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(54) **METHOD AND SYSTEM FOR PLAYER GROUP SHARING AND REDISTRIBUTING GAMING AWARDS**

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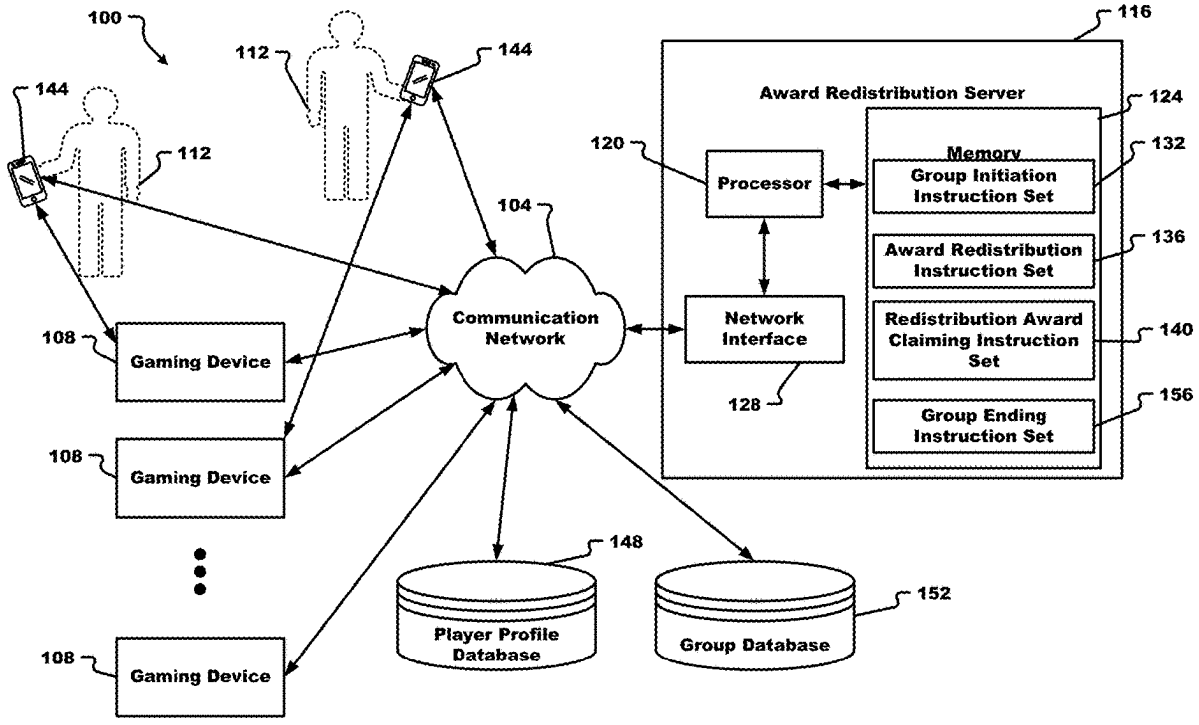
(57) **ABSTRACT**

An electronic gaming system is capable of forming a multi-player group to play a game; receiving, from a first gaming device, first game play information for a first game played by a first player member of the multi-player group on the first gaming device; determining that the first game play information comprises a first winning outcome corresponding to a first winning outcome; in response, allocating the first winning outcome among the first and second player members; and notifying a second gaming device of the second player member that the second player member has received the second portion of the first winning outcome.



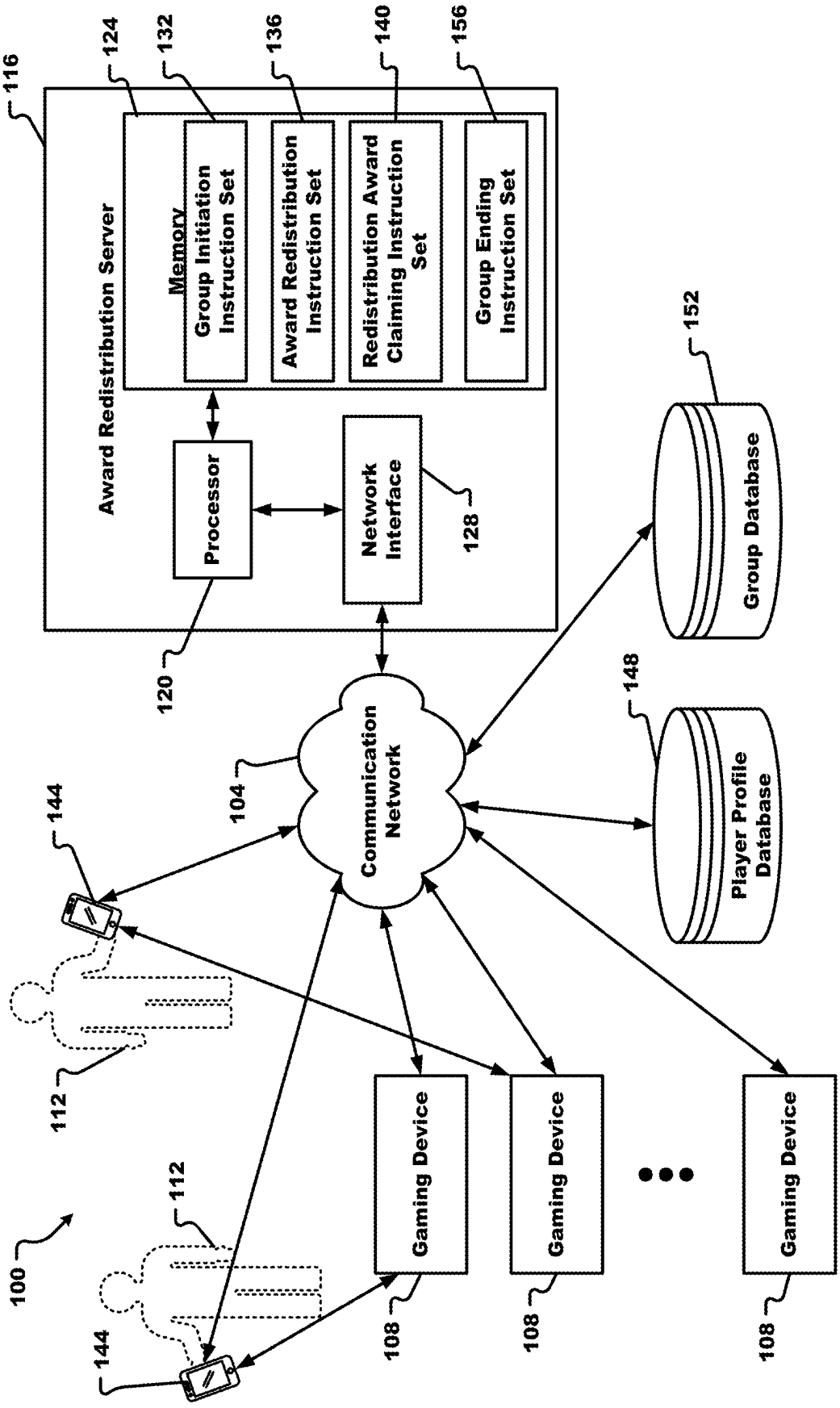

116
124
132
136
140
156
Award Redistribution Server
Memory
Group Initiation Instruction Set
Award Redistribution Instruction Set
Redistribution Award Claiming Instruction Set
Group Ending Instruction Set
Processor
Network Interface
128
120
152
Group Database
148
Player Profile Database
104
Communication Network
144
112
100
Gaming Device
Gaming Device
Gaming Device
108
108
108

Fig. 1

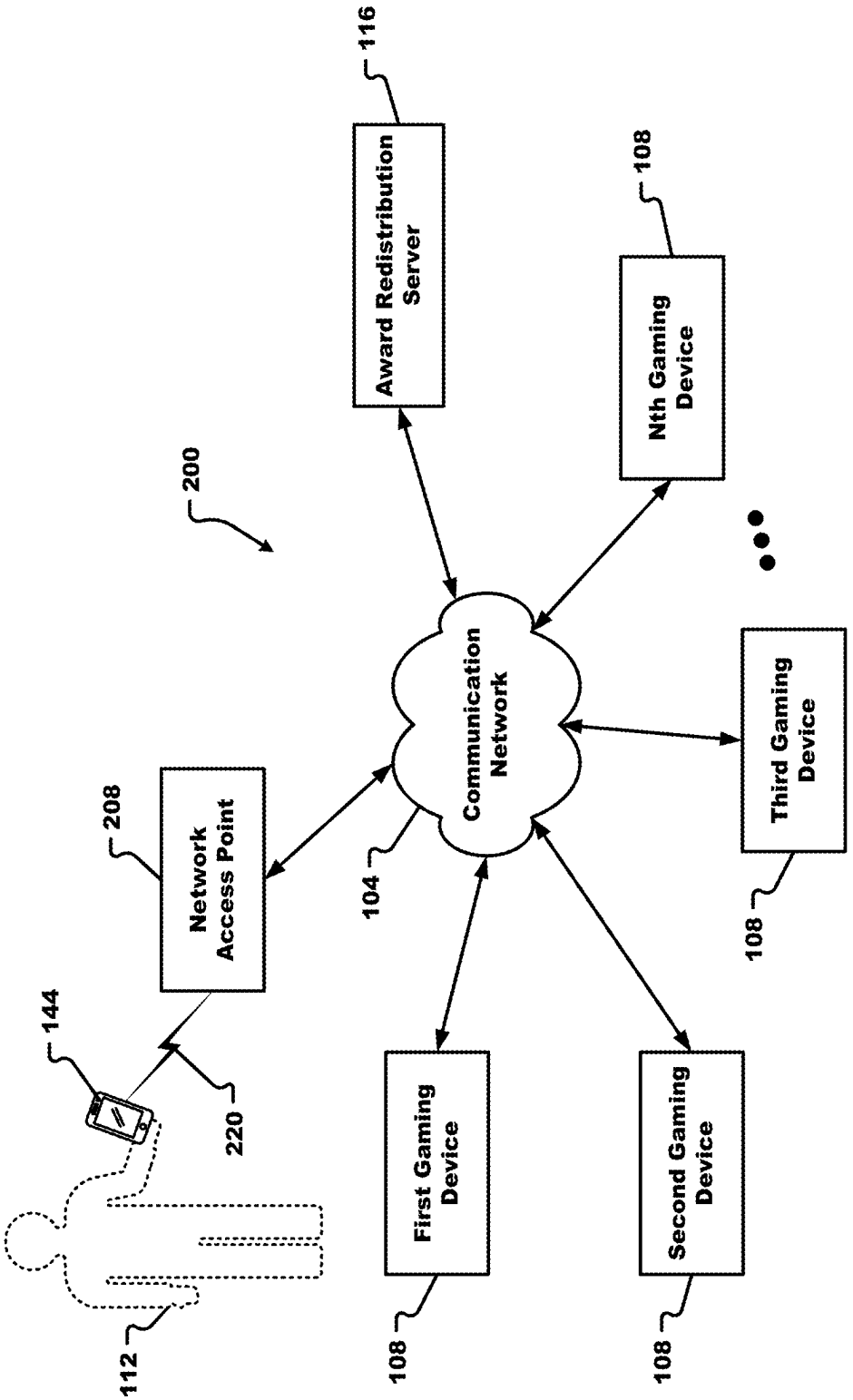

116
Award Redistribution Server
108
Nth Gaming Device
200
Communication Network
Third Gaming Device
208
Network Access Point
104
108
144
220
First Gaming Device
Second Gaming Device
108
108
112

