also updates the Ticket Status field in the ticket record 524. If the ticket has won a prize (in the draw conducted during the current performance of method 2300 or in a previous draw) the ticket status is changed to “Winner-Not Redeemed”. If the ticket has not won any prize in any draw, the Ticket Status is changed to “Not A Winner”. If the ticket is still valid for future draws, the Ticket Status remains “Draws Not Complete”.

Typically, the on-line lottery ticket checking program will check each ticket valid for the draw conducted in step 2302 in turn. Referring to FIG. 6a, tickets L3, L4 and L5 will be checked for the Oct. 31, 2003 draw. Tickets L4 and L5 are not valid for any subsequent draws and the Ticket Status field will be set to “Not a Winner” or “Winner-Not Redeemed”.

When each ticket valid for the draw conducted in step 2302 has been checked to determine the results for the ticket in the draw, the lottery ticket checking program records the number of played number sets that have won prizes for each of the winning combinations for each draw conducted in step 2302. Method 2300 then proceeds to step 2308.

In the present example, in step 2306, the result of comparing the played number sets to the corresponding winning numbers for the Oct. 31, 2003 draw gives the following results:

Lotto 7/47 played number set 1: 5/7 regular winning numbers
Lotto 7/47 played number set 2: No winning combination
Tag played number 1: No winning combination.

Based on these results, the on-line lottery ticket checking program increments the count of the number of played number sets that have won the fifth prize in the Oct. 31, 2003 Lotto 7/47 draw and also updates the Prize Data field in ticket record 525. The Prize Data field has the following information in it after it is updated:

| Oct. 31, 2003 | Lotto 7/47 played number set 1: 5/7 regular numbers | Lotto 7/47 played number set 2: Not a winner | Tag played number 1: Not a winner |

-continued

Oct. 31, 2003
Lotto 7/47 played number set 1: 5/7 regular numbers
Lotto 7/47 played number set 2: Not a winner
Tag played number 1: Not a winner

The data relating to the Oct. 23, 2003 draw was recorded in the Prize Data field earlier when method 2300 was performed in relation to that draw of the Lotto 7/47 on-line lottery and its associated Tag on-line lottery, based on the winning number sets for the Lotto 7/47 and Tag draws on that draw date. Ticket L3 is still valid for another draw on Nov. 7, 2003 and accordingly, the Ticket Status for the ticket remains Draws Not Complete.

In step 2308, the lottery operator determines the value of any shared prizes based on the number of winners for each winning combination, according to the rules of each on-line lottery. The lottery operator then updates the prize information fields in the draw records for the completed draws.

In the present example, the lottery operator calculates the value of each prize for the Oct. 31, 2004 draw of the Lotto 7/47 on-line lottery and updates the Lotto 7/47 Prize Information field in the draw record 518 for the draw. The Free Ticket Prize and all of the prizes for the Tag on-line lottery are fixed prizes and no calculation is required. These fixed prizes are also recorded in the draw record 518 for the draws.

This information is stored in the draw record 518 for the Oct. 31, 2004 draw in the following fields:

<table>
<thead>
<tr>
<th>Winning Combination</th>
<th>Prize Value</th>
<th>Winners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lotto 7/47 Prize Information</td>
<td>7/7 regular numbers</td>
<td>$2,500,000</td>
</tr>
<tr>
<td></td>
<td>6/7 regular numbers * bonus</td>
<td>$342,849</td>
</tr>
<tr>
<td></td>
<td>6/7 regular numbers</td>
<td>$6,293</td>
</tr>
<tr>
<td></td>
<td>5/7 regular numbers</td>
<td>$146</td>
</tr>
<tr>
<td></td>
<td>4/7 regular numbers</td>
<td>$28</td>
</tr>
<tr>
<td></td>
<td>3/7 regular numbers * bonus</td>
<td>$32</td>
</tr>
<tr>
<td></td>
<td>3/7 regular numbers</td>
<td>Free Ticket</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prize</th>
<th>Winners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tag Prize</td>
<td>All six digits</td>
</tr>
<tr>
<td>Information</td>
<td>Last five digits</td>
</tr>
<tr>
<td></td>
<td>Last four digits</td>
</tr>
<tr>
<td></td>
<td>Last three digits</td>
</tr>
<tr>
<td></td>
<td>First and last digits</td>
</tr>
<tr>
<td></td>
<td>First digit</td>
</tr>
<tr>
<td></td>
<td>Last digit</td>
</tr>
</tbody>
</table>

After step 2308, method 2300 ends.

Steps 2304, 2306 and 2308 may be automated using a computer program, which would include the on-line lottery ticket checking program described above in relation to step 2306. The lottery operator may input the winning number set into the computer program and the total value of the shared prizes (if any), or the information required to calculate the total value of the shared prizes. The computer program can then carry out all three steps. Alternatively, the lottery operator may carry out step 2304 or 2308 or both separately from the on-line lottery ticket checking program of step 2306. The lottery operator may provide the winning number set to the lottery ticket checking program to allow it to carry out the
necessary comparisons. The on-line lottery ticket checking program of step 2306 may process a host on-line lottery and any associated on-line lottery or separate programs may be used to determine the results for each ticket for the different on-line lotteries. A skilled person will be capable of providing one or more computer programs to carry out the comparisons and data operations required depending on the particular structure of any particular on-line lottery or lotteries and data storage techniques with which the invention is used.

[0304] Method 2300 allows a lottery operator to conduct a draw for an on-line lottery and to determine the results for each played number set on each ticket that is valid for the draw. The lottery operator can determine the number of winning played number sets for each winning combination for the draw. If the lottery operator has conducted a draw for a host on-line lottery and an associated on-line lottery, the lottery operator may use method 2300 to calculate the number of winning played number sets for each on-line lottery. In addition, the lottery operator may calculate the value of any shared prizes based on the total prize value allotted for a particular winning combination and the number of winners for that winning combination. The lottery operator may update the ticket record for each ticket to record the results for the ticket. The lottery operator may also update the draw record for the completed draw to record the number of winning played number sets for each winning combination, and the value of some or all of the prizes for each on-line lottery, depending on the information stored in the draw records in any particular embodiment of the invention.

[0305] Reference is next made to FIG. 10. For each on-line game, the lottery operator updates the event table 508 for the on-line game after each is completed. Method 2400 illustrates a method used by the lottery operator in the present exemplary embodiment to update the event tables 508 for on-line games, to check on-line game tickets and to update on-line game ticket records 538. Method 2400 will be explained with reference to the Sports Line on-line game, event 43 in that on-line game and ticket SL.3 (FIG. 6), which corresponds to ticket receipt 318 (FIG. 4).

[0306] Method 2400 is performed by the lottery operator for each event in an on-line game. Method 2400 begins in step 2400, in which the lottery operator waits for the event to be completed.

[0307] In the present example, the lottery operator waits until the NFL football game between Dallas and Tampa Bay on Oct. 26, 2003 is completed.

[0308] After the event has been completed, method 2400 proceeds to step 2404. In step 2404, the lottery operator updates the Actual Outcome field in the event record 534 for the event that has been completed.

[0309] For the purposes of the present example, the NFL football game is assumed to have ended with Dallas winning the game 21-18, according to the standards rules for NFL football. However, according to the rules set by the lottery operator for the Sports Line on-line game, the game is deemed to be a tie, since the teams are separated by three or fewer in the final score. The lottery operator updates the Actual Outcome field of the event record 534 for event 43 in Sports Line Event Table 532 as follows:

<table>
<thead>
<tr>
<th>Actual Outcome</th>
<th>Tie</th>
</tr>
</thead>
</table>

[0310] Method 2400 then proceeds to step 2406, in which the lottery operator executes an on-line game ticket checking program (not shown). The on-line game ticket checking program is executed on the lottery computer system 102 and has access to the lottery database 160. The on-line game ticket checking program checks each on-line game ticket that matured with completion of the completed event, based on the Maturation Event field in the ticket record 538 for the ticket. In the present embodiment, the Maturation Event Index for the on-line game ticket able 510 (FIG. 6) is used to identify each ticket record that identifies the newly completed event in the Maturation Record field.

[0311] For each ticket that matured with the completed event, the game ticket checking program compares the player's prediction set (set out in the Predicted Outcomes field in the ticket record 538) with the actual outcomes of the corresponding events and determines if the player has won the bet made on the ticket. If, according to the rules for the on-line game, the player has won the bet, the Ticket Status field in the ticket record 538 is updated by changing the ticket status to “Winner-Not Redeemed”. If the player has lost the bet, then the Ticket Status field in the ticket record 538 is updated by changing the ticket status to “Not a Winner”. If a ticket record 538 identifies the completed event in its Maturation Event field, but some of the other events have not been completed when on-line game checking program is executed, then one of the Maturation Event field is changed to identify one of the uncompleted events. If the expected ending time of the uncompleted events can be estimated, then the event with the latest expected ending time is identified in the Maturation Event field. The ticket status for tickets that do not mature with the completion of the completed event is not changed.

[0312] The on-line game ticket checking program will check each ticket that matured with the completion of the completed event in turn. Referring to FIG. 6, four tickets in the Sports Line Ticket Table for List 4523 become mature with the completion of event 43: tickets SL.2, SL.3, SL.4 and SL.6.

[0313] In the present example, the bet made by the player (Brian Jones) on ticket SL.3 is based on three events: event 12, event 33 and event 43 set out for the Sports Line on-line game in List 4523. The actual outcome for event 43 is a tie, according to the rules for the Sports Line on-line game, as described above at step 2404. For the purposes of the present example, it is assumed that the actual outcomes of the other events are as follows: Event 12—Visitor Win; and Event 33—Home Win. After events 12 and 33, method 2400 would have been carried out, however, ticket SL.3 would not be checked in step 2406, since the ticket did not mature with the completion of either of those events. In both cases, the ticket status would have been left as “Events Not Complete”.

[0314] With the completion of event 43, ticket SL.3 matures and the on-line game ticket checking program checks ticket SL.3 during step 2406. The on-line game ticket checking program compares the prediction set for the on-line game ticket with the actual outcomes of the corresponding events, with the result that the player correctly predicted the outcome of each event. The player has won the bet on ticket SL.3. The ticket checking program changes the Ticket Status field to “Winner-Not Redeemed”. The player is entitled to redeem the on-line game ticket for the Payout Value of $72.

[0315] Similarly, the ticket checking program checks tickets SL.2, SL.4 and SL.6 and changes their Ticket Status fields to “Winner-Not Redeemed” or “Not a Winner”. When all the
tickets maturing with the completion of event 43 has been checked by the on-line game ticket checking program, method 2400 ends.

[0316] Event 43 in the Sports Line on-line game, the NFL Football game between Dallas and Tampa Bay on Oct. 26, 2003 is also an event in the Over/Under on-line game. In the present exemplary embodiment, method 2400 is carried out separately in relation to the Over/Under on-line game after the completion of each event for that on-line game. In an alternative embodiment, a lottery operator may combine the processes of checking tickets for different on-line games, particularly if the on-line games are based on the same events.

[0317] Method 2400 allows a lottery operator to update an event record 534 for a completed event and to update the ticket record 538 for each ticket that matures with the completion of the event. In the present embodiment, a lottery operator may choose to perform method 2400 after the completion of each event, without regard for the completion of other events.

[0318] In another embodiment, a lottery operator may choose to perform steps 2402 and 2404 in respect of two or more events, and then perform method 2406 in respect of each of the events. For example, a lottery operator may allow a group of events (such as a group of sports events held on a particular day) to be completed and update the event record for each of the events based on the outcome of each event. After the group of events is complete, the lottery operator may perform step 2406 in respect of all of the events by configuring the ticket checking program to check any ticket that matures with any event in the set. This allows the lottery operator to determine the results for all tickets that matured with the completion of one or more the events in the group (i.e., all tickets that matured on a particular day) and to update the ticket records for each of the tickets.

[0319] In another system, on-line game ticket records may have a Maturation Date field rather than a Maturation Event field. The lottery operator waits until all events on a particular day are complete and updates the event records for each such event, effectively performing steps 2402 and 2404 in respect of each event. Subsequently, the lottery operator performs step 2406 and configures the on-line game ticket checking program to check each ticket that matures on the particular day.

[0320] Reference is next made to FIG. 11, which illustrates a method 2500 for redeeming a winning on-line lottery or on-line game ticket. The ticket server 164 communicates with a ticket vending terminal 104 to facilitate the redemption of tickets in method 2500 and updates the status of the ticket in a ticket record 524 or 538 if a winning ticket is redeemed.

[0321] Method 2500 begins in step 2500. In this step, a player presents a ticket receipt for a ticket to a ticket vendor. In the present embodiment, the ticket vendor enters the ticket code for the ticket into a ticket vending terminal 104. Ticket receipts in the present embodiment have a machine readable bar code (for example, bar code 158 on FIG. 2) printed on them to allow the ticket vendor to scan the ticket code using a bar code scanning device coupled to the ticket vending terminal 104. The ticket vending terminal 104 transmits a Ticket Redemption Request message to the ticket server 164 indicating that a player has requested to redeem the ticket identified in the message.

[0322] Method 2500 then proceeds to decision step 2504. The ticket server accesses the ticket record 524 or 538 for the ticket in the lottery database 160. If the status in the Ticket Status field of the ticket record 524 is “Winner-Not Redeemed”, method 2500 proceeds to decision step 2506. Otherwise, method 2500 proceeds to step 2512.

[0323] In decision step 2506, the ticket server 164 determines if the prize won by ticket may be redeemed by the ticket vendor. A lottery operator may limit the value of cash prizes that may be redeemed by a ticket vendor. Cash prizes exceed the limit must be redeemed at an office operated by the lottery operator. Ticket vendors are also typically permitted to redeem free ticket prizes. However, ticket vendors may not be able to redeem merchandise prizes. In the present embodiment, the lottery operator permits ticket vendors to redeem free ticket prizes and cash prizes with a value of less than $1000. If the ticket may be redeemed by the ticket vendor, method 2500 proceeds to step 2508. Otherwise method 2500 proceeds to step 2510.

[0324] In step 2508, the ticket server 164 transmits a “Redeem Ticket” message to the ticket vending terminal 104. The ticket server 164 sets the Ticket Status field in the ticket record 525 to “Winner-Redeemed”. The Redeem Ticket message contains instructions for redeeming the ticket, including the prize or prizes won by the ticket. The instructions may include information that is displayed or printed at the ticket vending terminal. The ticket vendor follows the instructions and redeems the prize or prizes. After step 2508, method 2500 ends.

[0325] In step 2510, the ticket server 164 transmits a “Ticket Redemption Information” message to the ticket vending terminal 104 containing instructions as to how the player may redeem the ticket. The ticket vendor provides these instructions to the player. The ticket server 164 does not change the status of the Ticket Status field in the ticket record 524. After step 2510, method 2500 ends. In the present embodiment, the instructions advise the player to visit a prize claim office operated by the lottery operator to redeem the prize. A player may redeem any prize, including prizes that cannot be redeemed by a ticket vendor, by visiting a prize claim office operated by the lottery operator. When the player redeems a prize in this way, the status for the ticket is also set to “Winner-Redeemed”.

[0326] Step 2512 is reached if a player may attempts to redeem an on-line lottery ticket that is not a winning ticket or a ticket that has already been redeemed. The Ticket Status field for such a ticket will be set to “Draws Not Complete”, “Events Not Complete”, “Not a Winner” or “Winner-Redeemed”. The ticket server 164 transmits a “Non-Redeemable Ticket” message to the ticket vending terminal 104. The Non-Redeemable Ticket message instructs the ticket vendor not to give any prize to the player and may optionally include details as to the status of the ticket. The Non-Redeemable Ticket message may optionally contain instructions for printing a report that may be given to the player indicating that the ticket cannot be redeemed and may also indicate the reason. The ticket server 164 does not change the setting of the Ticket Status field in the ticket record 524. After step 2512, method 2500 ends.

[0327] Reference is next made to FIG. 12, which illustrates method 2600. Method 2600 allows a player to access the lottery computer system 102 to obtain information about tickets associated with the player’s account.

[0328] Method 2600 begins in step 2602 in which a player uses a player terminal 106 to access the player account server 162 and to request access to an account checking service. The player terminal 106 to communicate with a player interface
to allow the player to obtain information stored in the lottery database 160. Method 2600 will be described by way of example with reference to the exemplary player account for Sonia Smith. Sonia Smith uses player terminal 106c to access the player account server 162. Player terminal 106c is a personal computer coupled to public network 110 and is configured with a web browser capable of displaying web pages, including web pages provided by player website 167a (FIG. 1).

Reference is made to FIG. 13. A player may access player account server 162 by accessing the player website 167a and accessing the welcome web page 602. Welcome web page 602 includes player account identification code field 612, an account password field 614 and an “Enter” button 616. To request access to the account checking service, the player enters his account identification code in the account identification code field 612, his account password in the account password field 614 and then clicks on the Enter button 616. The account identification code and account password entered by the player are transmitted to the player account server 162. Optionally, the account password may be encrypted before it is transmitted to the player account server 162. The account identification code may also optionally be encrypted before it is transmitted to the player account server 162.

In the present example, Sonia Smith accesses player website 167a using her player terminal 106c. The welcome web page 602 is displayed on her player terminal 106c. Sonia Smith enters her account identification code SONIA4 in the account identification code field 612, with the characters in the order recorded in the Preferred ID Code Order field in the corresponding player account record 514. She also enters her account password in the account password field 612 and clicks on the Enter button 616.

Method 2600 then proceeds to decision step 2604. In step 2604, the player account server 162 attempts to authenticate the account identification code and account password entered by the player in step 2602. If a player account record 514 matching the entered account identification code and account password exists in the player account table 512 (FIGS. 6a and 6b), then the account identification code and password are authentic and method 2600 proceeds to step 2608. Otherwise, method 2600 proceeds to step 2606.

In the present embodiment, a player must enter an account identification code with its characters ordered in the same order or permutation that is recorded in the Preferred ID Code Order field in the player account record 514 for that player account record. If the player enters the characters in a different order in step 2602, then account identification code will not be authenticated in step 2604 and method 2600 proceeds to step 2606. This reduces the likelihood that a player (or any other person) will accidentally (or intentionally) obtain access another player’s account, since the player must enter not only the correct characters in the other player’s account identification code, but must also enter them in the correct order. In the present embodiment, changing the order of characters in an account identification code does not change the account identification code. As a result, the lottery operator could alternatively allow a player to access the player’s account regardless of the order in which the characters in the account identification code are entered in step 2602.

In step 2606, an error message is displayed on the player terminal 106 indicating that the player has entered an invalid account identification code or an invalid password (or both). Method 2600 then ends.

In step 2608, the player is provided access to the account checking service, which allows the player to obtain information relating to the player’s tickets. The player account server 162 obtains information about the player’s tickets from the lottery database 160. The player account server 162 transmits information about the player’s tickets to the player terminal 106 using the player interface with which the player terminal 106 is communicating. The information transmitted to the player terminal 106 is displayed for the player to view.