Fig. 2

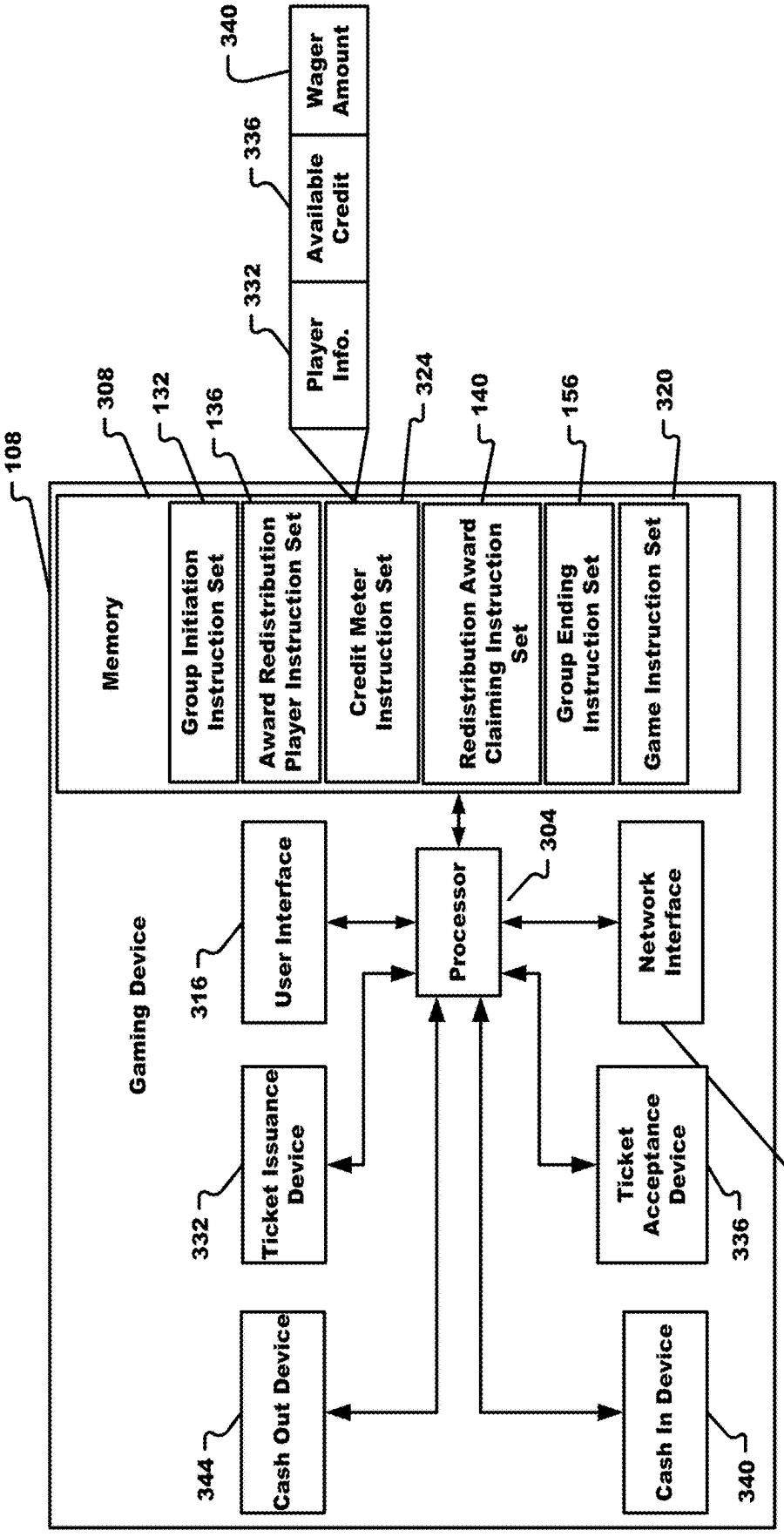

108
Gaming Device
Memory
308
Group Initiation Instruction Set
132
Award Redistribution Player Instruction Set
136
Credit Meter Instruction Set
324
Redistribution Award Claiming Instruction Set
140
Group Ending Instruction Set
156
Game Instruction Set
320
Player Info.
332
Available Credit
336
Wager Amount
340
Processor
304
User Interface
316
Network Interface
312
Ticket Issuance Device
332
Ticket Acceptance Device
336
Cash Out Device
344
Cash In Device
340

Fig. 3

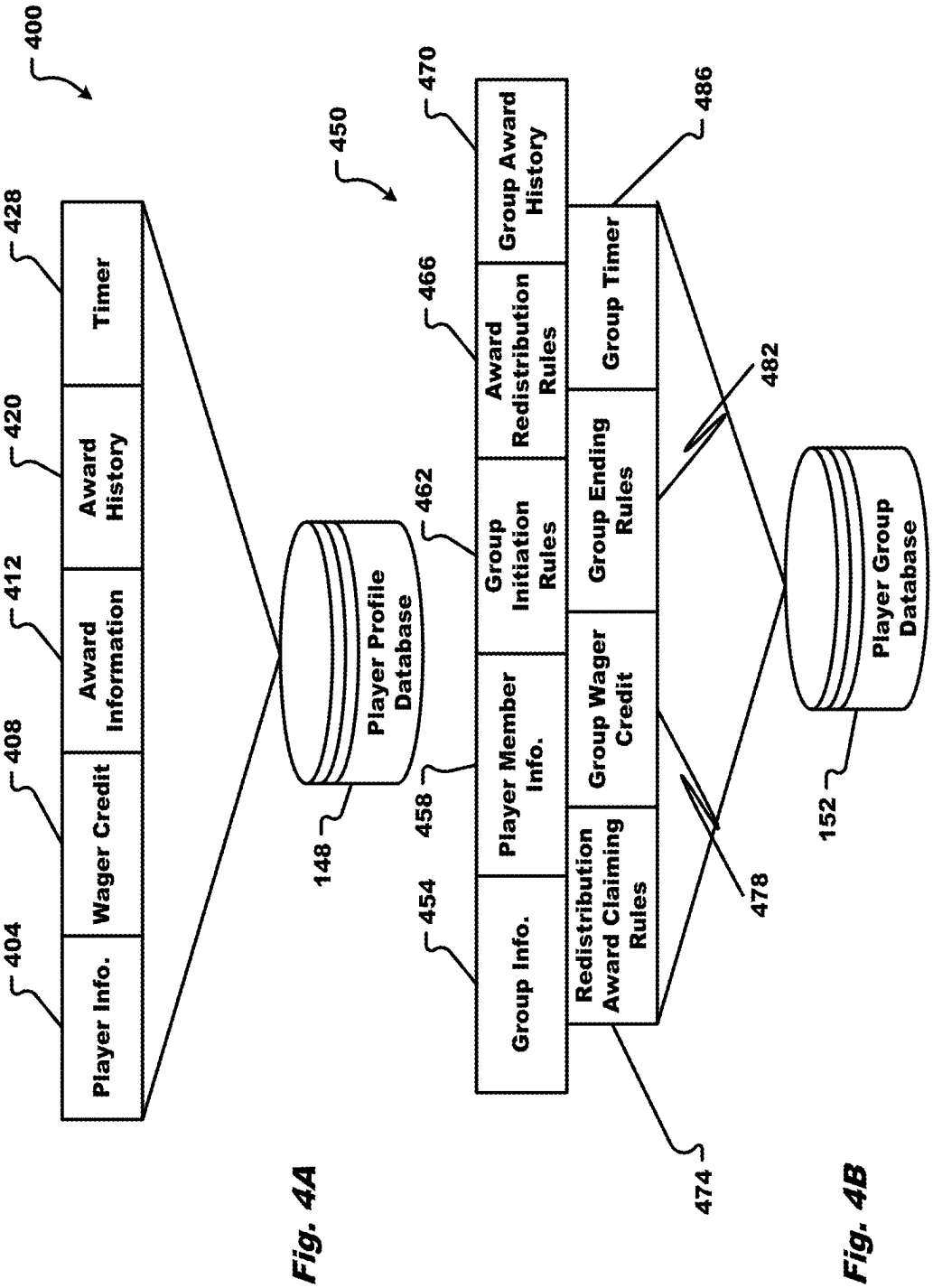

400
404
Player Info.
408
Wager Credit
412
Award Information
420
Award History
428
Timer
148
Player Profile Database
450
454
Group Info.
458
Player Member Info.
462
Group Initiation Rules
466
Award Redistribution Rules
470
Group Award History
474
Redistribution Award Claiming Rules
478
Group Wager Credit
482
Group Ending Rules
486
Group Timer
152
Player Group Database

Fig. 4A

Fig. 4B

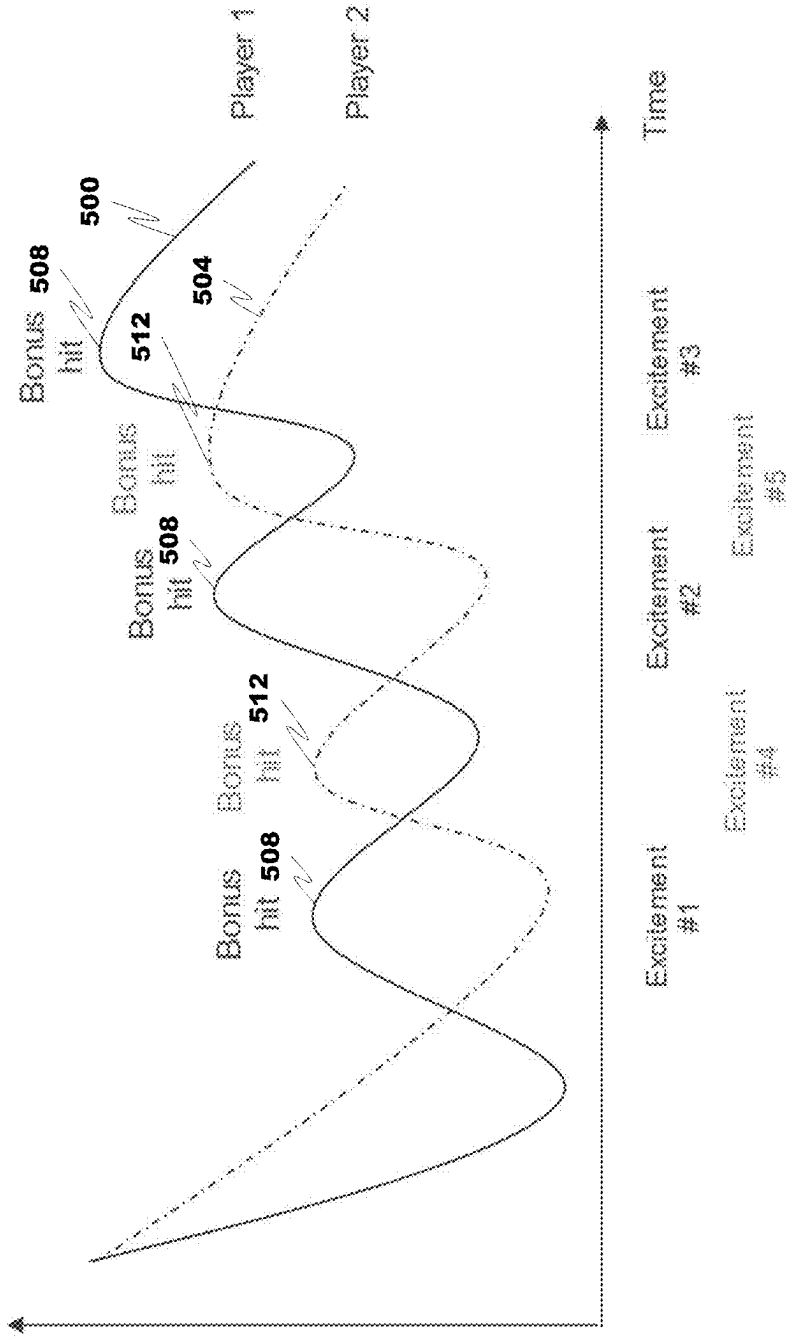

Player 1
Player 2
Time
500
504
508
512
Bonus hit
Excitement #1
Excitement #2
Excitement #3
Excitement #4
Excitement #5

Fig. 5

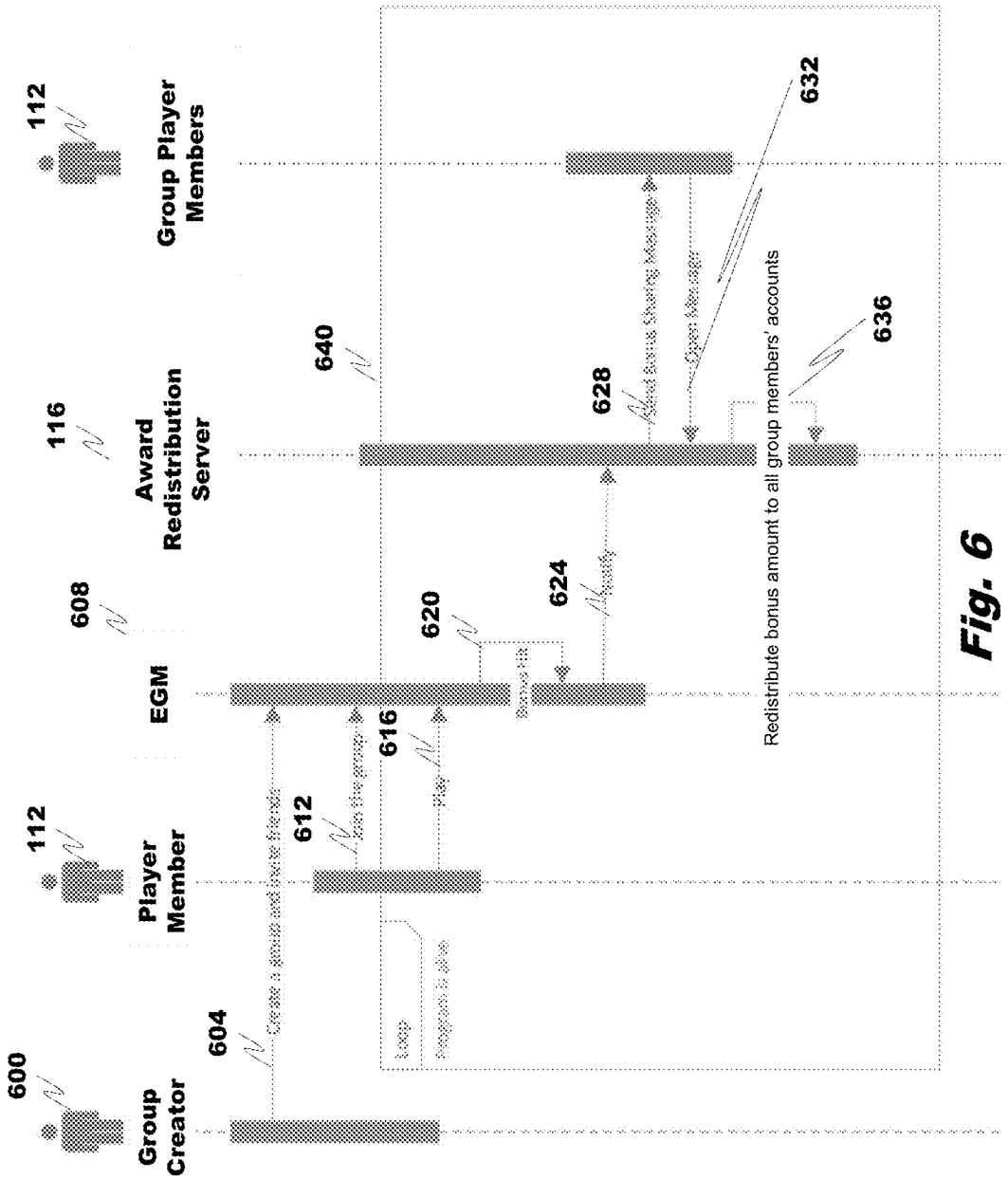

600
Group Creator
604
Create a group and invite friends
112
Player Member
612
Join the group
616
Play
EGM
608
620
Bonus win
624
Update
Award Redistribution Server
116
640
628
Send bonus sharing message
632
Open message
636
Redistribute bonus amount to all group members' accounts
112
Group Player Members
Loop
Repeat n time

Fig. 6

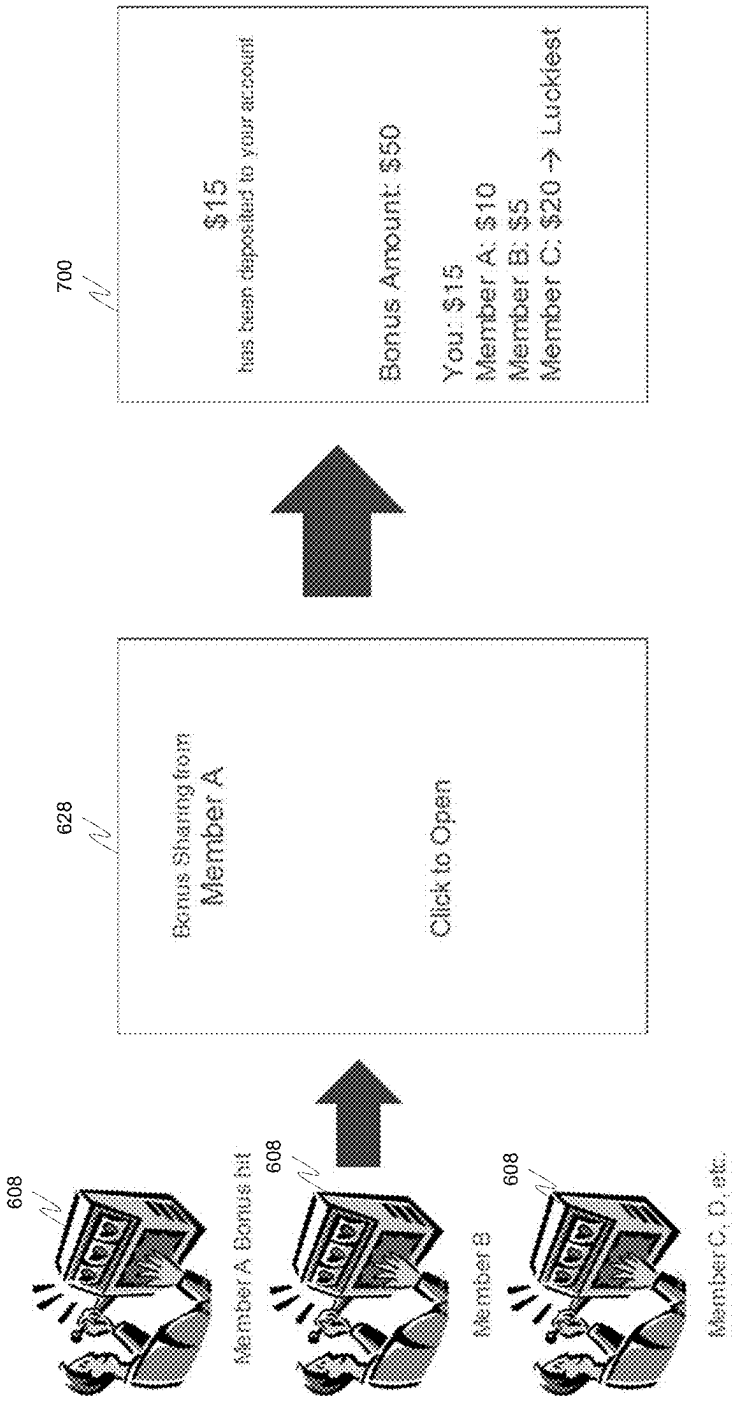

608
Member A Bonus hit
608
Member B
608
Member C, D, etc.
628
Bonus Sharing from
Member A
Click to Open
700
$15
has been deposited to your account
Bonus Amount: $50
You: $15
Member A: $10
Member B: $5
Member C: $20 → Luckiest

Fig. 7

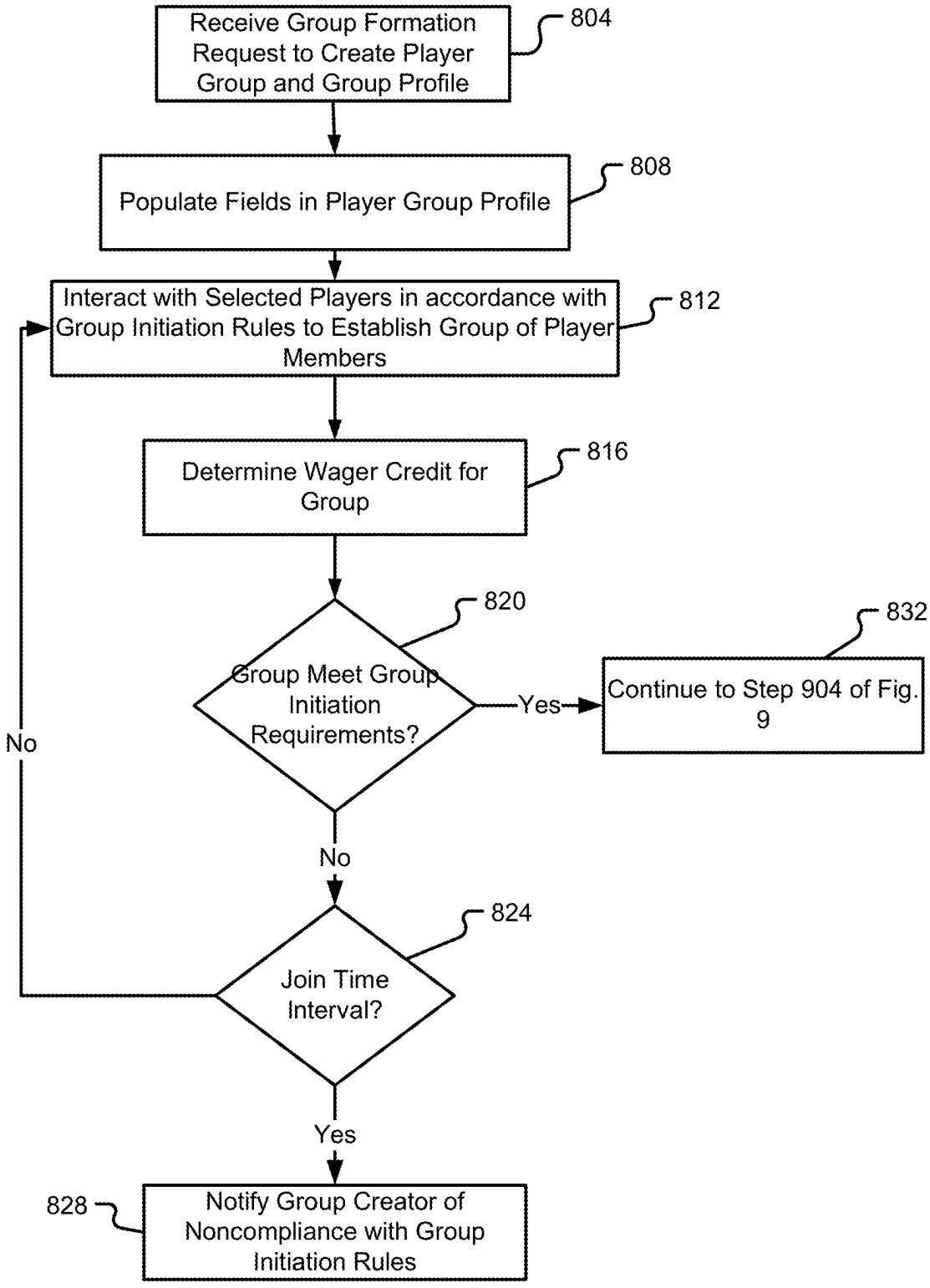

Receive Group Formation Request to Create Player Group and Group Profile
804
Populate Fields in Player Group Profile
808
Interact with Selected Players in accordance with Group Initiation Rules to Establish Group of Player Members
812
Determine Wager Credit for Group
816
Group Meet Group Initiation Requirements?
820
Yes
Continue to Step 904 of Fig. 9
832
No
No
Join Time Interval?
824
Yes
Notify Group Creator of Noncompliance with Group Initiation Rules
828