In the present exemplary embodiment, the player interface 166 provides several types of reports to a player about tickets associated with the player’s account. Each report is based on information recorded in the lottery database 160. The different report information about the player’s account and the player’s tickets in varying levels of detail. The player account server 162 extracts detailed information about individual tickets from the lottery database 160 and provides detailed ticket status reports. The player account server also provides an account summary report which includes summary information about the player’s tickets and summary information about individual tickets. Some of the information provided by the player account server 162 may be calculated based on information recorded in the lottery database 160.

In the present example, the player interface 166 displays the reports so that they are suitable for display in a web browser operating on Sonia Smith’s player terminal 106c. The player interface then transmits the formatted report to the player terminal where it is displayed.

Reference is next made to FIG. 14, which illustrates an account summary report 700 for the exemplary player account for Sonia Smith, which has account identification code AINOS4. Account summary report 700 is displayed by the web browser on the player’s terminal after she accesses the player account server as described above in steps 2602 and 2604.

Player interface 166a generates account summary report 700 as a web page based on the contents of the lottery database 160 at the time account summary report 700 is displayed. The formatted account summary report 700 is transmitted to Sonia Smith’s player computer 106c where it is displayed for her to view. On the account summary report 700, the date and time that account summary report 700 was generated is set out at 702. The player’s account identification code is set out at 704 in the player’s preferred order for the characters. The account information page 700 includes an account summary section 706 and a ticket summary section 708.

In the account summary section 706, various information relating to the player’s account and to tickets associated with the player’s account is set out. In the present exemplary account information page 700, the prizes won by the player in on-line lotteries and on-line games are summarized. The summary indicates that the player has unredeemed prizes and has won prizes on tickets with draws remaining. The summary also provides information about on-line game tickets.

The information presented on the account summary report 700 is calculated based on information about the player’s account and the player’s tickets extracted from the lottery database 160. The Player Ticket List field in the player account record 514 for the player’s account is used to identify
the player’s tickets. The corresponding on-line lottery ticket records 524 (FIG. 6a) and on-line game ticket records 538 (FIG. 6b) are reviewed to determine what prizes, if any, the player’s tickets have won, if any draws or events are remaining for the tickets and which, if any, prizes have been redeemed. The player interface 166a calculates the summary values presented in the account summary section 706 based on the extracted data.

[0341] In the ticket summary section 708, information about each of the tickets associated with the player’s account is set out. The information for each ticket is obtained from the corresponding on-line lottery ticket record 524 or on-line game ticket record 538.

[0342] In the present embodiment, the lottery operator allows winning tickets to be redeemed within one year of the on-line lottery draw or on-line game events that the ticket relates to. After the one year period, a ticket becomes expired and invalid. The account summary section 706 and the ticket summary section 708 include information relating to the valid tickets associated with the player’s account.

[0343] The player may obtain detailed information about any of the listed tickets by clicking on the ticket code for the ticket in the ticket summary section 708. When the player does so, a detailed ticket status report for the corresponding ticket is generated by the player interface 166a in the form of a web page. The detailed ticket status report is transmitted to the player’s terminal 106 where it is displayed.

[0344] The use of the ticket code for a ticket as a link to the detailed ticket status report is only an example. Additionally, or alternatively, any part of the information displayed about a ticket could be used as the link. Additionally, or alternatively, a button may be provided for some or all of the tickets listed in the ticket summary section 708 as a link to the detailed ticket status report for that ticket.

[0345] Reference is made to FIG. 15, which illustrates a detailed ticket status report 720a for ticket 11 (FIG. 6a). Detailed ticket status report 720a is generated by lottery interface 166a as a web page and is transmitted to Sonia Smith’s player terminal 106c when she requests detailed information for ticket 11 by clicking on the ticket code 2130-2485-3245-2352 on the account summary report 700. Detailed ticket status report 720a is displayed on player terminal 106c by the web browser operating on the player terminal.

[0346] On the detailed ticket status report 720a, the date and time at which the detailed ticket status report 720a was generated is displayed at 722. The ticket code for the ticket is set out in a ticket code section 724. The draws and lottery for which the on-line lottery ticket is valid are set out in a validity information section 726.

[0347] The played number sets for the Lotto 7/47 on-line lottery and the associated Tag on-line lottery are set out in a played number section 728. In the present embodiment, even if a player chooses not to purchase a Tag played number when purchasing a Lotto 7/47 played number set, a Tag played number is still printed on the ticket receipt 114 for the Lotto 7/47 played number set. In this case, the words “Not Played” are printed beside the Tag played number in the played number section 728 to indicate that the player chose not to purchase the Tag played number. A summary of prizes won and the redemption status for the ticket is set out in a prize summary section 730.

[0348] For every draw for which the ticket is valid, the played number sets on the ticket are compared to the corresponding winning numbers. In the present embodiment, this comparison is performed for each lottery ticket following each draw for which the ticket is valid during step 2306 of method 2300 (FIG. 9). However, the results of the comparison are not recorded, other than to update the Prize Data and the Ticket Status fields in the corresponding ticket records. The player interface 166a performs this comparison again. To do so, the player interface 166a obtains the winning numbers from the draw record 518 for each draw. The results of the comparison are shown in a detailed results section 732. The results indicate that one of the played number sets on the ticket is a winning played number set and has won a prize of $82. The ticket is a winning lottery ticket. The results also indicate that the player would have won a prize had the player chosen to purchase the Tag played number set.

[0349] The detailed ticket status report includes a “Return to Account Summary” button 732. The player may click on this button 732 to display the account summary report 700 (FIG. 14) on the player terminal 106.

[0350] The detailed ticket status report 720a provides the player with detailed information about the results for the ticket, allowing the player to learn the result of comparing the played numbers on the ticket with the corresponding winning numbers, without having to do so manually.

[0351] A detailed ticket status report 720b is shown in FIG. 16 for Lotto 7/47 ticket 13. Detailed ticket status report 720b is generated by lottery interface 166a when Sonia Smith clicks on the ticket code 2131-4556-8878-2902 for ticket 13 on the account summary report 700 (FIG. 14). Lottery interface 166a generates detailed ticket status report 720b based on information in the lottery database 160 and the player website 167a transmits it to player terminal 106c, where it is displayed for Sonia Smith to view. Ticket 13 is valid for the Tag on-line lottery and this is set out in the validity information section 726 and is also indicated in the played number section 728 by the omission of the words “Not Played” beside the Tag played number.

[0352] The played numbers for this ticket are compared to the corresponding winning numbers for each draw that the ticket is valid for. In the number comparison section 732, the results of the comparison for the Oct. 24, 2003 and the Oct. 31, 2003 Lotto 7/47 on-line lottery and Tag on-line lottery draws are shown. Ticket 13 is also valid for the Nov. 7, 2003 draw, which had not been conducted when the detailed ticket status report 720b was generated at 2:00 p.m. on Nov. 2, 2003.

[0353] FIG. 17 illustrates a detailed ticket status report 740a for on-line game ticket OU12 (FIG. 6b). Detailed ticket status report 740a is generated by player interface 166a when Sonia Smith clicks on the ticket code 9227-3486-5972-6578 for the ticket on account summary report 700 (FIG. 14). The detailed ticket status report 740a is generated as a web page and is transmitted by the player website 167a to player terminal 106b where it is displayed for Sonia Smith to view.

[0354] On detailed ticket status report 740a, the date and time at which the report was generated is set out at 742. The ticket code for the ticket is set out in a ticket code section 744. The on-line game and event list for which the ticket is valid is set out in a validity information section 746. A summary of the results for the ticket and the prize redemption status for the ticket is set out in a prize summary section 748.

[0355] A comparison of the player’s prediction for each event in the prediction set to the actual outcome for the event is set out in a detailed results section 750. The detailed results section 750 indicates that all five predictions in the prediction
The detailed ticket status report includes a “Return to Account Summary” button 752, which the player may click on to display the account summary report 700 (FIG. 14) on her player terminal 106c.

Detailed ticket status report 740a provides Sonia Smith with detailed information about the ticket, allowing her to learn the results for the ticket without manually comparing the predictions in her prediction set with the corresponding actual event outcomes.

FIG. 18 illustrates a detailed ticket status report 740b for on-line game ticket SL3 (FIG. 6b). Detailed ticket status report 740b is generated by player interface 166a when Sonia Smith clicks on the ticket code 9113-4234-2342-3047 on account summary report 700 (FIG. 14). The detailed ticket status report 740b is generated as a web page and is transmitted by the player website 167a to player terminal 106b where it is displayed for Sonia Smith to view.

The sections and layout of detailed ticket status report 740b are similar to those of detailed ticket status report 740b. The detailed ticket results section 750 indicates that one of the predictions in the players prediction set, that Nashville would defeat Colorado in event 33 was wrong. In fact, Colorado won the hockey game and as a result, ticket SL3 is a losing ticket.

Detailed ticket status report 740a allows Sonia Smith to learn that ticket SL3 is not a winning ticket and to learn which prediction in the prediction set was incorrect without having to manually find out the actual outcome of each event and comparing the actual outcome with her predictions.

While using the account checking service, a player may view information about the player’s account as permitted by the lottery operator. The player may navigate between different reports, depending on the options provided by the lottery operator. When the player has finished accessing the player’s account, method 2600 ends.

System 100 allows a player to create a player account, associate tickets with the player account and obtain information about tickets associated with the player account. The player can obtain information about the results for online lottery tickets without manually comparing played numbers on on-line lottery tickets to corresponding winning numbers. The player can obtain information about the results for on-line game tickets without comparing the player’s predictions on the ticket with the actual outcomes of events.

An exemplary system 100 that implements aspects of the present invention has been described. In addition, various other embodiments of the invention have been described. Other systems made according to the invention are described below. These systems are also examples. The invention may be implemented in different aspects based on the requirements of a particular lottery operator including the on-line lotteries or on-line game (or both) offered by the lottery operator and the amount of information that the lottery operator wishes to provide a player about tickets associated with the player’s account. All such systems are within the scope of the present invention.

The account checking service of system 100 provides three levels of details about a player’s account and the player’s tickets, as described above in relation to steps 2608 of method 2600.

Referring to FIG. 14, the account summary report 700 includes an account summary section 706 which provides general information about the player’s valid tickets. The account summary report 700 also includes ticket summary section 708 which provides summary information about the player’s tickets. Referring to FIGS. 15 to 18, the account checking service also provides detailed ticket status reports for the player’s tickets.

The reports illustrated in FIGS. 14-18 are examples of the types of reports that can be provided by a system using the present invention. The present invention provides for the presentation of any information about tickets associated with a player account. Other systems made according to the invention may provide different information in different levels of detail.

For example, in another embodiment, a lottery operator may choose to display information only about winning tickets. In another embodiment, a lottery operator may choose to simply inform a lottery player that the player has won a prize on at least one of the player’s tickets. The lottery operator may simply identify the winning tickets without providing a detailed ticket report for any of the player’s tickets.

In another embodiment, a lottery operator may choose to provide detailed ticket reports only for tickets valid for draws that took place during an immediately preceding time period, such as the last 50 days. Information for tickets valid for earlier draws may only be provided in summary form or may not be provided at all.

In another embodiment, a lottery operator may provide information about all tickets valid for draws that took place during an immediately preceding time period and only for winning tickets that were valid for earlier draws. For example, the lottery operator may provide information about all tickets valid for a draw in the preceding 15 days and only for winning tickets valid for draws that took place between 16 and 90 days ago. The lottery operator may not provide any information, through the account checking service of method 2600, for older tickets, even if some of those tickets are still valid winning tickets and could be redeemed for a prize.

A lottery operator may also choose to provide additional information about a player’s account and tickets. For example, a lottery operator may calculate and provide a player with the cost of tickets purchased by a player over a time period. Such information may be organized by on-line lottery and by on-line game to allow a player to learn about his ticket purchasing history. The lottery operator may also provide information about a player’s winnings by on-line lottery or on-line game.

The reports illustrated in FIGS. 14-18 are formatted by player interface 166a as web pages and are transmitted to a player terminal 104 as part of a player website 167a. The web pages are displayed by a web browser operating on player terminal 106c, which is a personal computer.

Referring to FIG. 1, other player interfaces 166 are configured to communicate with other types of player terminals. For example, a lottery operator may provide player account software that may be installed and executed locally on a player terminal 106 to communicate directly with a player interface 166. For example, the player account soft-
ware may operate within the operating system of a player terminal and may communicate directly with a player interface through public network. The player account server extracts information from the lottery database and, through the player interface, transmits it to the player account software for display on the player terminal. Either the player interface or the player account software, or both, may format the information for display. Different player account software may be provided for installation on different types of player terminals. For example, player account software for use on a cable or satellite television set-top-box may be different from player account software used on a handheld wireless personal digital assistant or on a typical personal computer. The player account software in each case will be configured to work with the operating system and other software installed on the player terminal and to use a display integrated into or coupled to the player terminal.

In system 100, information about a player’s account and a player’s tickets are presented to the player on a display screen at the player terminal. Information about the player’s account and tickets may also be provided in other forms. A lottery operator may limit the number of tickets or the date range for tickets that will be displayed to a player on a display at the player terminal. The lottery operator may make the same or additional information available to the player in a downloadable file that the player may print at the player terminal. For example, the lottery operator may allow a player to download a report in a standard format, such as PDF, which contains detailed information about the player’s tickets. The player may be allowed to select the information provided in the downloadable report. In such an embodiment, a player interface will allow a player to configure and download the report.

As described above, a selection slip according to the present invention will have a play region and an account identification region. In any particular on-line lottery or on-line game system using the present invention, the account identification region on a selection slip is configured to allow a player to mark an account identification code according to the rules set by the lottery operator of that system. In system 100, the lottery operator requires that each account identification code is a combination of six to twelve different characters selected from the account identification code character set consisting of twenty-six letters (A-Z) and ten numerals (0-9). The account identification region 136 has thirty-six cells, each of which corresponds to one of the characters in the account identification code character set.

In another embodiment of the present invention, the lottery operator may allow players to have an account identification code with any number of characters. For example, a lottery operator may allow players to have an account identification code with as few as one character. A lottery operator may allow one player account in the system to have an account identification code consisting of all of the characters allowed in an account identification code.

Also, a lottery operator may choose any account identification code character set that a player may use to select an account identification code. For example, a lottery operator may allow account identification codes to include a spade (♦), a heart (♥), a diamond (♣) and a club (♠) in addition to the letters and numerals. An account identification code character set with a larger number of characters allows more unique account identification codes to be formed. Using an account identification code character set with fewer characters will reduce the number of unique account identification codes that can be formed.

The rules for the account identification code for system 100 allow for similar account identification codes such as HENRICK and HENDRICK. If the player with the account identification code HENDRICK forgets to mark the “D” cell in the account identification region of a selection during step 2202 of method 2200 (FIG. 8), the ticket purchased by the player may be associated with the player account corresponding to the account identification code HENDRICK.

In another embodiment, a lottery operator may use check characters to reduce the likelihood of such errors. For example, a lottery operator may assign a pair of two digit codes to each player account when the account is created. For example, in such an embodiment the lottery operator may assign a first check code 26 and a second check code 38 to a player account that has the account identification code HENDRICK (set out in the preferred order for the account identification code).

FIG. 19 illustrates a selection slip 816 with a play region 820 and an account identification region 836. Play region 820 is not illustrated in detail, since the play region may be adapted for use with any on-line lottery or on-line game, without affecting the account identification code 836.

Account identification region 836 includes thirty-six primary cells containing the twenty-six letters and the ten numerals, as described above in relation to selection slip 116. In addition, account identification code region 836 includes two sets of check codes cells 870 and 872. Each set of check code cells includes ten cells numbered from 0 to 9. To properly mark an account identification code in the account identification region 136, a player must mark the player’s account identification code in the thirty-six primary cells and also mark the first check code assigned to the player’s account in the first set of check code cells and also mark the second check code assigned to the player’s account in the second set of check code cells.

In FIG. 19, the player with the account identification code HENDRICK has marked the cells corresponding to the characters C, D, E, H, I, K, N and R in the primary set of thirty-six cells. The player has marked the 2 and 6 cells in the first set of check code cells 870. The player has also marked the 3 and 8 cells in the second set of check code cells 872. The account identification code region 836 is properly marked and the player may complete the play region 820 and purchase a ticket.

In this embodiment of the invention, the lottery operator will also assign a pair of two digit check codes for a player account with the account identification code HENDRICK. For example, the lottery operator may assign a first check code 49 and a second check code 23. If the player with the account identification code HENDRICK forgets to mark the cell corresponding to the character D in account identification code region 836, the account identification code region will not be properly marked for the player’s own player account (since the cell for the character D is not marked) and will also not be properly marked to identify the account identification code HENDRICK (since the first and second check codes are incorrect for that player account). If the player attempts to purchase a ticket with an improperly marked account identification code or without the corresponding the check codes, the lottery operator may choose to issue the ticket without
associating the ticket with any player account, or may choose to reject the selection slip and optionally provide an explanation indicating that the account identification code is not properly marked. The explanation may be displayed on a ticket vending terminal 104 and a ticket vendor may advise the player that the account identification code is not properly marked.

[0383] To assign check codes to an account identification code, the player account server 162 may analyze a proposed account identification code during step 2106 of method 2100 (FIG. 7) to determine if it is similar to any existing account identification code. If so, the lottery operator can ensure that the check codes selected for the proposed account identification code are different from those for the existing similar account identification codes. The check codes may be provided to the player along with a confirmation that a player account record for the player’s account has been created as part of or following step 2108 of method 2100.

[0384] In another embodiment, the lottery operator may allow a player to select the check codes for his own proposed account identification code during step 2104 of method 2100. In step 2106, the player account server may analyze existing account identification codes and their check codes to ensure that any existing account identification codes that are similar to the proposed account identification code have different check codes (or at least one different check code).

[0385] In another embodiment, the lottery operator may integrate check codes into an account identification code, by assigning a check code consisting of one or more characters. The assigned check code must be marked as part of an account identification code for the account identification code to be properly marked in the account identification code region of a selection slip 112. For example, if an existing account identification code is SONIA4 and a player proposes a new account identification code SONIA, the player account server may add the check characters 59 to the new proposed account identification code, making the account identification code SONIA59 and thereby making it different from the existing account identification code SONIA4 by two characters.

[0386] In another embodiment, the lottery operator may assign one or more check codes based by calculating one or more values based on the characters chosen by a player for the player’s account identification code. Such a check code may act as a checksum for verifying the integrity of the account identification code.