Fig. 8

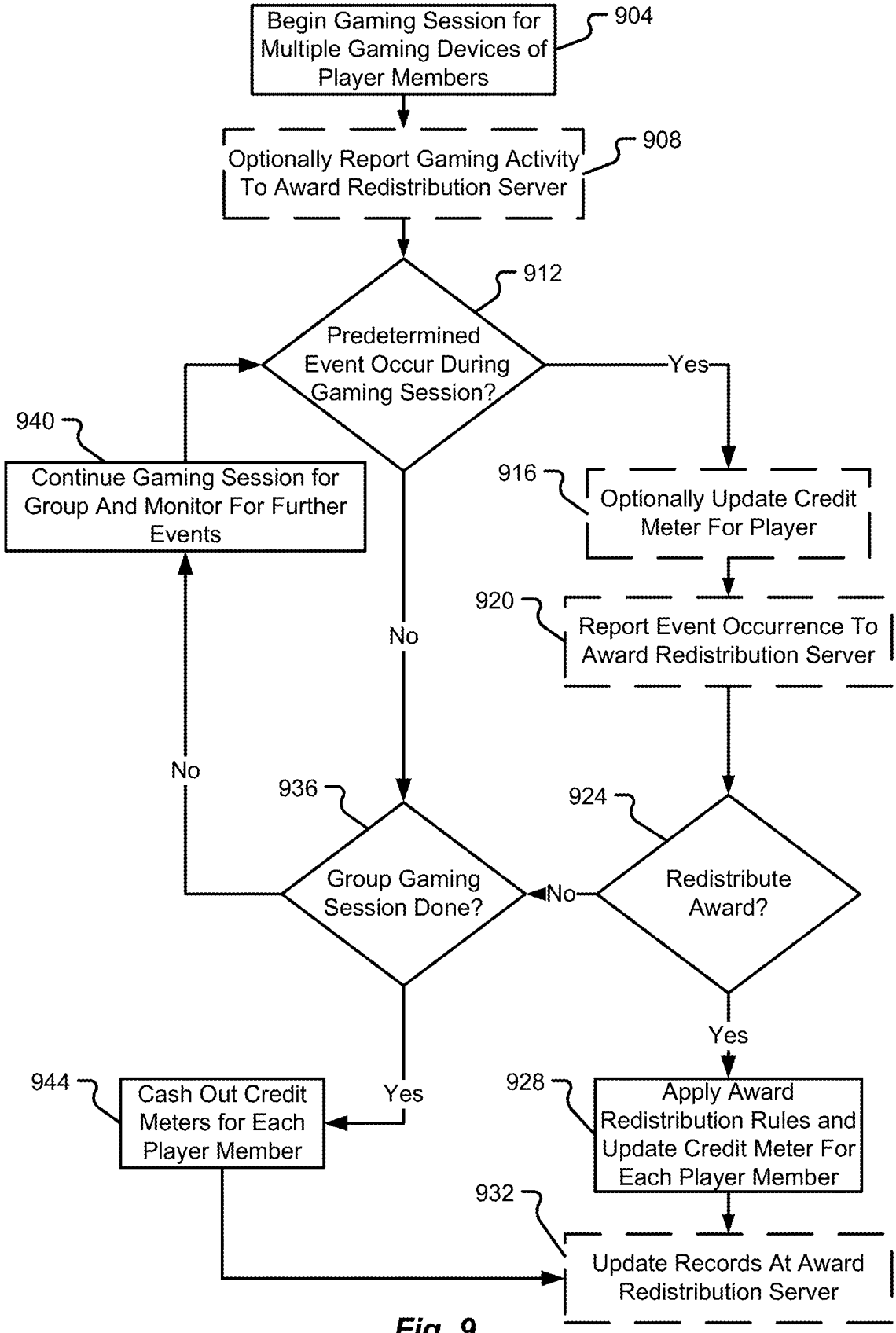

Begin Gaming Session for Multiple Gaming Devices of Player Members
904
Optionally Report Gaming Activity To Award Redistribution Server
908
912
Predetermined Event Occur During Gaming Session?
Yes
940
Continue Gaming Session for Group And Monitor For Further Events
916
Optionally Update Credit Meter For Player
920
Report Event Occurrence To Award Redistribution Server
No
No
936
Group Gaming Session Done?
924
Redistribute Award?
No
Yes
944
Cash Out Credit Meters for Each Player Member
Yes
928
Apply Award Redistribution Rules and Update Credit Meter For Each Player Member
932
Update Records At Award Redistribution Server

Fig. 9

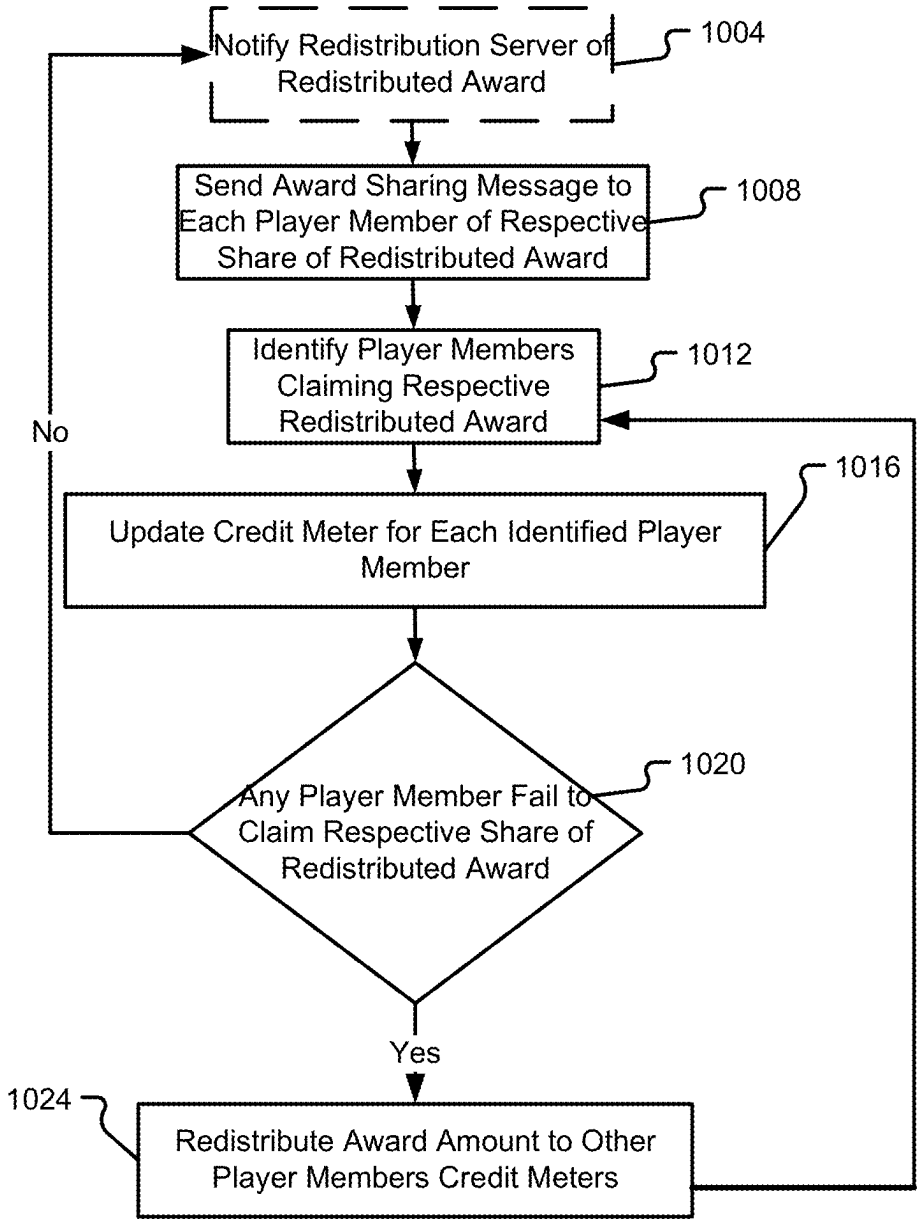

Notify Redistribution Server of Redistributed Award
1004
Send Award Sharing Message to Each Player Member of Respective Share of Redistributed Award
1008
Identify Player Members Claiming Respective Redistributed Award
1012
No
Update Credit Meter for Each Identified Player Member
1016
Any Player Member Fail to Claim Respective Share of Redistributed Award
1020
Yes
1024
Redistribute Award Amount to Other Player Members Credit Meters

Fig. 10

METHOD AND SYSTEM FOR PLAYER GROUP SHARING AND REDISTRIBUTING GAMING AWARDS

CROSS REFERENCE TO RELATED APPLICATION

[0001] The present application is a continuation of and claims priority to U.S. application Ser. No. 18/423,466, filed Jan. 26, 2024, which is a continuation of and claims priority to U.S. application Ser. No. 17/965,152, filed Oct. 13, 2022, now U.S. Pat. No. 11,935,364, issued Mar. 19, 2024, which is a continuation of and claims priority to U.S. application Ser. No. 17/479,235, filed Sep. 20, 2021, now U.S. Pat. No. 11,514,756, issued Nov. 29, 2022, which is a continuation of U.S. application Ser. No. 16/280,127, filed Feb. 20, 2019, now U.S. Pat. No. 11,158,169, issued Oct. 26, 2021, the entire disclosures of which are hereby incorporated by reference.

BACKGROUND

[0002] The present disclosure relates generally to gaming systems and, in particular, to award redistribution in a gaming system.

[0003] In slots and other games of chance, casinos may use smaller awards to attract players, prolong games, and increase player loyalty.