[0387] In another embodiment, the lottery operator may not permit two account identification codes to differ by only one character, to reduce the likelihood that if a player marks his own account identification code incorrectly by missing a character, accidentally marking an extra character or marking one character incorrectly, the player might mark another valid account identification code. An account identification code differs from another account identification code if the two account identification codes differ only by the addition or deletion of one character or by the substitution of only one character. For example, in step 2106 the player account server 162 may not allow the account identification code FRANK37 to be used if the account identification code KAREN37 is already in use, since the two codes share six out of seven characters. The rules for account identification codes may require a difference of two, three or any other number of characters.

[0388] In another embodiment, the player account server may allow account identification codes to be used even if they differ by only one character, so long as the differing characters are at spaced apart by at least three cells on a selection slip. Under this rule, the account identification codes FRANK37 and KAREN73 could not both be used if selection slip 116 (FIG. 2) is in use, since they differ only in the characters F and E, which are adjacent to another on the selection slip. In another embodiment, the differing characters may be required to be two, four or another number of cells apart from one another.

[0389] In another embodiment of the invention where a check code or codes are used, the check code or codes may consist of one or more characters and may be integrated with an account identification code or may be specified separately from the account identification code. The account identification code region on selections slips for the embodiment will be configured to permit the account identification code and the check code or codes to be marked. The player account records will include a field or fields to records the check codes. If the check code or codes are integrated with account identification code, they may be recorded as part of the account identification code.

[0390] In system 100, the rules specified by the lottery operator for account identification codes allow each character in the account identification code character set to appear only once in an account identification code. This allows an account identification code to be marked in an account identification code region that has only one character corresponding to each character. In another embodiment of a system according to the present invention, the lottery operator may allow account identification codes that are different permutations of the same combination of characters to be assigned to different player accounts. For example, a lottery operator may specify that each account identification code use in the lottery operator’s lottery system must consist of three letters and three numerals. The three letters need not be different from one another and the three numerals need not be different from one another.

[0391] Reference is made to FIG. 20, which illustrates a selection slip 916 with a play region 920 and an account identification code region 936 that permits an account identification code according to this rule to be marked. The account identification code region has three sets of twenty-six cells marked 1st, 2nd and 3rd containing the twenty-six letters and three sets of ten cells marked 1st, 2nd and 3rd containing the ten numerals. The account identification code BOB227 has been marked in the account identification code region 936. Since a different set of twenty-six cells is provided to mark each letter in the account identification code, the same letter may be used more than once. Similarly, the same numeral may be used more than once in the account identification code since a different set of ten cells is provided to mark each numeral in the account identification code. The account identification code BBO272 is distinct from the account identification code BOB227 and each of them will be marked differently in the account identification code region 936. Account identification code 936 allows different permutations of the same letters to be distinguished from one another and allow duplicate characters in an account identification code. A lottery operator may provide as many or as few different sets of cells to mark different characters as the lottery operator requires in an account identification code. The lottery operator may require that each set of cells be
marked with a character or may permit an account identification code to include less characters than the maximum number of sets of characters. An account identification code region in which each character is marked in a different set of characters, such as account identification code region 936, may occupy a larger space on a selection slip than an account identification code region in which all characters are marked in one set of characters, such as account identification code region 136 (FIG. 2). [0392] The rules described here for the selection of characters in an account identification code are only examples. A lottery operator may set other rules for the characters in an account identification code. Before issuing a ticket based on a Ticket Issue Request, the ticket server ensures that the account identification code and any check code or check codes marked by a player on a selection properly identify a player account. In the exemplary system 100, the ticket server does so in step 2206 of method 2200. [0393] Reference is made to FIG. 2. System 100 described above includes an associated on-line lottery, the Tag on-line lottery, which operates in association with a host on-line lottery. Many lottery operators operate one or more on-line lotteries that do not have any associated lottery. For example, a lottery operator may operate an on-line lottery similar to the Lotto 7/47 on-line lottery without any associated on-line lottery. In such an embodiment, ticket records would not include fields relating to an associated lottery. FIG. 21 illustrates a selection slip 1016 for the Lotto 7/47 on-line lottery but without a Tag selection region. The corresponding ticket receipt 1018 does not include any reference to an associated lottery. [0394] FIG. 22 illustrates another selection slip 1116 for use with an on-line lottery called Mega Lotto. The Mega Lotto on-line lottery does not have any associated on-line lottery. In the Mega Lotto on-line lottery, each played number set consists of five different regular played numbers between 1 and 53 and a single played mega number between 1 and 42. Each week on Tuesday, the lottery operator draws five winning regular numbers and a winning mega number. Various winning combinations are eligible for different cash prizes. A grand prize is awarded to players holding tickets with a winning combination of all five regular numbers and the mega numbers. The grand prize is a shared prize. Players winning the grand prize may choose between 26 annual payments that add up to the present value of the grand prize or a cash value equivalent to the series of 26 annual payments. [0395] Selection slip 1116 has a grand prize payment selection region 1117, five boards 1121-1125 for selecting played number sets, an additional automatic played number selection region 1133, a draw selection region 1134 and an account identification region 1136. [0396] A player may choose between the 26 annual payment option and the cash value option for payment of the grand prize by marking a cell in the grand prize payment selection region 1117. [0397] Played number selection board 1121 has a played regular number selection region 1121r and a played mega number selection region 1121m. A player may manually choose the played regular numbers or may have them automatically chosen by marking the “Q” cell in the played regular number selection region 1121r. A player may manually choose the played mega number of may have it automatically chosen by marking the “Q” cell in the played mega number selection region 1121m. The other played number selections boards 1122-1125 may be marked in the same way. [0398] The player may add up to eight additional automatically chosen played number sets to his ticket by marking a cell in the additional automatic played number selection region 1133. A player may purchase a ticket for up to ten consecutive draws by marking a cell in the draw selection region 1134. [0399] The lottery operator for the Mega Lotto on-line lottery uses the same account identification code rules as were described above in relation to system 100. Account identification code region contains thirty-six cells containing the twenty-six letters and 10 numerals. [0400] The Mega Lotto selection slip 1116 also includes alignment cells 1131. The Mega Lotto selection slip 1116 also includes a selection slip identification region 1130 that contains five pre-marked cells in a single row. [0401] A player with an account identification code EJOY259 has marked the account identification code in the account identification region 1136. The player’s preferred order for the characters in the account identification code is EJOY259. [0402] The player has requested that the grand prize be paid in a single cash payment in the grand prize selection region 1117. The players has marked two played number sets on boards 1121 and 1122 and has requested three additional automatically selected played number sets in the automatic played number region 1133. The player has requested that his ticket be issued for five draws in the draw selection region 1134. [0403] A ticket receipt 1118 shows the details of the player’s ticket. The name of on-line lottery is set out at 1140. The dates of the draws for which the ticket is valid is set out at 1142. The player’s choice to receive the cash value of the grand prize is set out at 1143. The five sets of played numbers are set out at 1144-1148. The three automatically selected played number sets are not identified as such. The player’s account identification code is set out at 1156. A ticket code for the ticket is set out at 1156. A verification code is set out at 1154 and a terminal code for the vendor terminal 104 at which the ticket was purchased is set out at 1152. A machine readable bar code, which encodes the ticket code, is set out at 1158. [0404] FIGS. 2-5 and 19-22 illustrate different selection slips with different play regions and account identification regions. [0405] The play region on a selection slip used with the present invention will be configured based on the rules of the on-line lottery or on-line game with which the selection slip is used. The invention may be used with any type of on-line lottery or on-line game in which a selection slip is used to select a played number set or a prediction set. [0406] The account identification region on a selection slip is configured according to the rules set by a lottery operator for account identification codes. The account identification region may include cells for marking one or more check codes. The account identification regions may include one set of cells for marking all of the characters in an account identification code (as illustrated in FIG. 2) or it may include different sets of cells for marking different characters in an account identification code (as illustrated in FIG. 20). [0407] Optionally, a lottery operator may provide a “Void” cell in the account identification region of a selection slip. A player may mark the Void cell to have the account identification region marked on a selection slip ignored. A player may do so if the player has incorrectly marked an account identification code and does not wish to complete a new selection.
A player may also do so if the player has correctly marked an account identification code in the account identification region but then prefers not to associate the ticket with a player account.

The present invention does not require a player to mark an account identification code in the account identification region to purchase a ticket. Players who do not have a player account or who prefer not to use a player account for a particular ticket may leave the account identification region blank to purchase a ticket that is not associated with a player account.

In system 100, each player account has a single password that a player uses to access the player account server and to obtain information about the player's tickets. In another embodiment of the invention, a player account may have multiple passwords for use by different players. For example, a player account may be used by two or more players who participate in group ticket purchases. The player account may have a group leader password and a group member password. The group leaders may appoint a group leader who uses the group leader password to access the player account. The group leader may manage the player account. For example, the group leader may change personal information related to the player account. Other members of the group use the group member password to access the player account and can only view information about the player account and tickets associated with the account. Group members can access the player account to ensure that the group's tickets have been purchased properly and to obtain ticket results for the group's tickets. By assigning group leader and group member passwords to the same player account, the present invention provides a convenient and simple method for groups that purchase tickets together, whether for on-line lotteries or on-line games, to manage and obtain information about their account and tickets.

Reference is made to FIGS. 6a and 6b. The illustrated structure of the lottery database 160 is an example of a data storage system that may be used with the present invention. A skilled person will be capable of storing information relating to draws and tickets for on-line lotteries in many different ways, using various data structures and data storage techniques. The present invention is not limited to any particular system or method for storing data or to any data structure. For example, a skilled person may use a simple set of linked or unlinked tables, a relational database, flat files or any other type of data storage or system to store player, draw, event and ticket information.

In system 100, the lottery database 160 includes separate draw tables and ticket tables for each on-line lottery. In another embodiment, a single ticket table may be used for two or more on-line lottery tickets. The single ticket table will contain ticket records for each of the lotteries and the tickets may be associated with draws as described above in relation to the Draw Ticket List field of the draw records 518. Similarly, tickets for different on-line games may be recorded in a single ticket list rather than in separate ticket lists for each on-line game.

In another embodiment, information about a draw may be stored in several different tables, lists, files or other data structures. For example, winning number information may be stored in one table while prize information may be stored in a different table and information about tickets valid for the draw is listed in a data file. In each case, a draw identifier or some other information about the draw may be used to look up the different data related to the draw. Similarly, information about tickets, player accounts, events may be stored in several different data structures.

Another embodiment of the invention will now be described. This embodiment will be referred to below as the single database winning tickets file based embodiment. This embodiment is similar to system 100. In this embodiment, the lottery database includes a winning tickets file, which is used to record information about winning on-line lottery tickets. The information recorded for each winning ticket includes the ticket code and the prize (or prizes) won by the ticket. If a ticket has won more than one cash prize, the total value of the prizes may be recorded.

Each on-line lottery ticket is checked after the draws for which the ticket is valid have been conducted by comparing the played number sets on the on-line lottery ticket to the appropriate winning numbers. If the on-line lottery ticket is a winning lottery ticket, then the ticket code and the prizes or prizes won by the ticket are recorded in a winning tickets file. If the ticket is not a winning ticket, then information about the ticket is not recorded in the winning tickets file. (If the on-line lottery has any winning combinations that have shared prizes, then each played number set on each ticket may be checked after each draw for which the ticket is valid, even if the ticket is valid for future draws. This allows the value of any shared prizes to be calculated based on the total number of winning tickets for each such winning combination. However, a winning ticket is not added to the winning tickets file until all draws for which the ticket is valid have taken place.)

If the lottery operator who uses this embodiment operates any on-line games, each on-line game ticket will also be checked when the on-line game ticket matures and information about winning on-line game tickets will be added to the winning tickets file. The information for each winning on-line game ticket will include the ticket code for the on-line game ticket and the prize won by the on-line game ticket.

If a winning ticket expires before the prize won by the ticket is claimed, the ticket is deleted from the winning tickets file.

The winning tickets file is used by the ticket server to determine whether a ticket is a winning ticket when it receives a Redeem Ticket Request (as described in relation to step 2502 of method 2500 (FIG. 11)). The ticket server accesses the winning tickets file. If the ticket code for the ticket is listed in the winning tickets file, the ticket is a winner and the prize for the ticket is redeemed (as described above in relation to step 2508) or the player is provided with information about how the prize may be redeemed (as described in relation to step 2510). If the prize is redeemed, the record for the ticket is deleted from the winning tickets file. If the ticket code is not found in the winning tickets file, then the ticket cannot be redeemed for a prize at that time.

In this embodiment, the ticket records do not include a Prize Data field or a Ticket Status field and accordingly, these fields are not set or updated during operation of the system. As a result, detailed status and prize information about each ticket and its results is not recorded in the ticket records 524 and 538. In system 100, during method 2500, the player account server 162 is able to obtain this detailed information from the Prize Data and Ticket Status fields in the ticket records to produce the account summary report 700 (FIG. 14) and detailed ticket status reports 720 and 740 (FIGS. 15-18).
In this embodiment, when a player accesses a player account to obtain information about tickets associated with a player account, the player account server may provide a simplified report based on the data stored in the winning tickets file. The player account server may look up each ticket associated with the player account in the winning ticket file. If an entry for a ticket is found in the file, then the player account server lists it in the report and indicates what prize or prizes the ticket has won. If an entry for the ticket is not found in the winning tickets file, then the player account server indicates that no prize can be redeemed for the ticket. In this simplified report, the player is not informed as to why a ticket cannot be redeemed. The ticket may have draws or events remaining, it may not be a winner, it may have already been redeemed or it may have expired, but this detail is not recorded in the winning tickets file and is therefore not provided to the player.

Although such a report provides less information than the account summary report 700 (FIG. 14) and the detailed ticket status report 720 (FIG. 15) provided in system 100, the simplified report still allows a player to learn whether a ticket associated with his account has won a prize without manually checking the played numbers on the ticket with the corresponding winning numbers.

Optionally, the player account server in the present embodiment may calculate additional information about the tickets associated with a player account and provide this information for display on a player terminal. For example, the player account server may calculate the current status for an on-line lottery ticket that is valid for several draws, some of which have taken place and some of which are in the future. The player account server may produce an account summary report or a detailed ticket status report using information in the lottery database and, using a player interface, transmit the generated report to a player terminal.

In any particular embodiment according to the invention, when a player accesses the player account server to obtain information about the player’s tickets, the player account server may provide information that is stored in the lottery database or information that the player account server has calculated based on data recorded in the lottery database to a player terminal, or the player account server may transmit both types of information. For example, in system 100, the account summary section 706 includes summary information about a player’s winnings on multiple tickets. This information is calculated by the player account server 162 based on the Prize Data and Ticket Status fields for the ticket records 524 and 538 for the player’s tickets. The ticket summary section 708 includes information extracted directly from the lottery database, including the ticket code, purchase date and status for each ticket.

In system 100, method 2300 (FIG. 9) is used to check on-line lottery tickets after an on-line lottery draw. Method 2400 (FIG. 10) is used to check on-line game tickets after an on-line game event is completed.

A lottery operator may choose to carry out method 2300 shortly after each on-line lottery draw. For example, if the lottery operator conducts a draw for one on-line lottery at 2 pm and for another on-line lottery at 9 pm, the lottery operator may choose to perform method 2300 in respect of each draw shortly after the draw.

Alternatively, the lottery operator may choose to perform method 2300 periodically during a selected time for several draws. For example, the lottery operator may choose to conduct method 2300 in respect of all draws that take place on a particular day between 2 am and 4 am the following day (i.e. during the night following the draws).

A lottery operator may choose to make the lottery computer system 102 unavailable for a time period, which may be referred to as a shutdown period. The lottery computer system 102 may be unavailable to the ticket vending terminals 104, the player terminals 106 or both. During this time, the lottery operator may perform methods 2300 in respect of all on-line lottery draws that have been completed since the last shutdown period. For example, the lottery operator may make the lottery computer system 102 unavailable to the ticket vending terminals 104 and the player terminals 106 between 2 am and 4 am each day. During this daily shutdown period, the lottery operator performs methods 2300 and 2400 in respect of all on-line lottery draws that were completed since the last shutdown period began. The lottery operator may also perform other maintenance, configuration and programming operations on the lottery computer system 102 during the shutdown period. After the shutdown period, ticket vending terminals and player terminals are again permitted to access the lottery computer system 102.

A lottery operator may perform method 2300 in respect of some draws shortly after the draw is completed, but may wait to perform method 2300 in respect of other on-line lottery draws at a particular time. For example, some lottery operator conduct several draws for some on-line lotteries on the same day, but only conduct daily, weekly or bi-weekly draws of other on-line lotteries. The lottery operator may perform method 2300 in respect of the on-line lotteries for which many draws are conducted on the same day shortly after each draw, allowing players to redeem their tickets and to obtain information about their tickets using method 2600 shortly after the draw is completed.

Similarly, a lottery operator may choose to perform method 2400 in respect of each on-line game event shortly after the event ends. Alternatively, the lottery operator may perform method 2400 in respect of several on-line game events at a selected time. The lottery operator may choose to conduct method 2400 in respect of several on-line game events during a shutdown period.

In system 100, the ticket server provides a ticket issuing function, which is described in relation to method 2200 (FIG. 8) and ticket redemption function, which is described in relation to method 2500 (FIG. 11). The player account server provides an account creation service, which is described in relation to method 2100 (FIG. 7), and an account checking service, which is described in relation to method 2600 (FIG. 12). Both the ticket server 164 and the player account server 162 access the player database 160 during the operation of system 100.

Reference is next made to FIG. 23, which illustrates another system 1200 according to the present invention. System 1200 is similar to system 100, and elements of system 1200 that correspond to elements of system 100 are identified by reference numerals with the same last two digits.

System 1200 includes a primary lottery database 1260a that is similar to the lottery database of system 100. System 1200 also includes a secondary lottery database 1260b. The secondary lottery database 1260b is coupled to the primary lottery database 1260a. The player account server 162 is coupled to the secondary lottery database 1260b.

When system 1200 is in use, the primary lottery database 1260a and secondary lottery database 1260b are
accessed and updated as follows. Methods 2100, 2200, 2300, 2400, 2500 and 2600 are used in system 1200. However, these methods access the primary or secondary lottery database depending on the operation the methods are performing.

[0433] The ticket server 1264 accesses and updates the primary lottery database 1260a. When ticket server 164 issues new tickets, new ticket records are created in the primary lottery database 1260a, and the appropriate draw records, event records and player account records are updated, as described above in relation to method 2200. When ticket server 164 redeems a ticket according to method 2500, it accesses and updates the primary lottery database 1260a. When method 2300 is performed, the on-line lottery ticket checking program updates the primary lottery database 1260a. Similarly, the on-line game ticket checking program described above in relation to step 2406 of method 2400 updates the primary lottery database 1260a.

[0434] The player account server 162 accesses and updates the secondary lottery database 1260b. When player accounts are created using method 2100, player account server 162 creates new player account records in the secondary lottery database 1260b. When a player uses method 2600 to access a player account, the player account server 162 obtains information from the secondary lottery database 1260b. Typically, a lottery operator will permit a player to modify information recorded in the player account record for the player's account under the control of the player account server 1262. Such modifications are recorded in the secondary database 1260b by the player account server 1262.

[0435] Reference is made to FIG. 24, which illustrates a method 2700 that is executed in the lottery computer system 102 to synchronize the information recorded in the primary lottery database 1260a and the secondary lottery database 1260b. Method 2700 begins in step 2702, in which access to the secondary database 1260b by the player account server 1262 is stopped. While player account server 1262 is unable to access secondary database 1260b, players are unable to use method 2100 to create new player accounts or use method 2600 to access player accounts or to modify their player accounts. A lottery operator may choose to perform method 2700 at a time when few players are likely to be creating, modifying or accessing their player accounts. For example, a lottery operator may decide to execute method 2700 each night at 5 am.

[0437] Method 2700 next proceeds to step 2704, in which any changes to the secondary database made by the player account server 1262 are copied into the primary database 1260a. Such changes may include the addition of new player account records 514 and modifications to player account records. At the end of step 2704, the primary lottery database 1260a contains all updates that have been made by either the ticket server 1264 or the player account server 1262 in either the primary or the secondary database.

[0438] Method 2700 next proceeds to step 2706. In this step, the existing secondary database 1260b is replaced with a copy of the primary database 1260a. The new secondary database 1260b includes all of the changes made to the previous version of the secondary database 1260b, since these changes were copied to the primary database 1260a in step 2704 and also includes any changes made directly to the primary database 1260a by the ticket server 1264.

[0439] In another embodiment, in step 2706, changes made by the ticket server 1264 to the primary database may be copied into the existing secondary database 1260b. Such changes may include the addition of new ticket records, updates to draw records and player account records and updates to ticket records.

[0440] Method 2700 next proceeds to step 2708, in which the player account server 1262 is again permitted to access the new secondary database 1260b.

[0441] Method 2700 then ends.

[0442] In system 1200, the player account server 1262 does not access the primary lottery database 1260a. Instead, the player account server 1262 uses the secondary database 1260b to create player account records and to obtain information for display on a ticket vending terminal. A lottery operator may configure the lottery computer system 102 with a firewall or other blocking mechanism to prevent a player terminal 1206 from having any access to the primary lottery database 1260a. This will ensure that a malicious user of a player terminal cannot access the primary lottery database 1260a.

[0443] A lottery operator that uses system 1200 may optionally periodically block ticket vending terminals 1204 from accessing the lottery computer system 1202 during a shutdown period. During each shutdown period, the lottery operator can perform methods 2300 and 2400 in respect of each on-line lottery draw and on-line game event that has been completed since the previous shutdown period. While methods 2300 and 2400 are performed, player terminals 1206 may still access the secondary lottery database 1260b. When the primary database 1260a has been updated to reflect the results of the completed draws and events, method 2700 is performed. The shutdown period is then ended and ticket vending terminals 1204 are again permitted to access the primary lottery database 1260a using the ticket server 1264. This allows players to access the lottery computer system 1202 during the shutdown, except during method 2700.

[0444] The use of a primary lottery database 1260a for the ticket issuing and redemption functions and the use of a secondary lottery database 1260b for the player account creation and account checking services may allow the ticket server 1264 to service Ticket Issue Requests and Ticket Redemption Requests more quickly than in system 100, since the player account server 1262 does not access the primary lottery database 1260a. However, a player is unable to use a newly created player account until the player account has been copied from the secondary lottery database 1260b to the primary lottery database 1260a. If the lottery operator only performs method 2700 overnight, a player may only use a newly created player account the day after the account is created.

[0445] In system 1200, the primary lottery database 1260a and secondary lottery database 1260b are synchronized periodically by performing method 2700. In another embodiment, the synchronization process may be an ongoing one. Changes to the primary lottery database 1260a may be recorded in a list of primary database changes. Similarly, changes to the secondary lottery database 1260b may be recorded in a list of secondary database changes. A secondary database update process operating in lottery computer system 1202 modifies the secondary lottery database 1260b to correspond to the changes in the primary database change list. A primary database update process operating in lottery computer system 1202 modifies the primary database to correspond to the changes in the secondary database change list. The primary database update process and the secondary database update process may operate independently of one
another. As these processes update the primary lottery database and the secondary lottery database, additional changes may be added to the lists of changes to the two databases. As a result, the primary lottery database and the secondary lottery database may not be completely synchronized at any point in time, but over time each change made in one database is also made in the other.

Another embodiment, as new player accounts are created and new player account records 518 are added to the secondary lottery database 1260b, the new player account record may also be added to the primary lottery database 1260a under the control of the lottery computer system 102. Optionally, the player account server 1262 may add the player account to both the secondary and primary lottery databases, although this will not be possible in an embodiment in which a firewall is configured to prevent the player account server 1262 from accessing the primary lottery database 1260a. Optionally, a list of new accounts that have been added to the secondary lottery database 1260b may be kept and each new account may be added to the primary lottery database 1260a by another component of lottery computer system 1202.

In system 1200, the primary lottery database 1260a and the secondary lottery database 1260b have the same structure. When method 2700 has been performed, the primary and secondary lottery databases have the same contents. In another embodiment, the primary and secondary lottery databases may have different structures.

Another embodiment of the present invention will now be described. This embodiment combines features of system 100 (FIG. 1), the single database winning ticket file based embodiment and system 1200. This embodiment includes a primary lottery database and a secondary lottery database. The primary lottery database and the secondary lottery database have different structures from one another. This embodiment is otherwise similar to system 1200.

The secondary lottery database has the same structure as the lottery database 160 described above in relation to system 100. The tables, records and other components of the secondary lottery database may be referred to as secondary components, such as secondary draw tables, secondary draw records, secondary ticket tables, secondary ticket records, secondary player table and secondary player records. Each of these tables and records has the same structures as the corresponding components of the lottery database 160 of system 100.

The tables, records and other components of the primary lottery database may be referred to as primary components to distinguish them from the components of the secondary lottery database.

The primary lottery database includes a winning tickets file, which is used to record information about winning tickets, as described above. The primary lottery database includes primary draw tables with the same structure as the draw tables 504 (FIG. 6a) in system 100. The primary lottery database includes primary ticket tables that include primary ticket records. The ticket records in the primary database of this embodiment do not include Prize Data and Ticket Status fields, as was described above in relation to the single database winning ticket file based embodiment. The primary lottery database of this embodiment also includes a primary player account table. The primary player account records in the primary player account table have only two fields: the Account ID Code and Preferred ID Code Order fields.

In this embodiment, the ticket server accesses and updates the primary lottery database. When a ticket is issued, the ticket server ensures that the ticket can be issued, as was described in relation to step 2206 of method 2200 (FIG. 8). If an account identification code is identified in the Ticket Issue Request, the ticket server ensures that the account identification code exists in a primary player account record. If the account identification code exists, and the ticket can otherwise be issued, the ticket server creates a new primary ticket record in the appropriate primary ticket table and records the account identification code in the Associated Player Account field of the newly created primary ticket record (as described above in relation to step 2210 of method 2200). The primary player records do not include a Player Ticket List and are not updated when a ticket is issued.

Tickets are added to and removed from the winning tickets file as described above in relation to the single database winning tickets file based embodiment.

In this embodiment, when a player creates a new player account, the player account server adds the new player account records to the secondary player account table, in which the player account server creates new secondary player account records.

Periodically, the primary lottery database and secondary lottery database are synchronized. During the synchronization process, each database is updated based on its own structure to correspond to new and change information in the other database.

New primary ticket records in the primary lottery database are used to generate corresponding new secondary ticket records in the secondary lottery database. Secondary ticket records in the secondary lottery database have the same structure as the ticket records 524 and accordingly they have Prize Data and Ticket Status fields. These fields are initially set as described above in step 2210 of them 2200. In addition, the secondary player account records have a Player Ticket List field and this field is updated to associated tickets with player accounts, as was also described above in relation to step 2210. In addition, the secondary draw records are updated to add new tickets to their Draw Ticket List fields, as was also described above in relation to step 2210.

New secondary player account records in the secondary lottery database are used to generate corresponding primary player account records in the primary lottery database. This is done by copying only the Account ID Code and Preferred ID Code Order fields from the secondary player account records to new primary player account records. Changes to secondary player account records are also copied to the corresponding primary player account records. For example, the lottery operator may permit a player to change the player's account identification code or the player's preferred order for the characters in an account identification code.

During the synchronization process, changes to the winning tickets file in the primary database are used to update the Ticket Status field of winning tickets in secondary ticket records. When a winning ticket is redeemed, it is removed from the winning tickets file. This removal is recorded and during synchronization, the Ticket Status of the redeemed winning ticket is changed from Winner-Not Redeemed to Winner-Redeemed.

This synchronization process may be performed periodically, as was described above in relation to method 2700. The synchronization process may optionally take place...
during a shutdown period. Optionally, during the synchronization process, the lottery operator may stop access to the secondary lottery database from the player terminals.

[0460] Following the synchronization process, the primary database has an updated primary player account table and the secondary database has updated draw, ticket and player account tables. In this embodiment, method 2300 are used to update the secondary database, thereby updating the Prize Data and Ticket Status fields of the secondary ticket records, as described above in relation to step 2306 of method 2300. Method 2500 is not used with the secondary lottery database in this embodiment, since the ticket server accesses and updates only the primary lottery database.

[0461] This embodiment provides a primary lottery database that is used by the ticket server when issuing and redeeming tickets. The embodiment also provides a secondary lottery database that is used by the player account server when adding or modifying player account records and when allowing a player to obtain information about tickets associated with the player's account. The secondary lottery database contains more detailed secondary player account records and more detailed results information about the player's tickets (using the Prize Data and Ticket Status fields, allowing reports such as and account summary report 700 (FIG. 14) and a detailed ticket status report 720 (FIG. 15) to be produced using the information in the secondary lottery database.

[0462] This embodiment has been described with reference to on-line lotteries. Another similar embodiment with differently structured primary and secondary lottery databases may be used by a lottery operator who operates on-line games or both on-line lotteries and on-line games.

[0463] Reference is again made to FIG. 14. In the ticket summary section 708, each ticket is identified by its ticket code. Ticket codes for tickets are typically generated to uniquely identify each ticket from all other tickets that may be valid at the same time, as was described above. This requirement will typically result in lengthy ticket codes with 10 or more digits, since most lottery operators sell millions of tickets each year.

[0464] Reference is made to FIG. 25, which illustrates a ticket receipt 1318 and a ticket summary section 1320 of an account summary report according to another embodiment of the invention. Ticket receipt 1318 has an account identification code set at 1356 and a ticket code set at 1356. In addition, ticket receipt 1318 has a reference code set at 1351. In the ticket summary section 1320, each ticket is identified by a reference code.

[0465] In this embodiment, each ticket that is associated with a player account is assigned a reference code during step 2210 of method 2200 (FIG. 8). The reference code is unique compared to all of the other tickets associated with the account that might be valid at the same time. In the present embodiment, each reference includes a one or two letter prefix and a four digit number. The prefix is the same for all tickets for a particular on-line lottery or on-line game. A counter is maintained in the player account record for each player account, for each on-line lottery and on-line game operated by the lottery operator. When a player purchases a ticket for an on-line lottery or on-line game and associated with the account, the present value of the counter for the on-line lottery or on-line game is used to generate the reference code. The counter is then incremented. The counter may reach a maximum value and then return to 1. In the present example, the counters reset when they reach 9999. It is assumed that a player cannot practically have more than ten thousand valid tickets for a particular on-line lottery or on-line game at the same time. A longer or shorter counter, or a counter than does not reset, or which is reset only at a player's request may be used. Any other mechanism may be used to generate a reference code. For example, the issue date or draw date for a ticket may be used to generate a reference code.

[0466] Using a reference code to identify a ticket in the ticket summary section 1308, a player is more easily able to find ticket receipts that correspond to the various tickets listed, as compared to using the relatively long ticket code.

[0467] Reference is made to FIG. 26, which illustrates another system 1400 according to the present invention. The account checking service of method 2600 (FIG. 12) may be used to provide information about any tickets associated with a player's account. In system 100, a player uses a selection slip 112 with an account identification region to identify the player's account. In other systems, players are able to use other methods of associating a ticket with an account in addition to or as an alternative to the use of a selection slip 112 with an account identification region.

[0468] For example, a player may be able to purchase a ticket associated with the player's account on the Internet after logging into the player's account by providing the player's account identification code and password (as is described above in relation to FIG. 13 and step 2602 of method 2600 (FIG. 12)). In FIG. 26, direct Internet based sales are illustrated by dashed line 1470 in relation to player terminal 1406c. The lottery operator may provide a ticket purchase web page and allow a player to select played number sets and other options, including automatically selected number sets for a ticket. The player is then permitted to purchase the ticket and may be able to pay for ticket using a deposit account previously established with the lottery operator or using a credit or debit account (such as a credit card, debit card or check card). Tickets purchased by a player while logged into the player's account (i.e. after the player has authenticated the player's right to access the player's account by providing the player's account identification code and password) are associated with the player's account. After purchasing a ticket in this fashion, the player may be permitted to print a corresponding ticket receipt 114 at the player's terminal.

[0469] Another method for purchasing tickets is the use of a ticket purchase voucher 113. In FIG. 26, ticket purchase voucher based ticket sales are illustrated in relation to player terminal 1406d and ticket vending terminal 1404d. Examples of ticket purchase vouchers and of systems, methods and apparatus that may be used to obtain and purchase a ticket with a ticket purchase voucher are described in Appendix A. Ticket purchase vouchers that are associated with a player account, such as a ticket purchase voucher 113, are used by a player to purchase a ticket. The ticket is associated with the player's account, as described in relation to method 3100 (FIG. 41).

[0470] Another method for purchasing tickets associated with a player account is the use of a player account identification device. In FIG. 26, ticket sales made using a player account identification device 1476 are illustrated in relation to ticket vending terminal 1404e.

[0471] In system 100, selection slips 112 (FIG. 1) include an account identification region 136 which allows a player to identify the player's account when purchasing a ticket. FIG. 27 illustrates a selection slip 1512, which has a play region
but does not have an account identification region. FIG. 27 also illustrates a player identification card 1502, which is an example of a player identification device 1476. Player identification card 1502 includes a card identifier 1504, which in this example is a bar code that is unique to the particular player identification card 1502. A player identification device 1476 may also optionally include other information, such as the name or logo of the lottery operator, the name of a player to whom the player identification device is assigned and instructions for use of the player identification device 1476.

A player may use an account identification device 1476 to identify the player’s account if a lottery operator does not provide an account identification region on the lottery operator’s selection slips. Optionally, a lottery operator may permit a player to use an account identification device 1408 even if the selection slips do have an account identification region.

Player identification devices 1408 may take various forms. In some cases, the lottery operator may provide a player with an account identification card that includes a magnetic strip or a barcode. A card identifier is encoded onto the magnetic strip or in the barcode, allowing the account identification card to be identified. Referring to FIG. 28, in such an embodiment, the lottery database 1460 includes an identification card table 1478 containing a plurality of identification card records 1490. Identification card records are associated with player accounts, typically by identifying the player account’s account identification code in the identification card record 1478. FIG. 28 illustrates three example associations between an identification card record 1478, in which a card identifier is set out, and a player account record 514.

In other embodiments, the player’s account identification code is directly encoded onto the magnetic stripe or within the bar code and an identification card table may not be required.

A lottery operator may alternatively or additionally provide players with account identification devices such as:

- a key fob that contains a bar code, magnetic strip or a radio frequency identification (RFID) tag;
- an RFID device;
- a proximity card; or
- any other card or device that may be identified by using a corresponding reader or scanner coupled to a ticket vending terminal 104 (FIG. 1).

The lottery operator may alternatively or additionally allow a player to print an account identification card at a player terminal. The player may access the player’s account, by logging into the player website and may access an account identification card printing service. The service allows the player to print a card including a bar code that encodes a card identifier or the players’ account identification code (or both). The player may use the printed account identification card to purchase tickets in the same manner as a card provided by a lottery operator.

Reference is made to FIG. 29, which illustrates a method 2800. Method 2800 allows a lottery operator to sell a ticket to a player using a player identification card 1502 (FIG. 27) and correspondingly allows a player to buy a ticket using a player identification card.

Method 2800 begin in step 2802, in which a player presents the player’s account identification card to a ticket vendor. The player may also optionally present the vendor with a selection slip 1512 (FIG. 27) on which the player has completed the play region 1520, or the player may request a ticket with one or more automatically selected played number sets for a particular on-line lottery.

Method 2800 then proceeds to step 2804, in which the ticket vendor scans the player’s account identification card using an appropriate scanner (not shown) coupled to the vendor’s ticket vending terminal 104. If the player has presented a selection slip 1512, the ticket vendor scans the selection slip. If the player has requested a ticket with automatically selected player number sets, the ticket vendor enters the player’s request into the ticket vending terminal.

The ticket vending terminal transmits a Ticket Issue Request 552 to the ticket server 1564. The Ticket Issue Request 552 identifies the player’s account identification card and includes details of any tickets requested by the player. In the present example, the player identification card 1502 includes a card identifier which is included in the Ticket Issue Request 552 to identify the player identification card. The Ticket Issue request of this step 2804 is similar to the Ticket Issue Request of step 2204 of method 2200 (FIG. 8), with the exception that the player’s account identification code is not included in the Ticket Issue Request. In an embodiment in which the player identification card 1502 (or more generally, the player identification device 1476) includes the player’s account identification code itself, the account identification code is included in the Ticket Issue Request and the Ticket Issue Request may be essentially the same as the Ticket Issue Requests of step 2204.

Method 2800 then proceeds to step 2805, which is performed only if the Ticket Issue Request 552 sent in step 2804 includes a card identifier rather than an account identification code. In embodiments in which the Ticket Issue Request of step 2804 includes a player’s account identification code, method 2800 proceeds to step 2806 after step 2804. In step 2805, the Ticket Server 1564 looks up the account identification code corresponding to the card identifier in the identification card table 1478.

Method 2800 then proceeds to step 2806. Steps 2806 to 2814 correspond to steps 2206 to 2214 of method 2200 and are not further described.

Method 2800 allows a player to purchase a ticket using an account identification device 1476 and a selection slip that does not include an account identification region. The ticket is associated with the player’s account in step 2810. A lottery operator may optionally allow a player to use method 2800 to purchase a ticket using an account identification device 1476 and a selection slip 112 (FIG. 1) that does include an account identification region, but without marking the player’s account identification code in the account identification region.