BRIEF SUMMARY

[0004] In certain embodiments, the present disclosure relates to an electronic gaming system in which awards, such as bonuses, are capable of being redistributed among multiple player members of a group during a group gaming session. In some embodiments, the electronic gaming system comprises a communication interface, a processor coupled with the communication interface, and a memory coupled with and readable by the processor and storing therein a set of instructions. The set of instructions, when executed by the processor causes the processor to form a multi-player group to play a gaming session, the multi-player group comprising first and second player members corresponding to first and second gaming devices, respectively; receive, from the first gaming device, first game play information for a first game played by the first player member on the first gaming device; determine that the first game play information comprises a first winning outcome corresponding to a first winning outcome; in response to the determination that the first player member has won the first winning outcome, allocate the first winning outcome among the first and second player members, wherein a first portion of the first price is allocated to the first player member and a second portion of the first winning outcome is allocated to the second player member; and notify the second gaming device that the second player member has received the second portion of the first winning outcome.

[0005] In some embodiments, a method for sharing player awards in a gaming system comprises forming a multi-player group to play multiple games in a group gaming session; receiving game play information for a game; determining that the game play information comprises a winning outcome corresponding to an award; in response to determining that the game play information comprises the winning outcome, allocating, the winning outcome among the player members of the multi-player group; and notifying a gaming device corresponding to each player member of the multi-player group of the share of the winning outcome allocated to the respective player member.

[0006] In some embodiments, a system is provided that includes: a user interface, a processor coupled with the user interface, and a memory coupled with and readable by the processor and storing therein a set of instructions which, when executed by the processor causes the processor to: receive a group formation request from a player member to form a multi-player group comprising the player member, the group formation request comprising a number of player members invited to be in the multi-player group, optionally an invitation code to be input by each of the invited player members, and a predetermined rule set defining the winning outcome allocation among the player members of the multi-player group and the duration of the multi-player group; cause the user interface to notify the player member that the multi-player group has been formed; while a game of a gaming session is played by the player member, receive an award sharing message that a different player member in the group has won a winning outcome in a separate game of the gaming session and a share of the winning outcome allocated to the player member; and cause the user interface to notify the player member that the player member has won the allocable share of the winning outcome.

[0007] Additional features are described herein and will be apparent from the following Description and the figures.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0008] FIG. **1** is a block diagram of a gaming system accordance with embodiments of the present disclosure;

[0009] FIG. **2** is a block diagram depicting additional aspects of a gaming system in accordance with embodiments of the present disclosure;

[0010] FIG. **3** is a block diagram depicting details of an electronic gaming machine in accordance with embodiments of the present disclosure;

[0011] FIG. **4**A is a block diagram depicting an illustrative data structure used in a player profile database in accordance with embodiments of the present disclosure;

[0012] FIG. **4**B is a block diagram depicting an illustrative data structure used in a player group database in accordance with embodiments of the present disclosure;

[0013] FIG. **5** is a plot of excitement level (vertical axis) versus time (horizontal axis) in accordance with embodiments of the present disclosure;

[0014] FIG. **6** is a block diagram depicting messaging flows in accordance with embodiments of the present disclosure;

[0015] FIG. **7** is a block diagram depicting award redistribution notification messages in accordance with embodiments of the present disclosure;

[0016] FIG. **8** is a flow diagram depicting a method of forming a group of players redistributing awards among group player members in the group in accordance with embodiments of the present disclosure;

[0017] FIG. **9** is a flow diagram a method of redistributing awards among group player members in the group during a gaming session in accordance with embodiments of the present disclosure; and

[0018] FIG. **10** is a flow diagram depicting a method of redistributing unclaimed awards among group player mem-

bers in the group during a gaming session in accordance with embodiments of the present disclosure.

DETAILED DESCRIPTION

[0019] Embodiments of the present disclosure will be described in connection with a gaming system having one or multiple user devices that enable gaming activity. While certain embodiments of the present disclosure will reference the use of an Electronic Gaming Machine (EGM) as a gaming device that enables players to participate in gaming activity, it should be appreciated that embodiments of the present disclosure are not so limited. Embodiments of the present disclosure will be described in connection with a gaming system that can provide an improved gaming experience for a player by increasing a number and frequency of player awards while increasing gaming revenue for casinos (without requiring additional casino funding or change of casino payout tables for the games in the gaming session). In some embodiments, the gaming system can enable a group of players to redistribute and share in one another's awards and experience higher levels of excitement and customer satisfaction due to group participation in award-winning events. The excitement, happiness, and lucky times shared by the player members in the group are illustrated in FIG. **5**, which is a plot of excitement level (vertical axis) versus time (horizontal axis). A first waveform **500** represents a time-dependent excitement profile for a first player member (referenced as "player 1") while a second waveform **504** represents a time-dependent excitement profile for a second player member (referenced as "player 2"). The first player member has bonus hit events at points **508** while the second player member has bonus hit events at points **512**. Redistribution of shared portions of the bonus causes the first player member to share in the second player member's experience in bonus hit events **512**, and the second player member to share in the first player member's experience in bonus hit events **508**. If enough player members are in the group, the peaks of each waveform associated with each of the player members can merge, through award sharing and redistribution, into a more linear waveform. This causes the overall excitement levels of each player member to rise over time as shown by the upward trend of each of the first and second waveforms **500** and **504**.

[0020] The gaming experience can be further improved in many applications. Games can have payout tables which will enable players to win smaller and more frequent bonuses compared to normal payout tables and custom design special effects for award sharing, particularly for the member of the group receiving the largest portion from sharing in a randomly distributed award sharing winning outcome.

[0021] The multi-player group can enhance user social experiences. Players can use a service window or mobile application product to receive an award sharing message through a mobile device, which can be used by group player members that are not in the casino.

[0022] The improved player experience may result in increased player loyalty due to the fact that the players have more opportunities to win and a more continuous player engagement is achieved. The devices that enable such an improved player experience may be more desirable than devices and systems that simply adhere to payout tables providing a single player with smaller and more frequent awards.

[0023] With reference now to FIG. **1**, details of an illustrative gaming system **100** will be described in accordance with at least one embodiment of the present disclosure. The components of the gaming system **100**, while depicted as having particular instruction sets and devices, are not necessarily limited to the examples depicted herein. Rather, a gaming system **100** according to embodiments of the present disclosure may include one, some, or all of the components depicted in the gaming system **100** and does not necessarily need to include all of the components in a single device. For instance, the components of a server may be distributed amongst a plurality of servers and/or other devices (e.g., a gaming device, portable user device, etc.) in the gaming system **100** without departing from the scope of the present disclosure.

[0024] The gaming system **100** is shown to include a communication network **104** that interconnects and facilitates machine-to-machine communications between one or multiple gaming devices **108**, a player profile database **148**, a group database **152**, and an award distribution server **116**. It should be appreciated that the communication network **104** may correspond to one or many communication networks without departing from the scope of the present disclosure. In some embodiments, the various gaming devices **108** and award redistribution server(s) **116** may be configured to communicate using various nodes or components of the communication network **104**. The communication network **104** may comprise any type of known communication medium or collection of communication media and may use any type of protocols to transport messages between endpoints. The communication network **104** may include wired and/or wireless communication technologies. The Internet is an example of the communication network **104** that constitutes an Internet Protocol (IP) network consisting of many computers, computing networks, and other communication devices located all over the world, which are connected through many telephone systems and other means. Other examples of the communication network **104** include, without limitation, a standard Plain Old Telephone System (POTS), an Integrated Services Digital Network (ISDN), the Public Switched Telephone Network (PSTN), a Local Area Network (LAN), a Wide Area Network (WAN), a cellular network, and any other type of packet-switched or circuit-switched network known in the art. In addition, it can be appreciated that the communication network **104** need not be limited to any one network type, and instead may be comprised of a number of different networks and/or network types. Moreover, the communication network **104** may comprise a number of different communication media such as coaxial cable, copper cable/wire, fiber-optic cable, antennas for transmitting/receiving wireless messages, and combinations thereof.

[0025] In some embodiments, the gaming devices **108** may be distributed throughout a single property or premises (e.g., a single casino floor) or the gaming devices **108** may be distributed among a plurality of different properties. In a situation where the gaming devices **108** are distributed in a single property or premises, the communication network **104** may include at least some wired connections between network nodes. As a non-limiting example, the nodes of the communication network **104** may communicate with one another using any type of known or yet-to-be developed communication technology. Examples of such technologies

include, without limitation, Ethernet, SCSI, PCIe, RS-232, RS-485, USB, ZigBee, WiFi, CDMA, GSM, HTTP, TCP/IP, UDP, etc.

[0026] The gaming devices **108** may utilize the same or different types of communication protocols to connect with the communication network **104**. It should also be appreciated that the gaming devices **108** may or may not present the same type of game to players **112**. For instance, a first gaming device **108***a* and a second gaming device **108***b* may correspond to gaming devices that present a slot game. In another example, the first gaming device **108***a* may correspond to a slot game and the second gaming device **108***b* may correspond to a video poker game, and other gaming devices may present other types of games or a plurality of different games for selection and eventual play by the players **112**. It may be possible for the some of the gaming devices **108** to communicate with one another via the communication network **104**. In some embodiments, one or more of the gaming devices **108** may only be configured to communicate with a centralized management server and/or the award distribution server **116**. Although not depicted, the system **100** may include a separate server or collection of servers that are responsible for managing the operation of the various gaming devices **108** in the gaming system **100**. It should also be appreciated that the award distribution server **116** may or may not be co-located with one or more gaming devices **108** in the same property or premises. Thus, one or more gaming devices **108** may communicate with the award distribution server **116** over a WAN, such as the Internet. In such an event, a tunneling protocol or Virtual Private Network (VPN) may be established over some of the communication network **104** to ensure that communications between a gaming device **108** and a remotely-located server **116** are secured. Additionally or alternatively, one or multiple gaming devices **108** may function as the award distribution server **116**.

[0027] One, some, or all of the gaming devices **108** may correspond to a type of device that enables a first player **112** to interact with a second player **112** in connection with playing games of chance and/or skill. A gaming device **108** may include any type of known gaming device such as a slot machine, a table game, an electronic table game (e.g., video poker), a skill-based game, etc. The gaming device **108** can be in the form of an electronic gaming machine (EGM), virtual gaming machine, video game gambling machine (VGM), or other computing device, personal gaming device, or collection of computing devices.

[0028] In addition to playing games on a gaming device **108**, the players **112** may also be allowed to interact with and play games of chance and/or skill on respective mobile devices **144**. A mobile device **144** may correspond to a player's **112** personal device (e.g., a smartphone) or to a device issued to the player **112** during the player's visit at a particular casino. It should be appreciated that the player **112** may play games directly on their mobile device **144** and/or the mobile device **144** may be in communication with a gaming device **108** such that the mobile device **144** provides the human-to-machine interface for the player **112** to the gaming device **108**. As shown in FIG. **1**, the mobile device **144** may be in communication with the communication network **104** or in direct communication (e.g., via Bluetooth, WiFi, etc.) with a gaming device **108**. Non-limiting examples of a mobile device **144** include a cellular phone, a smart phone, a tablet, a wearable device, an augmented reality headset, a virtual reality headset, a laptop, a Personal Computer (PC), or the like.

[0029] The award distribution server **116** is further shown to include a processor **120**, memory **124**, and a network interface **128**. These resources may enable functionality of the award distribution server **116** as will be described herein. For instance, the network interface **128** provides the server **116** with the ability to send and receive communication packets or the like over the communication network **104**. The network interface **128** may be provided as a network interface card (NIC), a network port, drivers for the same, and the like. Communications between the components of the server **116** and other devices connected to the communication network **104** may all flow through the network interface **128**.

[0030] The processor **120** may correspond to one or many computer processing devices. For instance, the processor **120** may be provided as silicon, as a Field Programmable Gate Array (FPGA), an Application-Specific Integrated Circuit (ASIC), any other type of Integrated Circuit (IC) chip, a collection of IC chips, a microcontroller, a collection of microcontrollers, or the like. As a more specific example, the processor **120** may be provided as a microprocessor, Central Processing Unit (CPU), or plurality of microprocessors that are configured to execute the instructions sets stored in memory **124**. Upon executing the instruction sets stored in memory **124**, the processor **120** enables various functions of the award distribution server **116**.

[0031] The memory **124** may include any type of computer memory device or collection of computer memory devices. The memory **124** may be volatile or non-volatile in nature and, in some embodiments, may include a plurality of different memory devices. Non-limiting examples of memory **124** include Random Access Memory (RAM), Read Only Memory (ROM), flash memory, Electronically-Erasable Programmable ROM (EEPROM), Dynamic RAM (DRAM), etc. The memory **124** may be configured to store the instruction sets depicted in addition to temporarily storing data for the processor **120** to execute various types of routines or functions. Although not depicted, the memory **124** may include instructions that enable the processor **120** to store data into a player profile database **148** and/or player group database **152** and retrieve information from the databases. Alternatively or additionally, the player profile database **148** or data stored therein may be stored internal to the server **116** (e.g., within the memory **124** of the server **116** rather than in a separate database). Alternatively or additionally, the player group database **152** or data stored therein may be stored internal to the server **116**.

[0032] Illustrative instruction sets that may be stored in memory **124** include, without limitation, a group initiation instruction set **132**, an award redistribution instruction set **136**, redistribution award claiming instruction set **140**, and a group ending instruction set **156**. Functions of the server **116** enabled by these various instruction sets will be described in further detail herein. It should be appreciated that the instruction sets depicted in FIG. **1** may be combined (partially or completely) with other instruction sets or may be further separated into additional and different instruction sets, depending upon configuration preferences for the server **116**. Said another way, the particular instruction sets depicted in FIG. **1** should not be construed as limiting embodiments described herein.

[0033] In some embodiments, the group initiation set **132**, when executed by the processor **120**, may enable the award distribution server **116** to create a group of players, or player members, that share gaming awards with other player members. The group initiation instruction set applies group initiation rules that define the requirements for an award redistribution group to be validly formed. For example, the group initiation rules define a minimum or maximum number of player members and minimum or maximum funding amount in a group wager credit account that funds game wagers of the player members. A group can be formed when a gaming device receives a group formation request to form a gaming award sharing group. The request typically specifies a number and identity (such as a name of the player, link to a player profile for the player, or other identifier) and/or contact information (such as electronic address of the player's mobile device **144**, a uniform resource locater of the player's web page on a social network web site, email address of the player, or other contact information) of players to be invited to join the group, optionally an invitation code, and criteria to end award redistribution in the group. When the invited players enter the invitation code, the group is formed and a group gaming session can be initiated. In another example, the gaming device receives the group formation request, and the gaming system **100** broadcasts the group formation information to all or portion of the casino floor. Other players, with whom the group creator may or may not be familiar, can join or select the group as a preferred group from a group list view of multiple different groups concurrently being formed and then join. The group gaming session starts when a specified player amount is reached within a specified time period. This example enables players to visit a casino and play in a group gaming session with a group of strangers. In the group gaming session, each of the player members plays a separate, independent, or discrete, game on a corresponding gaming device **108** and shares in one another's awards.

[0034] In some embodiments, the award redistribution instruction set **136**, when executed by the processor **120**, may enable the award distribution server **116** to apply award redistribution rules to know when and how to redistribute an award of a player member among other player members in the group. The award may be eligible for sharing, for example, when it falls within a defined award amount range, when it is below a defined award amount, or when it is above a defined award amount. The award may be distributed in any predefined manner, whether equally, unequally, randomly or pseudo-randomly. The random or pseudorandom distribution award shares can vary award-by-award throughout the group gaming session whereby a first player member in a first gaming session receives a first share of an award and later in the first gaming session receives a different second share of another award. The player creating group generally defines when and how the award will be distributed among the player members in the group.

[0035] The redistribution award claiming instruction set **140**, when executed by the processor **120**, may enable the award distribution server **116** to apply redistribution award claiming rules to determine how a redistributed award can be claimed by a player member. For example, in response to receipt of a notification message a player member can be required to perform a defined action to claim the redistributed award. By way of illustration, a player member's right to claim the redistributed award share can expire if the player member does not open the notification message within a specified time after the group ends. If a redistributed award share is not claimed by a player member, it is generally redistributed to other player members who properly claimed his or her share of the award. In another example, a player member can only withdraw his or her redistributed award share after his or her gaming turnover (or cumulative wagers during the gaming session) reaches a specified amount. Otherwise, the redistributed award share will be redistributed to other player members whose turnover reaches the specified amount. The redistribution of the unclaimed award share can be equally, unequally, randomly or pseudo-randomly.

[0036] The group ending instruction set **156**, when executed by the processor **120**, may enable the award distribution server **116** to apply group ending rules to determine when the group, group gaming session, or group award redistribution, ends. For example, the group, group gaming session, or group award redistribution can end when a specified gaming session time is reached, the cumulative wagers or collective turnover of the player members in the group teaches a specified amount, each of the player members has spent a targeted gaming or cumulative wager amount, or a group wager credit account decreases to a predetermined level. The group wager credit account can include a portion of the redistributed award.

[0037] With reference now to FIG. **2**, additional details of the gaming system **200** will be described in accordance with at least some embodiments of the present disclosure. The gaming system **200** may be similar or identical to the gaming system **100** depicted in FIG. **1**. In some embodiments, the gaming system **200** may utilize the communication network **104** to facilitate communications between various nodes of the gaming system **200**. Non-limiting examples of the nodes that may belong to the gaming system **200** include the gaming devices **108** or components within the gaming devices **108**, the award redistribution server **116**, and network access points **208**. The gaming system **200** may also include a mobile device **144**, which may be enabled to connect with the communication network **104** via a network access point **208**. When connected with the communication network **104**, the mobile device **144** may also be considered a node in the system **200**.

[0038] In some embodiments, some of the first and second gaming devices **108**a-c may be located at a first property or premises (e.g., within a first casino building). Other gaming devices, such as the third . . . nth gaming devices EGM **108***c-n* may be located at a second property or premises (e.g., within a second casino building). These different properties or premises may be owned by a common entity or may be owned by different entities. In some embodiments, different player members **112** in a group playing at the first and second properties share awards arising from separate or discrete games played on different gaming devices **108** during a group gaming session involving player members playing on the first, second, third, . . . nth gaming devices **108**.

[0039] With reference now to FIG. **3**, additional details of a gaming device **108** will be described in accordance with at least some embodiments of the present disclosure. While depicted as a gaming device **108**, it should be appreciated that some or all of the components of the gaming device **108** may be included in a player's **112** mobile device **144** without departing from the scope of the present disclosure.

[0040] The gaming device **108** is depicted to include a processor **304**, memory **308**, a network interface **312**, and a user interface **316**. In some embodiments, the processor **304** may be similar or identical to the processor **120**. In other words, the processor **304** may correspond to one or many microprocessors, CPUs, microcontrollers, or the like. The processor **304** may be configured to execute one or more instruction sets stored in memory **308**.

[0041] The network interface **312** may also be similar or identical to network interface **128**. The nature of the network interface **312**, however, may depend upon whether the network interface **312** is provided in a gaming device **108** or a mobile device **144**. Examples of a suitable network interface **312** include, without limitation, an Ethernet port, a USB port, an RS-232 port, an RS-485 port, a NIC, an antenna, a driver circuit, a modulator/demodulator, etc. The network interface **312** may include one or multiple different network interfaces depending upon whether the gaming device **108** is connecting to a single communication network **104** or multiple different types of communication networks **104**. For instance, the gaming device **108** may be provided with both a wired network interface and a wireless network interface without departing from the scope of the present disclosure.

[0042] The user interface **316** may correspond to any type of input and/or output device that enables the player **112** to interact with the gaming device **108**. As can be appreciated, the nature of the user interface **316** may depend upon the nature of the gaming device **108**. For instance, if the gaming device **108** is a traditional mechanical reel slot machine, then the user interface **316** may include one or more mechanical reels with symbols provided thereon, one or more lights or LED displays, one or more depressible buttons, a lever or "one armed bandit handle", a speaker, or combinations thereof. If the gaming device **108** is a digital device, then the user interface **316** may include one or more touch-sensitive displays, LED/LCD display screens, etc.

[0043] The memory **308** may be similar or identical to memory **124**. For instance, the memory **308** may include one or multiple computer memory devices that are volatile or non-volatile. The memory **308** may be configured to store instruction sets that enable player interaction with the gaming device **108**, that enable game play at the gaming device **108**, and/or that enable coordination with the award aggregation server **116**. Examples of instruction sets that may be stored in the memory **308** include the group initiation instruction set **132**, award redistribution player instruction set **136**, a game instruction set **320**, a credit meter instruction set **324**, redistribution award claiming instruction set **140**, and group ending instruction set **156**. In some embodiments, the game instructions **320**, when executed by the processor **304**, may enable the gaming device **108** to facilitate one or more games of chance or skill and produce interactions between the player **112** and the game of chance or skill. In some embodiments, the game instructions **320** may include subroutines that present one or more graphics to the player **112** via the user interface **316**, subroutines that calculate whether a particular wager has resulted in a win or loss during the game of chance or skill, subroutines for determining payouts for the player **112** in the event of a win, subroutines for exchanging communications with a connected server (e.g., award redistribution server **116**, or the like), subroutines for enabling the player **112** to engage in a game using their mobile device **144**, and any other subroutine or set of instructions that facilitate gameplay at or in association with the gaming device **108**.

[0044] The credit meter instruction set **324** may correspond to a secure instruction set within the gaming device **108** that facilitates a tracking of activity at the gaming device **108**. In some embodiments, the credit meter instruction set **324** may be used to store or log information related to various player **112** activities and events that occur at the gaming device **108**. The types of information that may be maintained in the credit meter instruction set **324** include, without limitation, player information **332**, available credit information **336**, wager amount information **340**, and other types of information that may or may not need to be recorded for purposes of accounting for wagers placed at the gaming device **108** and payouts made for a player **112** during a game of chance or skill played at the gaming device **108**. In some embodiments, the credit meter instruction set **324** may be configured to track coin in activity, coin out activity, coin drop activity, jackpot paid activity, mini bonus paid activity, credits applied activity, external bonus payout activity, voucher in activity, voucher out activity, timing of events that occur at the gaming device **108**, and the like. In some embodiments, certain portions of the credit meter instruction set **324** may be updated in response to outcomes of a game of chance or skill played at the gaming device **108** or the gaming device of another player member, such as a respective redistributed share of an award of another player member. Some or all of the data within the credit meter instruction set **324** may be reported to or received from the award redistribution server **116**, for example, if such data applies to an award event belonging to a plurality of events being tracked for a player **112** of the gaming device **108** or if such data applies to an award event belonging to a plurality of events being tracked for a different player **112** of a different gaming device **108**, respectively. As an example, the number, value, and timing of wagers placed by a particular player **112** and payouts on such wagers may be reported to the award redistribution server **116** if any of such information applies to a plurality of events being tracked by the award redistribution server **116** for the player members of a group.