In different embodiments, a lottery operator may permit a player to buy a ticket and have the ticket associated with the player’s account using any one or more of the methods described herein, including the use of a selection slip with an account identification region, use of a ticket purchase voucher, Internet based purchase or with the use of an account identification device, or by any other means that allows a player to identify the player’s account when purchasing a ticket. In some embodiments, a lottery operator may not provide selections slips at all and may require that all ticket sales be made using a ticket purchase voucher, Internet based purchase or with an account identification device, or with a combination of these or other methods. Regardless of the method by which a ticket is associated with a player’s account, the ticket may be printed and delivered to the player in the manner described herein.
account, the player may use the ticket checking service of method 2600 and FIGS. 12-18 to obtain information about the player’s tickets.

In embodiments in which selection slips do not include an account identification region or in which selection slips are not used at all, it will typically not be necessary to impose restrictions on account identification codes based on the structure and layout of a account identification region. The lottery operator may allow a player to have an account identification code in which the same letters appear any number of times, as is typical of account identification codes or usernames for many WWW based systems.

The ticket checking service described in relation to method 2600 (FIG. 12) allows a player to obtain different types of information about the player’s tickets, including an account summary report 700 (FIG. 14) and ticket summary reports 720 (FIGS. 15 and 16). In other embodiments, a lottery operator may also present additional information to lottery players.

Reference is next made to FIG. 30, which illustrates part of the lottery database 1600 of another system 1600 (reference numeral 1600 is not shown in the Figures). In system 1600, the lottery database 1660 includes a player characteristics table 1682 and an advertisement table 1684.

Advertisement table 1684 includes a plurality of advertisement records 1688. Each advertisement record 1688 includes an advertisement file and one or more display criteria. The advertisement file of each advertisement record 1688 includes data suitable for display on a player terminal. For example, the advertisement file may be a static graphical image file or a text file. Typically, the advertisement file contains data relating to an advertisement for the lottery operator’s various on-line lotteries and/or on-line games, causes that are funded by lottery proceeds or other products, services or events. The advertisement file may also be a dynamic file. For example, the advertisement file may include code that assembles an static or moving image based on real time data such as prize value for an on-line lottery, the identities or other information about recent prize winners, alerts about unclaimed prizes, etc. In each advertisement record 1688, the display criteria define the audience to whom the advertisement is to be displayed and may also define other restrictions on the display of the advertisement. For some advertisements, the lottery operator may specify that the advertisement is intended to be displayed to all players. For other advertisements, the lottery operator may specify certain groups of lottery players to whom the advertisements are to be displayed. Some advertisements may be displayed to players based on the players’ demographic characteristics or player’s on-line lottery and on-line game participation patterns or behavior. For example, some advertisements may be targeted at players who:

- play multi-jurisdictional lotteries;
- play large prize lotteries, such as lotteries with a top prize exceeding $1 million;
- play small prize lotteries, such as lotteries with a top prize of less than $10,000;
- play specific lotteries such as KENO, PowerBALL, MEGA Lotto, etc.;
- play weekly lotteries;
- play daily lotteries;
- play instant or scratch lottery games;
- have not played a particular on-line lottery or a group of on-line lottery in a selected time;
- are within a selected age range;
- live in a selected geographic region;
- have a tendency to participate in lotteries when the prize reaches some threshold;
- have not previously been shown the particular advertisement;
- have been shown the advertisement in some selected time;
- have visited a casino operated by the lottery operator or a related organization;
- have used a video lottery terminal operated by the lottery operator or a related organization; or
- meet some other selected criteria.

The display criteria may also define relationships between different advertisements. For example, a series of advertisements may be recorded in two or more advertisement records. The display criteria for the series of advertisements may specify that they advertisements are to be displayed to players in a particular order.

The player characteristics table 1682 includes player characteristic records 1686 corresponding to some or all of the player account records in the player account table 1602. Each player characteristic record may identify one or more characteristics of the player. The characteristics of a player may be recorded in the advertisement table 1684. For example, a players frequency of playing particular on-line lotteries or on-line games, the most recent date on which the player played particular on-line lottery or on-line game, the geographic region in which the player lives, the players attendance or participation in other products, services or activities offered by the lottery operator or by a related entity. The display characteristics may also include counters or other records that indicate which advertisements the player has seen, when the player was last shown an advertisement. In general, any characteristic of a player that may be used to determine if an advertisement recorded in the advertisement table 1684 is to be displayed to the player may be recorded in the player characteristic record for the player. Some characteristics of a player may be recorded in the player’s account record 1614 in the player account table 1602.

The lottery operator may periodically update the characteristics recorded for players in the player characteristics table. For example, some characteristics, such as the date on which a player most recently purchased a ticket for a particular on-line lottery or on-line game may be updated each time the player buys a ticket for the on-line lottery or on-line game. Other characteristics, such as the player’s attendance at a video lottery terminal (VLT) entertainment facility operated by the lottery operator may be updated only when the player answers a questionnaire on the lottery operator’s website or when the customer records for the VLT facility are cross-correlated with the lottery database.

Reference is next made to FIG. 31, which illustrates a player account information page 1700. Player account information page 1700 includes a player ticket information region 1702 and an advertisement region 1704. In this embodiment of the invention, when a player is using the ticket checking service of method 2600 (FIG. 12) to obtain information about the player’s tickets, the player is shown an account summary report 700 (FIG. 14) or a ticket detail report 720 or 740 (FIGS. 15-18) in the player ticket information region 1702. Simultaneously, one or more advertisements selected from the advertisement table are displayed to the player in the advertisement region 1704. The advertisements displayed to the player are selected based on the display criteria for the advertisements and the player’s characteristics recorded in the player characteristics table 1682 or the player account table 1602.
In some embodiments, the lottery operator may also choose to display advertisements selected for the player based on the player's characteristics when the player is viewing webpages on the lottery operator's website that do not include any information about the player's own tickets. For example, the lottery operator may have a rules webpage that describes the rules for a particular on-line lottery. If the rules webpage has a section for advertisements, the lottery operator may select the advertisements displayed to the player based on the player's characteristics.

Several embodiments of the invention have been described. In addition, numerous alternatives embodiments and additional features of the invention have been described. A particular lottery operator may combine various embodiments and features to develop other embodiments that utilize the inventions and fall within the scope of this patent.

APPENDIX A

Exemplary Systems, Apparatus and Methods for Ticket Sales Using a Ticket Purchase Voucher

Within this Appendix A, reference numerals refer to FIGS. 32 to 42, unless otherwise specified.

Several examples of systems that allow tickets to be purchased with a ticket purchase voucher are described below. Some of these systems will be described with reference to several on-line lotteries.

The first exemplary on-line lottery will be referred to as Lotto 7/47. In this on-line lottery, a lottery player selects a set of seven different played numbers between 1 and 47 (inclusive of numbers 1 and 47). The set of seven played numbers is referred to as a Lotto 7/47 played number set.

Subsequently, a lottery operator conducts a draw to select a set of winning numbers consisting of seven different regular numbers and a bonus number, also between 1 and 47. The bonus number is different from all of the winning numbers. The player may win different prizes if his played numbers match the winning numbers and/or the bonus number in various winning combinations, as follows:

<table>
<thead>
<tr>
<th>Winning Combination</th>
<th>Prize Won</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/7 regular numbers</td>
<td>Grand Prize</td>
</tr>
<tr>
<td>6/7 regular numbers</td>
<td>Second Prize</td>
</tr>
<tr>
<td>5/7 regular numbers</td>
<td>Third Prize</td>
</tr>
<tr>
<td>4/7 regular numbers</td>
<td>Fourth Prize</td>
</tr>
<tr>
<td>3/7 regular numbers and bonus number</td>
<td>Fifth Prize</td>
</tr>
<tr>
<td>3/7 regular numbers</td>
<td>Sixth Prize</td>
</tr>
<tr>
<td>3/7 regular numbers</td>
<td>Free ticket</td>
</tr>
</tbody>
</table>

Some of the prizes a player may win in this exemplary on-line lottery are shared prizes. Shared prizes are calculated by first determining a total prize amount for a particular winning combination and then dividing the total prize value by the number of tickets that have the winning combination to determine what share of the total prize amount each ticket will win. The Grand Prize is a shared prize and the total prize value for the Grand Prize is determined by the lottery operator prior to drawing the on-line lottery. For example, if the total prize value for the Grand Prize is $10 million and 4 tickets have the 7/7 regular numbers winning combination, then each ticket wins $2.5 million. Some shared prizes may be pari-mutuel prizes, for which the total prize amount may be determined as a portion of the ticket sales revenue for the on-line lottery. The second, third, fourth, fifth and sixth prizes are pari-mutuel prizes. One of the prizes is a fixed prize with the same prize being awarded for each ticket having the specified winning combination. The free ticket prize for the 3/7 regular numbers winning combination is a fixed prize. The present invention may be used with on-line lotteries and games having any type or any combination of types of prizes.

For the purpose of this exemplary embodiment of the invention, the lottery operator conducts a draw of the Lotto 7/47 on-line lottery each week on Friday at 9 p.m. Eastern Standard Time.

The second exemplary on-line lottery will be referred to as Tag. In this on-line lottery, a six digit played number is automatically selected for the lottery player. The played number may be referred to as a Tag played number. The single six digit played number is a played number set for the Tag on-line lottery and may also be referred to as a Tag played number set. Subsequently, the lottery operator selects a six digit winning number for the Tag on-line lottery. The winning number may be referred to as a Tag winning number or a Tag winning number set. The player may win different prizes if various winning combinations of digits in his played number match corresponding digits in the winning number, as follows:

<table>
<thead>
<tr>
<th>Winning combination</th>
<th>Prize Won</th>
</tr>
</thead>
<tbody>
<tr>
<td>All six digits</td>
<td>$250,000</td>
</tr>
<tr>
<td>Last five digits</td>
<td>$1,000</td>
</tr>
<tr>
<td>Last four digits</td>
<td>$100</td>
</tr>
<tr>
<td>Last three digits</td>
<td>$25</td>
</tr>
<tr>
<td>First digit and last digit</td>
<td>$5</td>
</tr>
<tr>
<td>First digit</td>
<td>Free play of host on-line lottery with Tag</td>
</tr>
<tr>
<td>Last digit</td>
<td>Free play of host on-line lottery with Tag</td>
</tr>
</tbody>
</table>

This exemplary Tag on-line lottery may only be played in conjunction with another on-line lottery, such as the Lotto 7/47 on-line lottery described above. The Lotto 7/47 on-line lottery is referred to as a host on-line lottery and the Tag on-line lottery is referred to as an associated on-line lottery. A player may request that one or more Tag played number sets be added to a ticket for the Lotto 7/47 on-line lottery. On draw dates for the Lotto 7/47 on-line lottery, the lottery operator draws a winning number set for the host Lotto 7/47 and also draws a winning number for the associated Tag on-line lottery.

The prize for matching the first or the last digit of the Tag winning number is a free play of the host on-line lottery in the next draw after the ticket is redeemed, including a free played number for the Tag on-line lottery draw on the same date. Players who elect to play the Tag on-line lottery on a ticket may win a prize in the Lotto 7/47 on-line lottery, the Tag on-line lottery or in both on-line lotteries.

The third exemplary on-line lottery will be referred to as Keno. In this on-line lottery, a lottery player is asked to select a play category between two and ten. If the player chooses play category two, he then chooses a set of two different played numbers between 1 and 70 (inclusive of numbers 1 and 70). Similarly, if the player chooses play
category ten, the player chooses a set of ten different played numbers between 1 and 70. Similarly, if the player chooses any of play categories three to nine, the player chooses a corresponding amount of different played numbers between 1 and 70. The player’s set of played numbers is referred to as a Keno played number set. Subsequently, the lottery operator conducts a draw to select a winning number set consisting of 20 different winning numbers between 1 and 70. The player may win a prize depending on the play category chosen and how many of the played numbers match the winning numbers. Various winning combinations are defined as follows:

<table>
<thead>
<tr>
<th>Play Category (played numbers in set)</th>
<th>Winning combination</th>
<th>Wager multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2 of 20</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>3 of 20</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>4 of 20</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>5 of 20</td>
<td>250</td>
</tr>
<tr>
<td>6</td>
<td>6 of 20</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>5 of 20</td>
<td>25</td>
</tr>
<tr>
<td>7</td>
<td>7 of 20</td>
<td>5,000</td>
</tr>
<tr>
<td>8</td>
<td>8 of 20</td>
<td>25,000</td>
</tr>
<tr>
<td>9</td>
<td>9 of 20</td>
<td>50,000</td>
</tr>
<tr>
<td>10</td>
<td>10 of 20</td>
<td>250,000</td>
</tr>
</tbody>
</table>

[0524] If the player’s played number set includes a winning combination, the player is awarded a prize equal to the amount wagered by the player for the set of played numbers multiplied by the wager multiplier. For example, a player who chooses play category seven will choose a set of seven different played numbers between 1 and 70. In this exemplary Keno on-line lottery, the player may wager from $1, $2, $5 or $10 for each set of played numbers. If the seven played numbers match seven of the twenty winning numbers, the player wins 5,000 times the amount wagered.

[0525] For the purpose of this example, the lottery operator conducts a draw of the Keno on-line lottery every day at 9 p.m. Eastern Standard Time.

[0526] The Keno on-line lottery is not a host lottery for the Tag on-line lottery. In an alternative embodiment of the invention, the Keno on-line lottery could also be a host lottery for the Tag on-line lottery.

[0527] A played number set or played number for an on-line lottery that includes a winning combination may be referred to as a winning played number set or as a winning played number. A ticket that includes at least one winning played number set or winning played number may be referred to as a winning on-line lottery ticket, a winning lottery ticket or more generally as a winning ticket.

[0528] Two exemplary on-line games used in this description of exemplary embodiments of the invention will be referred to as Sports Line and Over/Under. In these exemplary on-line games, each week the lottery operator identifies a number of sporting events and sets various odds corresponding to various possible outcomes of the events. For example, part of a list of odds may include the following events and corresponding odds for the Sports Line and the Over/Under on-line games:

**List 8845 (Nov. 11-Nov. 17, 2005):**

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Visitor</th>
<th>Home</th>
<th>Sports Line</th>
<th>Over/Under</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

- **College Football**
  - 17 12:00 p Texas A&M Oklahoma 5.2 4.0 1.2 1.7 36.5 1.7
  - 18 12:00 p Maryland North Carolina 2.6 3.0 2.0 1.7 37.5 1.7
  - 23 2:00 p Kentucky Vanderbilt 5.0 3.0 1.3 1.7 33.5 1.7
  - 30 6:00 p Washington Arizona 5.2 4.0 1.2 1.7 36.5 1.7

- **NHL Hockey**
  - 44 1:00 p Washington New Jersey 2.2 6.5 1.5 1.7 6.5 1.7
  - 45 3:00 p Toronto Montreal 2.0 6.0 1.6 1.7 5.5 1.7

- **NFL Football**
  - 56 1:00 p Kansas City Buffalo 2.4 2.8 2.3 1.7 43.5 1.7
  - 57 1:00 p San Francisco Chicago 5.2 4.0 1.2 1.7 44.5 1.7
  - 60 5:00 p Dallas Philadelphia 2.5 2.9 2.1 1.7 43.5 1.7

- **NHL Hockey**
  - 87 8:00 p Dallas Anaheim 1.7 6.0 1.9 1.7 5.5 1.7
  - 88 10:00 p Detroit Vancouver 1.9 6.0 2.0 1.8 5.5 1.6
The odds for the Sports Line on-line game are set out under the three columns labeled “V”, “T” and “H” under the heading “Sports Line”. For each event, three possible outcomes may occur: “V” means that the visiting team wins the event; “T” means that the two teams will tie and “H” means that the home team will win the event. The definition of a win or tie is set by the lottery operator and may not match the rules used in the actual event. For example, in this exemplary Sports Line on-line game, for NFL football games the lottery operator has defined a tie as the teams having three or fewer points separating them in the final score. For some events, a tie may not be defined—such as for baseball games, where the rules do not provide for tie games. The odds indicate the lottery operator’s estimate of how likely each outcome is. A higher value indicates that the lottery operator believes the outcome is less likely to occur.

In this example system 100, the lottery operator provides event lists on a weekly basis. In other embodiments, the lottery operator may provide event lists which have time periods that overlap with other event lists, or may provide events lists that have some events in common. In other embodiments, the lottery operator may not divide events into lists and may simply having single event list. In embodiments in which players will be permitted to purchase on-line game tickets using selection slips in addition to using the systems, apparatus and methods disclosed herein, the lottery operator will typically identify events as part of an event list to permit the event list to be identified on a selection slip.

An on-line game ticket on which a player has won his or her bet may be referred to as a winning on-line game ticket, a winning game ticket or more generally as a winning ticket. In both the Sports Line and Over/Under on-line games described above, all of the predictions made by a player in the prediction set must be correct for the player to win the bet. In other embodiments, an on-line game ticket will be a winning on-line game ticket as long as the prediction set on the ticket (or at least one of the prediction sets, if multiple predictions sets are permitted on a single ticket) matches the appropriate corresponding criteria set by the lottery operator.

The present invention allows a player to purchase a ticket for an on-line lottery or on-line game without using a selection slip. In the first example embodiment described herein, the player first establishes a player account with the lottery operator. The player then obtains a ticket purchase voucher using a player computer system. The ticket purchase voucher encodes information for a proposed ticket. The player then presents the ticket purchase voucher to a lottery retailer, who uses the ticket purchase voucher to sell a ticket to the player. The player receives a ticket receipt setting out information about the ticket.

The lottery operator operates a lottery computer system. In the present embodiment, the lottery computer system includes a player account server. A lottery player uses a player terminal to access the player account server and to create a player account. Each player account has an account identification code or user name. The account identification code for each account is unique (with respect to the account identification code for all other player accounts created in the particular embodiment) and may consist of any combination or permutation of letters or numbers. In this description of the first example embodiment, several exemplary player accounts will be described. The account identification codes for these exemplary player accounts include KARINA1022, BRIAN237 and SAMANTHA.

In any particular embodiment of the invention, a lottery operator may impose requirements on the account identification codes that players may use. For example, a lottery operator may set a minimum or maximum number of characters for an account identification code. In the present embodiment, an account identification code may include the same character (i.e. the same letter or numeral) more than once.

In other embodiments, the lottery operator may require that each character in an account identification code be different from the other characters in an account identification code. This requirement may be imposed in the lottery operator also permits players to purchase tickets using a selection slip with account identification region, as is described in the main body of this description preceding this Appendix A.
FIG. 32 illustrates a system 100 that includes a lottery computer system 102, ticket vending terminals 104 and player terminals 106. A system according to the present embodiment will include at least one ticket vending terminal 104 and at least one player terminal 106.

The lottery computer system 102 is operated by a lottery operator (not shown), who may operate various types of on-line lotteries and on-line games, including the exemplary on-line lotteries and on-line games described above and other on-line lotteries or on-line games.

The ticket vending terminals 104 are operated by ticket vendors (not shown). Each ticket vending terminal 104 is coupled, or is capable of being coupled, to the lottery computer system 102 to permit data communication between the ticket vending terminal 104 and the lottery computer system 102. Some of the ticket vending terminals 104 may be coupled to the lottery computer system 102 through a private communication network 108. The private communication network 108 may be a wide area network (WAN), a private data communication network comprising proprietary (owned, rented or leased) data lines or any other type of data network. The private communications network 108 may be a combination of two or more of these and other types of data communication networks. Ticket vending terminals 104b and 104c are coupled to the lottery computer system 102 through private communication network 108.

Some or all of the ticket vending terminals 104 may be coupled to the lottery computer system 102 through dial-up telephone connections or another type of point-to-point connection that permits data communication between the lottery computer system 102 and the ticket vending terminal 104. For example, ticket vending terminal 104a is coupled to the lottery computer system 102 through a dial-up telephone connection 109, which may be maintained at all times or may be established when required to allow data communication between ticket vending terminal 104a and lottery computer system 102.

Some or all of the ticket vending terminals 104 may be coupled to the lottery computer system 102 through a publicly accessible communications network (a "public network"), such as the Internet. For example, ticket vending terminal 104d is coupled to the lottery computer system 102 through public network 110. Ticket vending terminals 104 coupled to the lottery computer system 102 through the public network 110 may be coupled using a virtual private network or another secure communications protocol or methodology.

The connections between the lottery computer system 102 and the various ticket vending terminals 104 need not be the same. Different connections may be made using different types of data communications networks and lines. A ticket vending terminal 104 may be coupled, or may be capable of being coupled, to the lottery computer system 102 in more than one way, to provide an alternative method of communication if a primary method has failed or is unavailable.

The connection between lottery computer system 102 and any particular ticket vending terminal 104 may be persistent or it may be made intermittently as required for data communication between the lottery computer system 102 and the ticket vending terminal 104. If the coupling includes a publicly accessible network, such as the Internet, communications between the lottery computer system 102 and any of the ticket vending terminals 104 may be secured using an encryption system or other security technique. A security technique or mechanism may optionally be used to secure all communications between the lottery computer system 102 and any ticket vending terminal 104, regardless of the type of connection between the lottery computer system 102 and the ticket vending terminal 104.

The ticket vending terminals 104 are used by ticket vendors to sell tickets and provide ticket receipts to players. Each ticket vending terminal 104 (or at least some of the ticket vending terminals 104) includes a scanner or scanning device capable of reading or scanning machine readable information from a ticket purchase voucher. The sale of tickets to players is further described below.

Lottery computer system 102 may be coupled to some or all of the player terminals 106 through public network 110. Some player terminals 106 may also be coupled to the lottery computer system 102 directly (for example, using a dial-up connection) or through another network. Each of the player terminals 106 is capable of communicating with the lottery computer system 102 and typically includes several output devices such as a display screen and a printer. Each player terminal 106 includes a printer that can be used to print a ticket purchase voucher. In addition, each player terminal includes one or more input devices (such as a keypad, keyboard, computer mouse or remote control device). A player terminal 106 may be any type of device that is capable of being coupled to and communicating with the lottery computer system 102. For example, different player terminals 106 may be personal computers, Internet-enabled television sets, Internet-enabled set-top-boxes used with cable, satellite or other digital communication systems, portable wireless communications devices such as personal data assistant (PDA) devices, cellular phones and wireless portable computers.

When system 100 is in operation, a player uses a player terminal 106 to access a ticket purchase voucher creation page 112 (FIG. 33) accessible on the lottery operator's website. The player uses the ticket purchase voucher creation page 112 to obtain a ticket purchase voucher 113. The ticket purchase voucher 113 includes a ticket purchase voucher code 136 (FIG. 33) on it in a machine-readable format, such as a bar code. The player then presents the ticket purchase voucher to a ticket vendor who operates a ticket vending terminal 104. The ticket vendor uses the ticket vending terminal 104 to process the ticket purchase voucher 113 and to issue a ticket receipt 114 to the player.

Reference is next made to FIG. 33, which illustrates a ticket purchase voucher creation page 116 for the Lotto 7/47 on-line lottery, a ticket purchase voucher 117 for the Lotto 7/47 on-line lottery and a corresponding ticket receipt 118.

Ticket purchase voucher creation pages 112 are web pages that are accessible on the lottery operator's website. A lottery operator will provide a ticket purchase creation page 112 for each on-line lottery (or on-line game) with which it uses the present invention. A lottery operator accesses the ticket purchase voucher creation pages 112 using a web browser operating on the player's terminal 106. The player completes the ticket purchase voucher creation page 112 and then uses it to create a ticket purchase voucher 113.

Lotto 7/47 ticket purchase voucher creation page 116 is displayed on a display screen (not shown) of player terminal 106, in the example of FIG. 33. Lotto 7/47 ticket purchase voucher creation page 116 includes four played number selection boards 121, 122, 123 and 124 in which a player may manually select up to four played number sets for
a Lotto 7/47 ticket. Ticket purchase voucher creation page 116 also has an auto-pick selection field 126 in which a player can select from zero to ten automatically selected played number sets for the Lotto 7/47 on-line lottery on the ticket. Ticket purchase voucher creation page 116 also includes a tag selection field 128 in which a player may select from zero to ten automatically selected Tag played number sets for the Tag on-line lottery associated with the Lotto 7/47 on-line lottery. Ticket purchase voucher creation page 116 also includes an advance draw selection field 130 in which the player may choose from one to ten draws for which the player wishes to purchase a ticket.

0553 A player named Karina Jones, who’s player account has the account identification code KARINA1022, has completed the Lotto 7/47 ticket purchase voucher creation page 116 to manually select two played number sets. The first played number set includes the played numbers 8, 12, 23, 29, 32, 27 and 45. The second played number set includes the played numbers 2, 18, 24, 28, 33, 39 and 42. The player has also chosen to add 1 additional automatically selected Lotto 7/47 played number set, 2 Tag played number sets and to purchase a ticket for four draws.

0554 Once the player has completed the ticket purchase voucher creation page, the player clicks the “Create Voucher” button 119 to create the ticket purchase voucher 117. The process by which ticket purchase voucher 117 is generated is described in greater detail below in relation to method 3000. Ticket purchase voucher is printed at player terminal 1060 using a printer attached to the player terminal 1060.

0555 Ticket purchase voucher 117 includes a ticket information section 132 and a ticket purchase voucher code section 134.

0556 Various information about the ticket is set out in ticket information section 132, including the player account with which a ticket purchased with the ticket purchase voucher 117 will be associated, the played number sets selected for the ticket and other information. In the present example, ticket information section 132 includes information that a lottery operator may use to confirm the details of the players selections for the ticket. The ticket information section need not contain any specific information and is optional. Preferably, the ticket information section is provided and contains information that a lottery player may use to understand the played numbers and other options for the ticket that the ticket purchase voucher can be used to purchase.

0557 The ticket purchase code section 134 includes a machine readable ticket purchase voucher code 136 which encodes a ticket purchase voucher code. In this example, the ticket purchase voucher code is set out in a bar code. Alternatively, the ticket purchase voucher code 136 may be set out in the ticket purchase voucher code section 134 in any machine readable format, such as optically scannable characters, single or multi-dimensional bar codes or any other machine recognizable pattern or character set.

0558 The ticket purchase voucher code 136 for any particular ticket purchase voucher is different from the ticket purchase voucher code for all other ticket purchase vouchers that are valid at the time the particular ticket purchase voucher is issued. A ticket purchase voucher is valid if it can be used to purchase a ticket for an on-line lottery or on-line game. A ticket purchase voucher may be valid indefinitely or it may expire at a particular time, or when a specific event occurs or a specific condition becomes true. Ticket purchase voucher 117 does not expire. Karina Jones can use the ticket purchase voucher to purchase a ticket for the next four draws of the Lotto 7/47 on-line lottery whenever she chooses to purchase a ticket with the ticket purchase voucher.

0559 In any embodiment, a lottery operator may choose to make a voucher valid for a fixed time period, a fixed number of uses, or may set some other expiry rule for a ticket purchase voucher. A lottery operator may choose to use any combination of expiry rules for the ticket purchase vouchers used with the lottery operator’s on-line lottery and/or on-line games. For example, in another embodiment, the lottery operator may require that a ticket purchase voucher must be used within 1 week of being printed. In such an embodiment, the ticket purchase voucher may optionally set out the time at which the ticket purchase voucher expires.

0560 The ticket information section 132 of ticket purchase voucher 117 includes the ticket purchase voucher code set out in human readable form. It is optional to print the ticket purchase voucher code in human readable form in the ticket information section 132.

0561 FIG. 33 also illustrates a ticket receipt 118 that corresponds to the player’s selections on the ticket purchase voucher creation page 116 and the ticket purchase voucher 117. The exemplary ticket receipt 118 includes the name 140 of the on-line lottery indicating that it is a ticket for the Lotto 7/47 lottery, a date range 142 indicating that it is valid for four draws between Jun. 8, 2005 and Jun. 18, 2005. At reference number 144, the ticket receipt 118 sets out the two Lotto 7/47 played number sets manually chosen by the player and an automatically selected played number set chosen for the player by the lottery computer system 102. The automatically selected Lotto 7/47 played number set consists of the played numbers 12, 17, 21, 29, 32, 37 and 43. At 148, ticket receipt 118 sets out two Tag played numbers, 398587 and 957238, for the Tag on-line lottery and the word “Played” to indicate that the player has chosen to participate in the associated Tag on-line lottery.

0562 At 156, the ticket receipt sets out Karina Jones’ account identification code KARINA1022. Optionally, a ticket receipt may set out part of a player’s account identification code or another datum related to the player such as the player’s name.

0563 Ticket receipt 118 also contains a human readable ticket code 150, which in this example is a sixteen digit number set out in four sets of four digits: 5933-3748-0958-3924. A ticket code is assigned by the lottery computer system 102 to every ticket that is issued. In this exemplary embodiment, the ticket code is printed on the ticket receipt 114 in a human-readable form. The ticket code is also set out in a machine readable bar code 158, allowing the ticket code to be scanned by a machine, such as a ticket vending terminal 104. In alternative embodiments, the ticket code may be set out in only a human readable form or a machine readable form. In alternative embodiment, a first ticket code for the ticket may be set out in human readable form and a different second ticket code for the ticket may be set out in machine readable form.

0564 Typically, the ticket code allows the ticket to be uniquely identified from all other tickets issued by the lottery operator, at least during a selected time period prior to the issuance of the ticket (for example, one year or five years). The lottery operator may select various mechanisms for assigning ticket codes for tickets, including mechanisms that encode information in the ticket code. Such encoded information may include the particular on-line lottery or on-line
game that the ticket is issued for, the draws the ticket is issued for and check digits that can be used to ensure the validity of the ticket code, the ticket receipt 118 and the ticket.

[0565] Ticket receipt 118 includes a vendor terminal code 152. The vendor terminal code 152 identifies the ticket vending terminal 104 used to issue ticket receipt 114. Alternatively, the vendor terminal code 152 may identify the ticket vendor who operates the ticket vending terminal, so that tickets issued at different ticket vending terminals operated by the same ticket vendor have the same vendor terminal code. In the present exemplary embodiment, the vendor terminal code 152 uniquely identifies the specific ticket vending terminal 104 at which the ticket was issued, and accordingly different ticket vending terminals operated by the same ticket vendor are identified by different vendor terminal codes. Other ticket receipts 114 according to the present invention may not include a vendor terminal code.

[0566] Ticket receipt 118 includes a verification code 154. The verification code 154 may be used to verify the integrity of ticket receipt 114. Verification code 154 may be generated using a formula based on other components of the ticket and other data (such as the date and time on which the ticket is issued) or it may be created for the ticket randomly, pseudorandomly (i.e. based on a seed value or other initial value), using a list of rotating values or verification codes, or using any other formula or method. The verification code 154 may be used in the place of, or in addition to, the use of check digits in the ticket code 150. Other ticket receipts 114 according to the present invention may not include a verification code.

[0567] Reference is next made to FIG. 34, which illustrates a ticket purchase voucher creation page 216 and a ticket purchase voucher 218 for the Keno on-line lottery and a corresponding ticket receipt 218.

[0568] Ticket purchase voucher creation page 216 has four boards 221, 222, 223 and 224. On each board, a player may enter up to ten played numbers that form a played number set. In boards 221-224, a player manually types in the played numbers that the player wishes to choose. This differs from the selection of played number on boards 121-124 (FIG. 33), in which a player was presented with a cell for each number that the player could choose as a played number. A lottery operator may choose to provide individual cells for the different possible numbers in a player number set or may allow a player to manually type in the numbers on any of its ticket purchase voucher creation pages. The player Karina Jones has manually selected two played number sets in boards 221 and 222.

[0569] Ticket purchase voucher creation page 216 includes an auto-pick selection field in which a player may choose a play category and wager for up to ten additional automatically selected played number sets. Optionally, a player may choose to purchase a ticket with only automatically selected played number sets and may leave all of the boards 221-224 blank.

[0570] Ticket purchase voucher creation page 216 also includes an advance draw selection field 130.

[0571] Ticket purchase voucher 217 includes information about the player's selections in a ticket information section 232 and a machine readable ticket purchase voucher code in a ticket purchase voucher code section 234.

[0572] Ticket receipt 218 sets out the details of a ticket purchase by the player using ticket purchase voucher 217. In this example, the automatically selected played number set is identified as having been automatically selected for the player.

[0573] FIG. 35 illustrates an exemplary ticket purchase voucher creation page 316, a ticket purchase voucher 317 and a corresponding ticket receipt 318 for the Sports Line on-line game.

[0574] Ticket purchase voucher creation page 316 includes an event list 321. In this embodiment, event list 321 corresponds to the events listed above in the description of the Sports Line on-line game. Event list 321 identifies the various outcomes and odds for each event that a player may select as part of a bet. To make a bet, a player selects from three to six events and selects one outcome per event. The player selects the outcomes by clicking the radio button beside the odds for the outcome.

[0575] Ticket purchase voucher creation page 316 also includes wager amount field 322, in which a player can enter a wager for a bet. In this embodiment a player may type in a wager amount of the player's choice. In other embodiments, the lottery operator may permit the player to choose from a number of predetermined wager amounts. Optionally, the lottery operator may provide options for the predetermined wager amounts in the form of radio button selections, a drop down list or another mechanism for limiting the player's choice of the wager amount. The lottery operator may have a number of predetermined amounts and may also allow a player to choose a different wager than any of the predetermined amounts.

[0576] Once a player has selected a bet by marking the player's predicted outcomes and entering a wager, the player can obtain a ticket purchase voucher 317 by clicking the "Create Voucher" button 119. Ticket purchase voucher 317 includes information about the player's selections in a ticket information section 332 and a machine readable ticket purchase voucher code in a ticket purchase voucher code section 334. The player must purchase a ticket prior to beginning of the earliest event on which the player's bet is based. In this example, the voucher states that the voucher must be used before 11:45 am on Saturday, Nov. 12, 2005. Ticket purchase voucher 317 expires at that time.

[0577] Ticket receipt 318 sets out the player's Sports Line prediction set at 344-347. At 349, ticket purchase voucher 317 sets out the payout value based on the wager and the odds for the selected outcomes.

[0578] FIG. 36 illustrates an exemplary ticket purchase voucher creation page 416, a ticket purchase voucher 417 and a corresponding ticket receipt 418 for the Over/Under on-line game.

[0579] Referring to FIG. 32, Lottery computer system 102 includes a lottery database 160, a player account server 162 and a ticket server 164.

[0580] Lottery computer system 102 may be a single computer or may include various interconnected computers and other devices, including communication and data storage devices. Lottery database 160, player account server 162 and ticket server 164 may reside and operate on one or more of the computers or related systems that comprise lottery computer system 102. For example, portions of the player account server may operate on different computers which may be distributed across a large or small geographic area. In some embodiments, portions of the lottery computer system may be operated by the lottery operator indirectly through a third party.

[0581] Player account server 162 manages the creation of player accounts and the creation of ticket purchase vouchers 113. Lottery players use player terminals 106 to access player account, play and purchase lottery tickets.
account server 162. Optionally, communications between the lottery computer system 102 and a player terminal 106 may be secured using an encryption system or other security technique. A player terminal 106 used by a player may be referred to as the player’s terminal.

Player account server 162 includes one or more player interfaces 166. Each player interface 166 facilitates communications between the player account server 162 and one or more of the player terminals 106. In the present embodiment, player interface 166a includes a player website 167a, which players may access by using a web browser operating on a player terminal 106, such as a personal computer or any other web-enabled computing device. Player interface 166a communicates with web browsers to receive information from the player terminals 106 and to transmit information to the player terminals 106. For example, player interface 166a receives information about new player accounts and creates a corresponding player account record 514 in the lottery database 160. This is further described below in relation to method 2100.

Player interface 166a receives Ticket Purchase Voucher Requests 560 from player terminals 106 and transmits Ticket Purchase Voucher Data 562 to the player terminals allowing ticket purchase vouchers 113 to be printed at the player terminals. Ticket Purchase Voucher Requests 560 and Ticket Purchase Voucher Data 562 are further described below in relation to method 3000.

Other player interfaces 166 may be configured to allow various types of player terminals 106 to access the player account server to create player accounts or to obtain information relating to tickets associated with a player account. For example, other player interfaces 166 may be adapted to communicate with portable communication devices with small display screens such as portable digital assistant (PDA) devices or portable telephone devices. Other player interfaces 166 may be adapted to communicate with computer programs executing on a player terminal 106 and to control the display of information by such computer programs.

Lottery database 160 is used to store information about player accounts, draws of the on-line lottery, events in the on-line games, ticket purchase vouchers and about tickets issued by the lottery operator. Many different data structures may be used to store information about player accounts, on-line lottery draws, on-line game events and tickets and the present invention is not limited to any particular data structure or data structures for doing so. Several exemplary data structures for storing such information will be described here. Skilled persons will be able to design different data structures to accommodate different types of on-line lotteries and games and to accommodate different computers, other devices, operating systems and software that may be used as part of a lottery computer system.

FIGS. 37a-37c illustrate a portion of lottery database 160. Lottery database 160 includes a player account table 502, on-line lottery draw tables 504, on-line lottery ticket tables 506 and a ticket purchase voucher table 570.

Referring to FIG. 37a, player account table 502 includes a player account record 514 for each player account. Ticket purchase voucher table 570 includes a ticket purchase voucher record 572 for each ticket purchase voucher 117.