[0045] With reference now to FIG. **4**A, additional details of data that may be stored in the player profile database **148** will be described in accordance with at least some embodiments of the present disclosure. The database **148** may be configured to store one or multiple data structures **400** that are used in connection gaming activities of a player. In some embodiments, the data stored in the data structure **400** may be stored for a plurality of different player profiles or for a single player profile. The data structure **400** may include a plurality of data fields that include, for instance, a player information field **404**, a wager credit field **408**, an award information field **412**, an event history field **416**, an award history field **420**, an aggregate activity field **424**, and a timer field **428**.

[0046] The player information field **404** may be used to store any type of information that identifies a player. In some embodiments, the player information field **404** may store one or more of username information for a player **112**, contact information for the player (such as email address, phone number, social website webpage universal resource locator, and the like), password information for a player account, player status information, accommodations associ-

ated with the player **112**, and any other type of customer service management data that may be stored with respect to a player **112**.

[0047] The wager credit field **408** may be used to store data about a player's **112** available credit with a casino or a plurality of casinos. For instance, the wager credit field **408** may store an electronic record of available credit in the player's account and whether any restrictions are associated with such credit. The wager credit field **408** may further store information describing a player's available credit over time, wagers made over time, cash out events for the player, winning events for the player, and the like.

[0048] The award information field **412** may be used to store information describing awards that have been paid to the player **112** or that are available to be paid in response to particular events occurring within the gaming system **100**, **200**. As a non-limiting example, the award information field **412** may be used to store electronic records for values of awards that are available to or have been paid to the player **112**. Even more specifically, the award information field **412** may store values of redistributed shares awards that will be paid to the player **112** if a particular event occurs, such as within a predetermined amount of time (as monitored by a timer value in the timer field **428**). For example, the particular event could be one or more of a player member's received award sharing message expiring before the player member opens the message or fails to perform another predetermined activity before a timer has the timer value in the timer field **428**. In another example, the particular event could be one or more of a player member's gaming turnover (the cumulative wagers placed) in the wager credit field **408** for the group gaming session does not have a minimum value before termination of the gaming session or a timer has the timer value in the timer field **428**.

[0049] The award history field **420** may store data related to awards, bonuses, mini bonuses, jackpots, etc. granted to the player **112**, including redistributed shares of an award of other player members in the group. The award history field **420** may also indicate when such awards were granted to the player **112**, whether the awards have been redeemed, whether the awards are being funded by a game of chance or skill, a mini bonus associated with an event, or a jackpot award associated with the player **112** completing a plurality of events.

[0050] The timer field **428** may be used to store a timer value associated with tracking whether or not a particular player **112** has completed a particular event or a plurality of events within a predetermined amount of time. The value of the timer within the timer field **428** may count up, count down, or increment in any known way to track a passage of time. Alternatively or additionally, time may be measured by an occurrence of events within the gaming system **100**, **200** rather than being measured absolutely. Specifically, the predetermined amount of time may be associated with determining whether an individual player **112** of the group has completed an event or a plurality of events (e.g., claimed a redistributed award share). Thus, the timer does not necessarily need to count a passage of time with seconds and minutes, but rather may count a passage of time based on activities and events that occur within the system **100**, **200**.

[0051] With reference now to FIG. **4**B, additional details of data that may be stored in the player group database **148** will be described in accordance with at least some embodiments of the present disclosure. As in the case of the player profile database **148**, the database **152** may be configured to store one or multiple data structures **450** that are used in connection with tracking player group progress with respect to particular events as well as a plurality of events. In some embodiments, the data stored in the data structure **450** may be stored for a plurality of different player group profiles or for a single player group profile. The data structure **450** may include a plurality of data fields that include, for instance, a group information field **454**, player member information field **458**, group initiation rules field **462**, award redistribution rules field **466**, group award history field **470**, redistribution award claiming rules field **474**, a group wager credit field **478**, a group ending rules field **482**, and a group timer field **486**.

[0052] The group information field **454** may be used to store any type of information that identifies a group of players. In some embodiments, the group information field **454** may store one or more of username information for a group, password information for a group account, group status information, and any other type of customer service management data that may be stored with respect to a group.

[0053] The player member information field **458** may be used to store any type of information that identifies the player members of the corresponding group of players. In some embodiments, the player member information field **458** may store one or more of username information for each player member or a link to the corresponding player information field **404** or data structures **400** of each player member.

[0054] The group initiation rules field **462** can include one or more rules defining the requirements for the group to be validly formed, such as a process or protocol for forming the group, the requirements for a player to be eligible to be a member of the group or maintain eligibility during the group gaming session, and the like. For example, the group initiation rules can, as a precursor to a validly formed group, define a minimum or maximum number of player members or minimum or maximum funding amount in a group wager credit that funds game wagers of the player members and, for eligible player invitees, location-based requirements to be eligible to join the group. The rules can define the process or protocol as a gaming device receiving a group formation request to form a gaming award sharing group, the required contents of the request (e.g., one or more of a number and identity (such as a name of the player, link to a player profile for the player, or other identifier) and contact information (such as electronic address of the player's mobile device **144**, a social account or uniform resource locater of the player's web page on a social network (such as Facebook™, LinkedIn™, Instagram™, WeChat™, etc.), email address of the player, or other contact information) of players to be invited to join the group, an optional invitation code (such as a quick response code or short code), criteria defining when and how a player member award will be distributed among the player members in the group, and criteria to end award redistribution in the group), and/or how the players are to be invited to join the group (e.g., by invitation sent by a selected communication modality, such as email, text, tweet, SMS, etc. to a player invitee's mobile device, by invitation sent to a (selected) gaming device currently interacting with the player invitee, or simply by inputting the invitation code and/or group username directly or indirectly into a gaming device within a selected period of time).

[0055] The award redistribution rules field **466** can include one or more rules defining when and how to redistribute an award of a player member among other player members in the group. The award may be eligible for sharing, for example, when it falls within a defined award amount range, when it is below a defined award amount, or when it is above a defined award amount. The award may be distributed in any predefined manner, whether equally, unequally, randomly or pseudo-randomly.

[0056] The group award history field **470** may store data related to awards, bonuses, mini bonuses, jackpots, etc. redistributed to player members of the group. The award history field **420** may also indicate when such redistributed award shares were granted to each player member, whether the redistributed award shares have been redeemed, and whether the redistributed award shares were not redeemed and redistributed to other player members.

[0057] The redistribution award claiming rules field **474** can include one or more rules defining how a redistributed award can be claimed by a player member. For example, in response to receipt of a notification message a player member can be required to perform a defined action to claim the redistributed award. By way of illustration, a player member's right to claim the redistributed award share can expire if the player member does not open the notification message within a specified time after the group ends. In another example, a player member can only withdraw his or her redistributed award share after his or her gaming turnover (or cumulative wagers during the gaming session) reaches a specified amount.

[0058] The group wager credit field **478** may be used to store data about the group's available credit with a casino or a plurality of casinos. For instance, the group wager credit field **478** may store an electronic record of available credit in each of the player member's accounts and whether any restrictions are associated with such credit. The wager credit field **408** may further store information describing the group's available credit over time, wagers made by player members over time, cash out events for each of the player members, winning events for the player members during the group gaming session, and the like. In some applications, the player creating the group can deposit a certain amount of money as a gaming fund recorded in the group wager credit field **478** to be used as wagers by the player members during the group gaming session.

[0059] The group ending rules field **482** can include one or more rules defining when the group, or group award redistribution, ends. For example, the group or group award redistribution can end when a specified gaming session time is reached, the cumulative wagers or collective turnover of the player members in the group teaches a specified amount, each of the player members has spent a targeted gaming or cumulative wager amount, or a group credit decreases to a predetermined level. The group wager credit can include a portion of the redistributed award.

[0060] The group timer field **486** may be used to store a timer value associated with tracking whether or not the group has expired in accordance with the group ending rules. The value of the timer within the timer field **428** may count up, count down, or increment in any known way to track a passage of time. Alternatively or additionally, time may be measured by an occurrence of events within the gaming system **100**, **200** rather than being measured absolutely. Specifically, the predetermined amount of time may be associated with determining whether an individual player **112** of the group or the group of players itself has completed an event or a plurality of events. Thus, the timer does not necessarily count a passage of time with seconds and minutes, but rather may count a passage of time based on activities and events that occur within the system **100**, **200**.

[0061] With reference now to FIG. **6**, an example of the disclosure will be described. An electronic gaming machine (EGM) **608** receives, from a player **112**, acting as a group creator **600**, a group formation request **604** to create a group and invite other friends as player members of the group. In response, the EGM **608** causes the award redistribution server **116** to form the group. One or more players **112** join the group by inputting, via a join request **612**, into a different EGM **608** an invitation code selected by the group creator **600**, the EGM receiving the group formation request **604**, or the award redistribution server **116**. After the group is formed, the group gaming session begins with each player member simultaneously playing **616** games of change, such as a slot or poker game, on a respective EGM **608**. When player member earns **620** an award, such as a bonus, the player member's EGM **108** notifies **624** the award redistribution server **116** of the award event and amount of the award. In response, the award redistribution server **116** applies the award redistribution rules, determines an allocable redistributed award amount for each player member, and sends an award sharing message **628** to each of the player member's EGMs **608**, or mobile devices **144**.

[0062] As shown in FIGS. **6-7**, the award sharing message **628**, when opened **632** by the receiving player member **112** ("Member D"), notifies the receiving player member's EGM **608** or mobile device **144** or both that he or she has received a bonus sharing offer from the player member earning the award (shown as Member A) and provides a user selectable "Click to Open" field, which if selected causes a value of an electronic record of the receiving player member's available credit or wager credit account to be incremented by the allocable redistributed award share. In response to selecting the "Click to Open" field, the EGM or the mobile device **144** of the player member provides display **700** notifying the player member of an amount of the allocable redistributed award share that has been deposited into the player member's available credit or wager credit account, a total amount of the earned award, and the allocable redistributed amounts of the award given to the two other player members ("Member B" and "Member C"), including the player member ("Member A") earning the award. For casino carded player members, the newly deposited amount can be used for wagers in the group gaming session. If a player member **112**, such as Member C, were not to claim his or her allocable redistributed award share, the unclaimed share would be redistributed **636** to Member A, Member B, and Member D in accordance with the award redistribution rules. In that event, Member A, Member B, and Member D would receive a further award sharing message **628** as described above.

[0063] The logic loops (as shown by loop **640**) while the group gaming session is in progress and terminates when the group gaming session, or group, as the case may be, terminates in accordance with the group ending rules **482**.

[0064] To increase player excitement, the bonus sharing message can be packaged as a treasure box or other object denoting a mysterious fortune. When a player member opens the object, the player member will see his or her redistrib-

uted bonus amount as well as the redistributed bonus amounts of other player members in the group.

[0065] In some applications, the bonus sharing message can be sent to player members that are carded by the casino and not to uncarded group members. In other words, only carded player members and not uncarded player members can share in a bonus hit.

[0066] In some applications, a cardless application can add bonus sharing and redistribution functions so that a player member can share and redistribute his or her bonus directly in the cardless application.

[0067] In some applications, the player members of the group play table games as part of a group gaming session. Each of the player members can share or redistribute his or her gaming awards from playing his or her corresponding table game after all of the player members have finished the gaming session, particularly if the games are played in a cashless way. In this manner, the player member's or group's credit or wager credit account can be decremented during play to reflect table game wagers, and the player member's available credit or wager credit account incremented at termination of the gaming session to reflect an amount of the allocable redistributed award share that has been deposited into the account.