Each player account record 514 contains information about one player account. Three player account records 514 are illustrated in FIG. 37a. Player account table 502 also contains other player account records 514. In this exemplary embodiment, each player account record 514 includes the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account ID Code</td>
<td>The account identification code for the player account.</td>
</tr>
<tr>
<td>Account Password</td>
<td>A password that the player must provide to access information about tickets associated with the player account. The password may optionally be stored in an encrypted form.</td>
</tr>
<tr>
<td>Name</td>
<td>The player’s name.</td>
</tr>
<tr>
<td>Address</td>
<td>The player’s address.</td>
</tr>
<tr>
<td>Phone</td>
<td>The player’s phone number.</td>
</tr>
<tr>
<td>Fax</td>
<td>The player’s fax number.</td>
</tr>
<tr>
<td>E-mail</td>
<td>The player’s e-mail address.</td>
</tr>
<tr>
<td>Birth Date</td>
<td>The player’s birth date.</td>
</tr>
<tr>
<td>Sex</td>
<td>The player’s sex.</td>
</tr>
<tr>
<td>Income</td>
<td>The player’s income range.</td>
</tr>
<tr>
<td>Player Ticket List</td>
<td>This field contains a link or reference to each of the tickets associated with the player account, allowing the tickets to be identified.</td>
</tr>
</tbody>
</table>

The reference to the tickets may be any mechanism for identifying tickets. The reference may be direct (such as a list of ticket codes or ticket record identifiers) or indirect (such as a pointer to or the name of a list, index or table containing ticket codes or ticket record identifiers). A ticket record identifier may identify a ticket table 506 (FIG. 37b) or 510 (FIG. 37c) and a ticket record 524 or 538 within the ticket table that relates to a particular ticket associated with the player account. The structure of on-line lottery ticket records 524 and on-line game ticket records 538 is described below.

In this embodiment, this field contains a list of ticket codes for each ticket associated with the player account. The on-line lottery or on-line game for each ticket is also identified, to allow the ticket record for each ticket to be located in the appropriate ticket table 506 or 510 (FIG. 37b). For on-line games, the event list is also identified.
A player creates a player account by accessing an account creation service. Referring briefly to FIG. 39, the player website 167a (FIG. 32) includes a welcome web page. A player may access the account creation service by clicking on a "Create Account" button 604. An example of an account creation service is set out above in the main body of this description preceding this Appendix A with reference to FIG. 38 and method 2100. As part of creating a player account, the player selects an account identification code. In the present embodiment, a player's account ID code may consist of any combination or permutation of letter or numbers. Also, in the present embodiment, the order of characters is sufficient to distinguish two account identification codes. The account identification code KARINA1022 is distinct from the account identification code KARINA1202.

Each player account has a password, which is stored in the Password field in the player account record 514. The password may optionally be stored in an encrypted form.

Personal information about a player is stored in the Name, Address, Phone, Fax, E-mail, Birth Date, Sex and Income fields of the player account record 514. A player may choose not to provide some of this information, and the corresponding field may be left empty or omitted from a particular player account record 514, depending on the data structure used to store a player account record. In any particular embodiment, the lottery operator may choose not to include some of the fields set out above. For example, a lottery operator that chooses to permit only anonymous player accounts may provide for an Account ID Code and an Account Password field in the player account records of that embodiment.

Returning to the present example system 100, an exemplary player account record 514 for the account identification code KARINA1022 may contain the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account ID Code</td>
<td>KARINA1022</td>
</tr>
<tr>
<td>Account Password</td>
<td>*********</td>
</tr>
<tr>
<td>Name</td>
<td>Karina Jones</td>
</tr>
<tr>
<td>Address</td>
<td>123 Somestreet Rd Sometown, Somestate 84442</td>
</tr>
<tr>
<td>Phone</td>
<td>(343)254-9348</td>
</tr>
<tr>
<td>Fax</td>
<td>None</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:karina@isp.com">karina@isp.com</a></td>
</tr>
<tr>
<td>Birthdate</td>
<td>Oct. 22, 1973</td>
</tr>
</tbody>
</table>

The Player Ticket List field in the player account record 514 for Karina Jones' player account includes a reference to an Over/Under ticket with the ticket code 3576-1942-8572-9234. This ticket is valid for the Over/Under on-line game and is based on the events on event list 8846 (not shown). Event list 8846 is similar to event list 8845 in that it sets out events for the Over/Under on-line game (and for the Sports Line on-line game), but relates to a different time period (which may overlap with the time period corresponding to event list 8845) and to events that occur within that time period.

Referring to FIG. 37c, lottery database 160 includes an event table and a ticket table for the Over/Under on-line game with data about events and tickets relating to event list 4524. In this embodiment, event tables and ticket tables relating to different event lists are stored as separate tables. In another embodiment, event records relating to different event lists may be combined in one table and ticket records relating to different event lists may be combined in one table. In other embodiments, events may not be divided into different event lists.

Each ticket purchase voucher record 572 in the ticket purchase voucher table 570 corresponds to one ticket purchase voucher created by a player. In this embodiment, each voucher record 572 includes the following fields and data:
Field | Information recorded in field  
--- | ---  
TP Voucher Code | The ticket purchase voucher code for the voucher. 
Player account ID code | The account identification code of the player account with which the voucher is associated. 
Ticket Type | The identity of the on-line lottery or on-line game for which a ticket will be issued with the voucher. 
Proposed Ticket Information | This field contains information required to issue a ticket for the on-line lottery or on-line game identified in the Ticket Type field. In the case of a ticket purchase voucher for an on-line lottery, this field includes details about the ticket a player wishes to purchase with the voucher. The details may include played number sets, the number of automatically selected numbers requested, the number of draws that for which a ticket should be printed or other ticket information, depending on the rules of the on-line lottery. In the case of an on-line game, this information may include a selection set, wager amounts, depending on the rules of the on-line games. The ticket information may be recorded in one or more fields, depending on the information recorded. 

In this embodiment, all voucher records are maintained in a single ticket purchase voucher table. In other embodiments, voucher records may be kept in a different data structure. For example, voucher records for different on-line lotteries and on-line games may be kept in different tables or in different types of data files. The voucher records for ticket purchase vouchers 117, 217 and 317 have the following contents:

**Voucher 117:**

| Field | Information recorded in field  
--- | ---  
TP Voucher Code | V1653-564-5685-165  
Player Account ID code | KARINA1022  
Ticket Type | Lotto 7-47  
Proposed Ticket Information | Board A: 8, 12, 23, 29, 32, 37, 45  
Board B: 2, 18, 24, 28, 33, 39, 42  
Auto-Pick Numbers: 1  
Tag: 2  
Draws: 4  

**Voucher 217:**

| Field | Information recorded in field  
--- | ---  
TP Voucher Code | V1655-237-8537-275  
Player Account ID Code | KARINA1022  
Ticket Type | Keno  
Proposed Ticket Information | Board 1: 1, 2, 7, 9, 10, 16, 22; Wagers: 2  
Board 2: 12, 25, 27, 43, 46, 49, 64, 66; Wagers: 10  
Auto-Pick 1: Play Category; 2, Wagers: 5  
Draws: 2  

**Voucher 317:**

| Field | Information recorded in field  
--- | ---  
TP Voucher Code | V1654-470-8329-332  
Player account ID code | KARINA1022  
Ticket Type | Sports Line 
Proposed Ticket Information | Event List 8845  
Event 17: V win  
Event 18: H win  
Event 45: V win  
Event 60: H win  

**Voucher 417:**

| Field | Information recorded in field  
--- | ---  
TP Voucher Code | V1656-832-2434-742  
Player account ID code | KARINA1022  
Ticket Type | Sports Line 
Proposed Ticket Information | Event List 8845  
Event 56: Under  
Event 57: Over  
Event 60: Over  

FIG. 37a illustrates the associations between the player account record 514 for Karina Jones’ player account and the ticket purchase voucher records 572 for her ticket purchase vouchers. Maintaining a list of ticket purchase vouchers associated with a player account within the corresponding player account record 514 allows a player’s ticket purchase vouchers to be identified. A lottery operator may permit a player to save ticket purchase vouchers within the player’s account and may allow a player to modify a saved ticket purchase voucher, to re-print a ticket purchase voucher or to delete a save ticket purchase voucher. In other embodiments, the player account record may not have a Player Ticket Purchase Voucher field and a player’s ticket purchase vouchers may not be recorded in the corresponding player account record.
In the present embodiment, a player may optionally create an anonymous account, for which personal information that could identify the player is not recorded. The Account ID Code, the Account Password, the Player Ticket List fields and the Player Ticket Purchase Voucher List are required for the operation of a player account in this embodiment and the information stored in these fields is required even for an anonymous account. However, a player may optionally not provide any of the information for the personal information fields described above. A player may choose not to provide his name and address, but could optionally provide sex and income information to allow some demographic analysis of lottery players. Alternatively, the player may not provide any personal information.

In an alternative embodiment, a lottery operator may designate some personal or other information as required information. For example, the lottery operator may require a lottery player to provide the player’s birth date to allow the lottery operator to ensure that only players of a certain age access the player account. Any combination of information may be designated as required information or optional information by a lottery operator. The personal information fields described in relation to the present embodiment are only an example.

In another alternative embodiment, a lottery operator may choose not to collect any personal information and may make all player accounts anonymous accounts. In such an embodiment, a player account record 514 may comprise only an Account ID field, an Account Password field, a Player Ticket List field and a Player Ticket Purchase Voucher List field.

In another embodiment, a lottery operator may not require a player to enter a password when accessing a player account. In such an embodiment, a player account record would not include an Account Password field.

Reference is next made to FIGS. 37b and 37c.

Each draw record 518 in the draw tables 504 contains information about a draw of an on-line lottery, such as the date of the draw, a draw number, winning numbers for the host on-line lottery and for any associated on-line lottery and prize information for the host on-line lottery and any associated on-line lottery.

Each of the draws records 518 in Lotto 7/47 draft table 516 contains information about one draw of the Lotto 7/47 on-line lottery and the corresponding draw of the associated Tag on-line lottery on the same draw date. In this exemplary embodiment, a single draw record is used to maintain information about both a host on-line lottery and its associated on-line lottery, since the two on-line lotteries share information such as their draw date and since the tickets valid for the associated on-line lottery are a subset of those valid for the host on-line lottery. Alternatively, separate draw tables could be used for the two on-line lotteries.

Six draw records 518 for draws between Nov. 11, 2005 and Dec. 16, 2005 are illustrated in FIG. 37a. In this exemplary embodiment, each draw record 518 in the Lotto 7/47 draft table includes the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw ID</td>
<td>An identifier for the draw. This may be a draw number, or any other type of identifier for the draw. This field is optional, especially if the date (or date and time) of the draw, or another field such as a recent number field, can be used to uniquely identify the draw. In this exemplary embodiment, each draw is assigned a numerical draw number, in sequential order.</td>
</tr>
<tr>
<td>Draw Date</td>
<td>The date on which the draw is scheduled to be conducted.</td>
</tr>
<tr>
<td>Lotto 7/47 Winning</td>
<td>The winning number set for this draw of the Lotto 7/47 on-line lottery.</td>
</tr>
<tr>
<td>Number Set</td>
<td>Information about prizes for each winning combination for this draw of the Lotto 7/47 on-line lottery.</td>
</tr>
<tr>
<td>Lotto 7/47 Prize</td>
<td>The winning number for the Tag associated on-line lottery.</td>
</tr>
<tr>
<td>Information</td>
<td>Information about prizes for each combination of winning numbers for this draw of the Tag on-line lottery.</td>
</tr>
<tr>
<td>Tag Winning Number</td>
<td>This field contains a list or reference to each of the tickets valid for the draw, allowing the tickets valid for the draw to be identified. The reference to the tickets may be any mechanism for identifying the tickets valid for the draw. The reference may be direct or indirect, as is described above in relation to the Player Ticket List field of the player account records 514.</td>
</tr>
<tr>
<td>Tag Prize Information</td>
<td>This field contains a list or reference to each of the tickets valid for the draw, allowing the tickets valid for the draw to be identified. The reference to the tickets may be any mechanism for identifying the tickets valid for the draw. The reference may be direct or indirect, as is described above in relation to the Player Ticket List field of the player account records 514.</td>
</tr>
<tr>
<td>Draw Ticket List</td>
<td>This field contains a list or reference to each of the tickets valid for the draw, allowing the tickets valid for the draw to be identified. The reference to the tickets may be any mechanism for identifying the tickets valid for the draw. The reference may be direct or indirect, as is described above in relation to the Player Ticket List field of the player account records 514.</td>
</tr>
</tbody>
</table>
[0611] The Lotto 7/47 Winning Number fields in a draw record 518 will not contain information about winning numbers until after the draws of the on-line lottery or lotteries have been conducted on the draw date and the winning numbers have been determined. If any of the prizes for the on-line lottery are determined based on the number of winners, as in the case of a shared prize, then the prize values will only be known after the draw. If the prizes are pre-determined, as in the case of the Tag on-line lottery, the relevant prize information may be filled in when the draw record is created by the lottery operator. Where the prizes for an on-line lottery are the same for each draw (or for a series of draws), the corresponding prize information may be stored elsewhere in the lottery database 160 (for example in a lottery table (not shown), which may contain rules and other standard information about each on-line lottery, including any fixed or standard prizes). The corresponding prize information field may be omitted, or may contain a reference to the corresponding information stored elsewhere. In the present exemplary embodiment, the Tag Prize Information field is completed after a draw to record the number of winners of each prize offered in the Tag on-line lottery. The actual value of the prizes is recorded separately from the draw record 518. This information may, for example, be stored in a Tag on-line lottery information file or record (not shown) as another part of the lottery database 160 and is available to the lottery computer system 102.

[0612] Records in the draw table for each lottery are created by the lottery operator to store relevant information about each draw. An exemplary draw record 518 for the Nov. 18, 2005 draw of the Lotto 7/47 lottery could have the following contents prior to the draw:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw ID</td>
<td>1795</td>
</tr>
<tr>
<td>Draw Date</td>
<td>Nov. 18, 2005</td>
</tr>
<tr>
<td>Lotto 7/47 Winning</td>
<td>Unknown when the record is created</td>
</tr>
<tr>
<td>Number Set</td>
<td></td>
</tr>
<tr>
<td>Lotto 7/47 Prize</td>
<td>Unknown when the record is created, since most Lotto 7/47 prizes are shared prizes. The fixed prize of a free ticket for the winning combination of 3/7 regular numbers may be recorded here.</td>
</tr>
<tr>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>Tag Winning Number</td>
<td>Unknown when the record is created</td>
</tr>
<tr>
<td>Tag Prize Information</td>
<td>Link or reference to pre-determined Tag on-line lottery prize information stored elsewhere in the lottery database 160.</td>
</tr>
<tr>
<td>Draw Ticket List</td>
<td>Link or reference to an index of lottery ticket records for tickets valid for this draw. The index includes references to lottery ticket records for the following ticket codes: 5933-2245-8806-5987 5933-3748-0985-5924</td>
</tr>
</tbody>
</table>

[0613] Each on-line lottery ticket record 524 in the on-line lottery ticket tables 506 contains information relating to a ticket issued for one or more draws of the on-line lottery and any associated lottery. Several ticket records 524 are shown in each of the ticket tables 506. Each ticket table 506 also contains additional ticket records (not shown) corresponding to additional tickets for the on-line lottery. In this exemplary embodiment, each lottery ticket record 524 includes the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket Code</td>
<td>The ticket code for the ticket.</td>
</tr>
<tr>
<td>Issue Date/Time</td>
<td>The date and time at which the ticket was issued by the lottery operator.</td>
</tr>
<tr>
<td>Host On-line Lottery</td>
<td>The played number sets selected by the player, or automatically selected for the player, for the host lottery.</td>
</tr>
<tr>
<td>Played Number Sets</td>
<td>An indication of whether the Tag on-line lottery has been played on this ticket, and if so, a list of the Tag played number sets.</td>
</tr>
<tr>
<td>Associated On-line Lottery</td>
<td>This field may contain one or more Tag played number sets selected for the ticket, even if the player elected not to play the Tag on-line lottery.</td>
</tr>
<tr>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>Valid Draw Dates</td>
<td>A reference to the draws for which the ticket is valid.</td>
</tr>
<tr>
<td></td>
<td>In the present embodiment, the date or dates of the draws for which the ticket is valid are set out in this field.</td>
</tr>
<tr>
<td></td>
<td>In another embodiment, this field may contain a list of draw identifiers corresponding the Draw ID field in the draw records 518, the date of a draw or a list or range of dates of draws for which the ticket is valid.</td>
</tr>
</tbody>
</table>
Field | Information recorded in field
---|---
Vendor Terminal Code | The vendor terminal code described above.
Verification Code | The verification code described above.
Associated Player Account | Account identification code for the player account with which the ticket is associated. If the ticket is not associated with a player account, this field will be blank or may be omitted.
Prize Data | Data relating to prizes won by the ticket. This field is described in greater detail below.
Ticket Status | The current status of the on-line lottery ticket with respect to completion of the draws for which the ticket is valid and with respect to the redemption of prizes won by the ticket, if any. The status may be one of the following: i. Draws Not Complete, indicating that at least one draw for which the ticket is valid has not been conducted; ii. Not A Winner, indicating that the draws for which the ticket is valid for have been conducted and the ticket has not won a prize; iii. Winner-Not Redeemed, indicating that the draws for which the ticket is valid for have been conducted, the ticket has won at least one prize and that the prize has not been redeemed; or iv. Winner-Redeemed, indicating that the draws for which the ticket is valid have been conducted, the ticket has won at least one prize and the prizes have been redeemed.

[0614] Information that is displayed on the ticket receipt 114 may be stored in the format that is used on the ticket or in another corresponding format. For example, the played numbers in a played number set for the Lotto 7/47 on-line lottery may be stored as six different values, or may be stored as a code representing the played numbers, or both. The lottery ticket record may contain additional information, such as the method by which the player paid for ticket, and other information.

[0615] Lottery ticket records 524 for seven tickets L1-L7 are illustrated in Lotto 7/47 ticket table 522. The draw record 518 for the Nov. 18, 2005 draw is linked to the lottery ticket records 524 for tickets L2 and L3 indicating that they are valid for that draw. Ticket L3 corresponds to ticket receipt 118 (FIG. 33) and is also valid for the November 25, December 2 and December 9 draws. The ticket record 525 for ticket L3 may contain the following information when it is first created:

Field | Information recorded in field
---|---
Ticket Code | 5933-3748-0985-3924
Issue Date/Time | Nov. 17, 2005-12:43 pm
Host On-line Lottery | Set 1: b, 12, 23, 29, 32, 37, 45
Played Number Sets | Set 2: 2, 18, 24, 28, 33, 39, 42
Associated On-line Lottery | Set 3: 12, 17, 21, 26, 31, 37, 43 (Auto-Pick)
Lottery Information | Played Number 1: 398587
Played Number 2: 957238
Valid Draw Dates | Nov. 18, 2005
Nov. 25, 2005
Dec. 2, 2005
Dec. 9, 2005
Vendor Terminal Code | 59573
Verification Code | 3423
Associated Player Account | KARINA1022
Prize Data | Unknown (draws not conducted yet)
Ticket Status | Draws Not Complete

[0616] Keno draw table 526 and Keno ticket table 528 are similar to Lotto 7/47 draw table and Lotto 7/47 ticket table and contain information relating to draws and tickets for the Keno on-line lottery. Keno draw table 526 contains draw records 518 for daily draws of the Keno on-line lottery. Lottery ticket records 524 for six tickets K1-K6 for the Keno on-line lottery are illustrated in the Keno Ticket table 528 in FIG. 37a. In this example embodiment, the Keno on-line lottery is not a host lottery for the Tag on-line lottery. The ticket records 524 for Keno tickets do not have an Associated On-line Lottery Information field. If the lottery operator operates other on-line lotteries, the lottery database 160 will have a draw table and a ticket table for each other on-line lottery.

[0617] Referring to FIG. 37c, lottery database 160 also includes on-line game event tables 508 and on-line game ticket tables 510. Player account table 502 is also illustrated in FIG. 37c. Lottery database 160 includes a Sports Line event table 532, a Sports Line ticket table 536, an Over/Under event table 540 and an Over/Under ticket table 542. In the present embodiment, the lottery database includes a separate event table 508 and on-line game ticket table 510 for each event list for each on-line game. The event tables and on-line game ticket tables in FIG. 37b are for the Sports Line and Over/Under on-line games based on event list 5845.

[0618] Each event table 508 contains one or more event records 534. Each event record 534 contains information about an event for an on-line game, such as the date and time of the event, the teams participating in the event, the various predicted outcomes that a player may choose, the odds set by the lottery operator for those outcomes and other information.

[0619] In this exemplary embodiment, each event record 534 in the Sports Line event table 532 includes the following fields:
In this exemplary embodiment, each event record 534 in the Over/Under event table 540 includes the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event number</td>
<td>The event number as indicated on the event list.</td>
</tr>
<tr>
<td>Date/Time</td>
<td>The date and time of the event. As with the event records for the Sports Line on-line game, this may be time after which a player cannot select the event for a ticket.</td>
</tr>
<tr>
<td>Event Type</td>
<td>The name of sport, league or other classification of the event.</td>
</tr>
<tr>
<td>Event Name</td>
<td>A description of the event. This field identifies the teams participating in the event.</td>
</tr>
<tr>
<td>Threshold</td>
<td>The threshold number of points.</td>
</tr>
<tr>
<td>Over Odds</td>
<td>The odds set by the lottery operator for the teams scoring over the threshold number of points according to the rules of the Over/Under on-line game.</td>
</tr>
<tr>
<td>Under Odds</td>
<td>The odds set by the lottery operator for the teams scoring under the threshold number of points according to the rules of the Over/Under on-line game.</td>
</tr>
<tr>
<td>Actual Outcome</td>
<td>The actual outcome of the event, according to the rules of the Over/Under on-line game.</td>
</tr>
</tbody>
</table>

The Actual Outcome field in an event record 534 will be blank until the event has been completed and the outcome is known. In the Sports Line event table 532, the event record 534 for event 87 on list 8845 has the following contents when it is first created:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event number</td>
<td>56</td>
</tr>
<tr>
<td>Date/Time</td>
<td>Nov. 13, 2005-5:00 pm</td>
</tr>
<tr>
<td>Event Type</td>
<td>NFL Football</td>
</tr>
<tr>
<td>Event Name</td>
<td>Kansas City v. Buffalo</td>
</tr>
<tr>
<td>Threshold</td>
<td>43.5</td>
</tr>
<tr>
<td>Over Odds</td>
<td>1.7</td>
</tr>
<tr>
<td>Under Odds</td>
<td>1.7</td>
</tr>
<tr>
<td>Actual Outcome</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

In the Over/Under event table 532, the event record 534 for event 56 on list 8845 has the following contents when it is first created:

<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event number</td>
<td>56</td>
</tr>
<tr>
<td>Date/Time</td>
<td>Nov. 13, 2005-5:00 pm</td>
</tr>
<tr>
<td>Event Type</td>
<td>NFL Football</td>
</tr>
<tr>
<td>Event Name</td>
<td>Kansas City v. Buffalo</td>
</tr>
<tr>
<td>Threshold</td>
<td>43.5</td>
</tr>
<tr>
<td>Over Odds</td>
<td>1.7</td>
</tr>
<tr>
<td>Under Odds</td>
<td>1.7</td>
</tr>
<tr>
<td>Actual Outcome</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Each on-line game ticket table 510 contains on-line game ticket records 538. Each on-line game ticket record 538 contains information relating to a ticket sold for an on-line game. In this exemplary embodiment, the ticket records 538 in the Sports Line ticket table 536 include the following fields:
<table>
<thead>
<tr>
<th>Field</th>
<th>Information recorded in field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket Code</td>
<td>The ticket code for the ticket.</td>
</tr>
<tr>
<td>Issue Date/Time</td>
<td>The date and time at which the ticket was issued by the lottery operator.</td>
</tr>
<tr>
<td>Predicted Outcomes</td>
<td>A list of the events for which the player has made a prediction and the player’s prediction for each event.</td>
</tr>
<tr>
<td>Vendor Terminal Code</td>
<td>The vendor terminal code described above.</td>
</tr>
<tr>
<td>Verification Code</td>
<td>The verification code described above.</td>
</tr>
<tr>
<td>Associated Player Account</td>
<td>Account ID code for the player account with which the ticket is associated. If the ticket is not associated with a player account, this field will be blank or may be omitted.</td>
</tr>
<tr>
<td>Wager</td>
<td>The amount that the player wagered on this ticket.</td>
</tr>
<tr>
<td>Maturation Event</td>
<td>The event following which the on-line game ticket “matures”. An on-line game ticket matures when the results for the wager made on the ticket can be determined.</td>
</tr>
<tr>
<td>Payout Value</td>
<td>The amount the player will be paid if his predictions meet the requirement for the particular game. In some games, several payout values might be recorded and one or more of them might be paid to the player if different criteria are met.</td>
</tr>
</tbody>
</table>
| Ticket Status         | The current status of the on-line game ticket with respect to the completion of the draws for which the ticket is valid and with respect to the redemption of prizes won by the ticket, if any. The status may be one of the following:  
  i. Events Not Complete, indicating that the ticket has not matured because the actual outcome of at least one event on which the ticket is based is not known;  
  ii. Not A Winner, indicating that the ticket has matured and that the player has lost the wager on the ticket;  
  iii. Winner-Not Redeemed, indicating that the player has won the wager on the ticket, but has not yet redeemed the ticket to receive the payout value; or  
  iv. Winner Redeemed, indicating that the player has won the wager on the ticket and has redeemed the ticket to receive the payout value. |

[0624] Each on-line game ticket table 510 has a Maturation Event Index (not shown) that provides an index of the ticket records 538 in the ticket table ordered by the event identified in the Maturation Event field in each of the ticket records. The Maturation Event Index may be used to identify ticket records 538 that correspond to tickets which mature after a particular event. The Sports Line ticket table 536 has a Sports Line Maturation Event Index (not shown). The Over/Under ticket table 542 has an Over/Under Maturation Event Index (not shown). In another embodiment, ticket records that have a specific maturation event may be identified by searching through each ticket record in a ticket table.

[0625] Sports Line ticket table 536 contains seven on-line game ticket records 538 corresponding to seven Sports Line on-line game tickets SL1-SL7. Ticket SL3 corresponds to ticket receipt 318 (FIG. 35). The ticket record 539 for ticket SL3, when it is first created has the following contents:

Method 3000 begins in step 3002 in which the player uses a player terminal 106 to access the player account server 162. The player terminal 106 communicates with a player interface 166 to allow the player to interact with the lottery computer system.

Referring to FIG. 39, the player website 167a (FIG. 32) includes a welcome page web 602. A player may access player account server 162 by accessing the player website 167a and accessing the welcome page web 602. Welcome web page 602 includes player account identification code field 612, an account password field 614 and an “Enter” button 616. To request access to the account checking service, the player enters his account identification code in the account identification code field 612, his account password in the account password field 614 and then clicks on the Enter button 616. The account identification code and account password entered by the player are transmitted to the player account server 162. Optionally, the account password may be encrypted before it is transmitted to the player account server 162. The account identification code may also optionally be encrypted before it is transmitted to the player account server 162.

In the present example, a player may access player website 167a using a player terminal 106 that operates a web browser. Player terminal 106c is a computer that is coupled to the Internet and operates a web browser. The welcome web page 602 is displayed on the player terminal 106c. Karina Jones uses this player terminal 106c to access the player website 167a. The player interface 166 can display parts of the player website 167a on the player terminal.

In the present example, Karina Jones enters her account identification code KARINA1022 in the account identification code field 612. She also enters her account password in the account password field 612 and clicks on the Enter button 616.
In the present example, when Karina Jones clicks the Create Voucher button 119 on the Lotto 7/47 ticket purchase voucher creation page, the web browser on her player computer 106 transmits a message to the player interface 166 containing the following proposed ticket information:

**Ticket Type Lotto 7/47**

**Manually selected number sets:**
08 12 23 29 32 37 45

**Automatically selected number sets:** 1

**Tag Numbers:** 2

**Draws:** 4

In another embodiment, the ticket type may be implicit in the message type or in the source of the message. For example, the message body of a type that indicates the on-line lottery or on-line game for which a ticket purchase voucher is being requested, or the message may indicate that the ticket purchase voucher request originated from a Lotto 7/47 ticket purchase voucher generation page.

Method 3000 then proceeds to step 3014. In this step, the new ticket purchase voucher is added to the lottery database 160. The player account server 162 adds a new voucher record 572 to the ticket purchase voucher table 570 in response to the Ticket Purchase Voucher Request 560. The player account server associates the ticket purchase voucher record with the player's account. The player's account is identified in the Player Account ID Code field in the voucher record 572. The player account server 162 also identifies the new voucher in the Player Ticket Voucher List in the player record for the player's account.

In the present example, the player account server 162 adds the voucher record for voucher 217 to the voucher table in response to the Ticket Purchase Voucher Request.

Method 3000 then proceeds to step 3016, in which the player account server 162 generates a ticket purchase voucher 113 corresponding to the Ticket Purchase Voucher Request 560. The ticket purchase voucher is generated in a format that is suitable for printing at a player terminal and on which the machine readable voucher code can be scanned using a ticket vending terminal 104. In the present embodiment, ticket purchase vouchers 113 are generated in a portable document format (PDF) that is used widely in computing.

Method 3000 then proceeds to step 3018 in which the ticket purchase voucher is transmitted to the player terminal 106 from which the Ticket Purchase Voucher Request was received and in which a copy of the ticket purchase voucher is printed at the player's terminal (or another device) by the player. The ticket purchase voucher includes the ticket purchase voucher code in a form or version suitable for scanning at a ticket vending terminal.

In addition to generating the ticket purchase voucher, the player account server may also generate a version of the ticket purchase voucher that is suitable for display at the player terminal from which the Ticket Purchase Voucher Request 560 was received. This version may be generated by the player interface 166 that is communicating with the player terminal 106. For example, "dumb" player terminals (for example a device connected via a telnet connection) may simply receive and display text from a player interface and may just detect and transmit keystrokes and other input from the player to the player interface. A player interface for such a dumb terminal may transmit text corresponding to the ticket purchase voucher to the player terminal. The text may include instructions for the player to download the ticket purchase voucher, which the player can then print at his player terminal or at another device. When the player follows the instructions, the ticket purchase voucher is transmitted to the player.

In the Karina Jones example, the player is communicating with player interface 166a, which controls the display of webpages from player website 167a on her player terminal 106c. Player interface 166a generates a webpage that includes information corresponding to the ticket purchase voucher (which will generally include text setting out some or all of the contents of the ticket purchase voucher). The webpage is transmitted to the player interface where it is displayed. The webpage includes a "Print Voucher" button. When the player clicks the Print Voucher button, the voucher is transmitted to the player interface and player can print the voucher at the player terminal or at another device.

In another embodiment, the ticket purchase voucher may be transmitted to the player without any additional version of it. The player terminal may be able to display the voucher in addition to printing it. In some embodiments, the player may only be able to print the voucher without seeing a display of it.

In the Karina Jones example, the player interface generates a webpage that includes information on the ticket purchase voucher, as well as additional information, which may include instructions on how to use the voucher, other information about the lottery operator or the lottery operator's on-line lotteries, on-line games and other products, and other information. Karina Jones clicks on the "Print Voucher" button and the voucher is printed on a printer at her player terminal.

Method 3000 then ends.

After completing method 3000, the player has a printed ticket purchase voucher 113 that corresponds to the player's selections on the ticket purchase voucher creation page in step 3010. The player can use the ticket purchase voucher to purchase a ticket for an on-line lottery or on-line game in accordance with a ticket purchase method 3100.

FIG. 41 illustrates method 3100. Method 3100 allows the lottery operator to sell a ticket to a player and correspondingly allows a player to purchase a ticket using a ticket purchase voucher 113. The steps in method 3100 are explained with reference to Karina Jones' ticket purchase voucher 117 for the Lotto 7/47 on-line lottery.

Method 3100 starts in step 3102 in which the player presents a ticket purchase voucher 113 to a ticket vendor.

Method 3100 then proceeds to step 3104, in which the ticket vendor scans the machine readable voucher code 136 (FIGS. 33-36) using the scanner or scanning device of the ticket vending terminal 104. In the present example, the machine readable ticket purchase voucher code 136 is a barcode and the scanner is a barcode scanner.

In other embodiments the scanner is selected such that it can scan the machine readable ticket purchase voucher code used in such embodiments. The ticket vending terminal 104 transmits the ticket purchase voucher code of the ticket purchase voucher to the ticket server 164.

Method 3100 then proceeds to step 3106, in which the lottery computer system 102 issues a ticket to the player. The ticket server 164 receives the ticket purchase voucher code from the ticket vending terminal 104 and obtains the corresponding ticket purchase voucher record 572 from the
ticket purchase voucher table 570. The ticket purchase voucher record 572 contains proposed ticket information corresponding to the player’s selections for the ticket purchase voucher. The ticket server 164 adds a ticket record to the appropriate ticket table corresponding to the Ticket Type in the proposed ticket information. The ticket server 164 associates the ticket with the player’s account by identifying the player’s account in the Associated Player Account field of the ticket record and by identifying the new ticket purchase voucher in the Player Ticket Purchase Voucher List field of the corresponding player account record 514.

The ticket server 164 transmits Ticket Receipt Data 554 to the ticket vending terminal 104 from which the voucher code was received in step 3104.

The ticket server 164 transmits Ticket Receipt Data 554 to the ticket vending terminal 104 on the ticket receipt 114 for the ticket.

In the Karumi Jones example, the Ticket Receipt Data 554 includes the information printed on the ticket receipt 118 (FIG. 33). The Ticket Receipt Data 554 may also include additional information, such as formatting information to indicate how the information printed on the ticket receipt 114 should be laid out. The ticket vending terminal 104 prints a ticket receipt 114 setting out the ticket information.

The ticket vendor gives the ticket receipt 114 to the player and method 3100 ends.

In system 100, tickets are issued to players who have created a player account with the lottery operator at the lottery computer system. Tickets issued to a player in method 3100 are associated with the player’s account.

Reference is next made to FIG. 42. In other embodiments, a single ticket purchase voucher may be used to purchase more than one ticket. The player is permitted to make selections for more than one ticket and proposed ticket information for each ticket is recorded in the player account server or elsewhere in the lottery computer system. When the player is done making selections for tickets, the player requests a ticket purchase voucher for all of the tickets. The proposed ticket information for each of the tickets is recorded in the lottery database and associated with a single ticket purchase voucher record. For example, the proposed ticket information may be stored in the ticket purchase voucher record or the ticket purchase voucher record may include a reference to the proposed ticket information, which may be stored separately.

In such an embodiment, in step 3106 of method 3100, when the ticket server receives a ticket issue request based on the multi-ticket ticket purchase voucher, it issues tickets corresponding to all of the proposed ticket information associated with the ticket purchase voucher’s code. Each of the tickets is associated with the corresponding player account.

FIG. 42 illustrates a ticket purchase voucher 717 that may be used in such an embodiment to purchase more than one ticket. Ticket purchase voucher 717 has ticket information section 732 and a machine readable ticket purchase code 736 in a ticket purchase voucher code section 734. Ticket information section 732 sets out a player’s selections for three on-line lottery tickets. In the lottery database, proposed ticket information for all three tickets is recorded within or accessible from the ticket purchase voucher record for the ticket purchase voucher 717. When ticket purchase voucher 717 is scanned at a ticket vending terminal 104, the ticket vending terminal transmits the ticket purchase voucher code to the ticket server. The ticket server issues all three tickets and the player receives three corresponding ticket receipts 114.

In the embodiments described above, a player presents a ticket purchase voucher 113 to a ticket vendor in step 3102 of method 3100 to purchase a ticket. A ticket purchase voucher may also be used to purchase a ticket from a player operated ticket vending terminal. The player may scan the barcode of the ticket purchase voucher at the player operated ticket vending terminal, which then communicates with the lottery computer system and prints a ticket receipt or receipts corresponding to the ticket vending terminal, as described above.

In each of the embodiments described above, a player obtains a printed ticket purchase voucher at a player terminal. The ticket purchase voucher code is provided to a ticket vending terminal by scanning the ticket purchase voucher code from the ticket purchase voucher. In other embodiments, the player may be able to provide a ticket purchase voucher code to a ticket vending terminal in another form.

In some embodiments, step 3018 of method 3000, the player account server provides a version of the ticket purchase voucher in which the ticket purchase voucher code may be displayed on the screen of a portable player terminal such as a PDA or cell phone. For example, a version of the ticket purchase voucher may be provided which displays the ticket purchase voucher code as a bar code on the screen. The player may be able to store the ticket purchase voucher in the portable player terminal. The player may then purchase tickets by displaying the ticket purchase voucher on the screen of the portable player terminal and scanning the displayed bar code at a ticket vending terminal or allowing a ticket vendor to do so during step 3104 of method 3100.

In other embodiments, a ticket vending terminal may be configured to receive a ticket purchase voucher code through a radio frequency or optical signal. For example, in step 3018, the player account server may provide a ticket purchase voucher code in a numeric form or a coded form that can be transmitted by a portable player terminal. The ticket purchase voucher code may be stored on the portable player terminal. During step 3104, the player may cause the portable player terminal to transmit a radio frequency or optical signal (such as an infra-red signal) including the ticket purchase voucher code to a ticket vending terminal with a corresponding receiver. In other embodiments, the player may physically couple the portable player terminal to the ticket vending terminal with a cable and may transmit an electronic signal including the ticket purchase voucher code.

Any other method may be used to input a ticket purchase voucher code into a ticket vending terminal. For example, in some embodiments, a player or ticket vendor may be able to manually enter a ticket purchase voucher code into a ticket vending terminal using a keypad.

1 claim:

1. Systems, apparatus and methods for allowing lottery players to use a ticket checking service in relation to tickets associated with an account established by or for the player.

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