[0068] With reference to FIG. **8**, a method of forming a multi-player group to play a group gaming session will be described in accordance with embodiments of the present disclosure. The method begins in step **804** when a player **112** initiates, at a gaming device **108** or mobile device **144**, a group formation request, which causes execution of the group initiation instruction set **132** by the gaming device **108**, mobile device **144**, and/or award redistribution server **116**.

[0069] The method continues by the gaming device **108** or mobile device **144** receiving player input to create a player group profile for the group to be created (step **808**). This can require the player to provide information to populate the group information field **454**, player member information field **458**, group initiation rules field **462**, award redistribution rules field **468**, redistribution award claiming rules field **474**, and group ending rules field **482**.

[0070] The method continues by the award redistribution server **116** interacting, via the player invitee's gaming device **108** or mobile device **144**, with the selected players to be in the group in accordance with the group initiation rules (step **812**). This can include the player invitee's gaming device **108** or mobile device **144** receiving a join request to join the multi-player group. The join request can comprise an invitation code and agreement to the award redistribution rules, redistribution award claiming rules, and group ending rules. The player invitee can generate a join request by scanning a quick response ("QR") code on a mobile device **144** or service window, using location-based group creation (in which the player invitee's must be within a specified location or set of locations to join the group), using short code-based group creation, and/or synchronizing the group from a group chat facilitated by a chat application such as WhatsApp™ or WeChat™, for example.

[0071] The method continues by the award redistribution server **116** determining the wager credit for the group gaming session (step **816**). The wagers for the player members used during the player members' games forming the gaming session can withdraw wagers from the group available credit or wager credit account.

[0072] The method continues by the award redistribution server **116** determining whether the group is in compliance with the group initiation rules (step **820**). For instance, the award redistribution server **116** determines whether join requests have been received from the minimum number of player invitees to form the group and a minimum funding amount has been deposited in a group available credit or wager credit account that funds game wagers of the player members. When the group is in compliance with the group initiation rules, the award redistribution server **116** proceeds to step **904** of FIG. **9** (discussed below). When the group is not in compliance with the group initiation rules, the award processing server **116** proceeds to step **824**.

[0073] The method continues in step **824** by the award redistribution server **116** determining whether a join time interval has expired. The join time interval is a value of the timer field **486** by which the group initiation rules must be satisfied for the group to be validly formed. When the join time interval has not yet expired, the award redistribution server returns and repeats step **812**. When the join time interval has expired, the award redistribution server **116** proceeds to step **828** and notifies the gaming device **108** or mobile device **144** of the player acting as group creator of the fact and reason(s) of noncompliance with the group initiation rules.

[0074] With reference now to FIG. **9**, a method of redistributing awards during a group gaming session will be described in accordance with embodiments of the present disclosure. The method begins when a group gaming session at gaming machines **108** and/or mobile devices **144** is initiated by the player group members (step **904**). Each of the player members plays a game at a respective gaming device **108** and/or mobile device **144** that is part of the gaming session. With the exception of award sharing, the games of each player member are independent of the games of the other player members.

[0075] The method may continue with the gaming or mobile device executing a game instruction set to enable the player member **112** to participate in a game of chance, a game of skill, or the like. The device may report gaming activity to the award redistribution server **116**. The reported gaming activity can include game play information, such as player information **404** of the player member, wager credit information, and award information related to the player member's games in the gaming session.

[0076] The method continues by the gaming device **108** or mobile device **144** of each player member determining whether a predetermined event, such as a winning outcome, has occurred in a game during the gaming session (step **912**). When a predetermined event has occurred, the respective gaming device **108** or mobile device **144** optionally updates an electronic record associated with an available credit or wager credit account of the corresponding player member **112** by a portion or all of the amount of the award (step **916**).

[0077] The method continues by the gaming device **108** or mobile device **144** having the winning outcome optionally reporting the event occurrence to the award redistribution server **116** (step **920**). The reported game play information can include the player information **404** of the player member and award information associated with the winning outcome. This step **920** may be in addition to or in lieu of step **908**.

[0078] The method continues by the award redistribution server **116** determining whether to redistribute all or part of

the award in accordance with the award redistribution rules (step **924**). The award may not be eligible for redistribution, for example, when it falls below a minimum sharing amount, exceeds a maximum sharing amount, or falls within an award amount range that is not eligible for sharing with other player members. Stated differently, the award may only be available for sharing with other player members when it falls within a specified award range.

[0079] If the query of step **924** is answered negatively or if the predetermined event has not occurred (step **912**), then the method may continue by determining whether or not the group gaming session is completed as defined by the group ending rules (step **936**). For example, the group gaming session may terminate when a duration of the multi-player group or gaming session reaches a predetermined time, when a selected number of the player members have stopped playing games as part of the multi-player group, or when a predetermined amount of money is used by the player members of the multi-player group to play games on gaming machines. If the group gaming session is not completed, then the player member may be allowed to continue participating in the group gaming session and the player member activity may continue to be monitored for the occurrence of an event in a plurality of events (step **940**). If the gaming session is completed, then the player member **112** may be cashed out by the gaming device, the electronic record associated with the available credit account on the gaming device may be appropriately updated, and the player profile database **148** may also be appropriately updated (step **944**). In some embodiments, the electronic records in the player group database **152** maintained at the award redistribution server **116** may be appropriately updated (step **932**).

[0080] Referring back to step **924**, if it is determined that the award is to be redistributed and shared with other player members, the method may continue by applying award redistribution rules and updating an electronic record associated with an available credit or wager credit account of each player member based on the allocable share of the redistributed award to be received by that player member (step **928**). The award redistribution server **116** can notify the gaming device **108** or mobile device **144** corresponding to each player member of the multi-player group of the share of the award associated with the winning outcome allocated to the respective player member. For instance, the notification can be sent to an account of the notified player member on a social networking website. The allocable shares of each player member can be the same or different depending on the implementation.

[0081] After step **928**, the award redistribution server proceeds to step **932**.

[0082] With reference now to FIG. **10**, a method of redistributing awards during a group gaming session will be described in accordance with embodiments of the present disclosure. The method begins by notifying the award redistributed server of a redistributed award to be allocated among the various player members in the group arising from an winning outcome during a gaming session (step **1004**).

[0083] The method continues by sending an award sharing message to each of the player members in the group setting forth the allocable share of the redistributed award to each player member (step **1008**). Stated differently, each of the player members receives the same or different award sharing message, depending on how the award is redistributed among the player members.

[0084] The method continues by identifying player members claiming his or her respective share of the redistributed award (step **1012**). Each player member can, for example, claim his or her respective share of the redistributed award by opening the award sharing message when the message is opened by the notified player member of the multi-player group within a predetermined time. In another example, the player member can claim his or her respective share of the redistributed award when an amount of money expended on gaming sessions on the gaming machines is at least a predetermined amount and cannot claim his or her respective share when an amount of money expended on gaming sessions on the gaming machines is less than at least a predetermined amount.

[0085] The method continues by updating an electronic account for each identified player member (step **1016**). For example, the award redistribution server **116** can increment a value of an electronic record associated with an available credit or wager credit account of the player member to reflect an allocable share of the winning outcome.

[0086] The method continues by the award redistribution server determining whether any player member that has failed to claim his or her respective share of the redistributed award (step **1020**). For example, the player member has not opened the award sharing message within the predetermined time. If no player member has failed to claim his or her respective share, the award redistribution server **116** returns to and repeats step **1004**.

[0087] If one or more player members has failed to claim his or her respective share, the award redistribution server **116** redistributes an allocable share of the unclaimed share of the redistributed award (step **1024**) by sending a new award sharing message to the other player members which can be claimed as indicated in steps **1012** and **1016**. The relative share of the unclaimed share of the redistributed award can be redistributed among the other player members in a manner the same as or different from the originally allocated player member shares of redistributed award.

[0088] In some embodiments, the player member of the group can play each other in a common game or form a team to play against a casino.

[0089] As should be appreciated by one skilled in the art, aspects of the present disclosure have been illustrated and described herein in any of a number of patentable classes or context including any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof. Accordingly, aspects of the present disclosure may be implemented entirely hardware, entirely software (including firmware, resident software, micro-code, etc.) or combining software and hardware implementation that may all generally be referred to herein as a "circuit," "module," "component," or "system." Furthermore, aspects of the present disclosure may take the form of a computer program product embodied in one or more computer readable media having computer readable program code embodied thereon.

[0090] Any combination of one or more computer readable media may be utilized. The computer readable media may be a computer readable signal medium or a computer readable storage medium. A computer readable storage medium may be, for example, but not limited to, an electronic, magnetic, optical, electromagnetic, or semiconductor system, apparatus, or device, or any suitable combination of the foregoing. More specific examples (a non-exhaustive

list) of the computer readable storage medium would include the following: a portable computer diskette, a hard disk, a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), an appropriate optical fiber with a repeater, a portable compact disc read-only memory (CD-ROM), an optical storage device, a magnetic storage device, or any suitable combination of the foregoing. In the context of this document, a computer readable storage medium may be any tangible medium that can contain, or store a program for use by or in connection with an instruction execution system, apparatus, or device.

[0091] A computer readable signal medium may include a propagated data signal with computer readable program code embodied therein, for example, in baseband or as part of a carrier wave. Such a propagated signal may take any of a variety of forms, including, but not limited to, electromagnetic, optical, or any suitable combination thereof. A computer readable signal medium may be any computer readable medium that is not a computer readable storage medium and that can communicate, propagate, or transport a program for use by or in connection with an instruction execution system, apparatus, or device. Program code embodied on a computer readable signal medium may be transmitted using any appropriate medium, including but not limited to wireless, wireline, optical fiber cable, RF, etc., or any suitable combination of the foregoing.

[0092] Computer program code for carrying out operations for aspects of the present disclosure may be written in any combination of one or more programming languages, including an object oriented programming language such as Java, Scala, Smalltalk, Eiffel, JADE, Emerald, C++, C#, VB.NET, Python or the like, conventional procedural programming languages, such as the "C" programming language, Visual Basic, Fortran 2003, Perl, COBOL 2002, PHP, ABAP, dynamic programming languages such as Python, Ruby and Groovy, or other programming languages. The program code may execute entirely on the user's computer, partly on the user's computer, as a stand-alone software package, partly on the user's computer and partly on a remote computer or entirely on the remote computer or server. In the latter scenario, the remote computer may be connected to the user's computer through any type of network, including a local area network (LAN) or a wide area network (WAN), or the connection may be made to an external computer (for example, through the Internet using an Internet Service Provider) or in a cloud computing environment or offered as a service such as a Software as a Service (Saas).

[0093] Aspects of the present disclosure have been described herein with reference to flowchart illustrations and/or block diagrams of methods, apparatuses (systems) and computer program products according to embodiments of the disclosure. It should be understood that each block of the flowchart illustrations and/or block diagrams, and combinations of blocks in the flowchart illustrations and/or block diagrams, can be implemented by computer program instructions. These computer program instructions may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a machine, such that the instructions, which execute via the processor of the computer or other programmable instruction execution apparatus, create a mechanism for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

[0094] These computer program instructions may also be stored in a computer readable medium that when executed can direct a computer, other programmable data processing apparatus, or other devices to function in a particular manner, such that the instructions when stored in the computer readable medium produce an article of manufacture including instructions which when executed, cause a computer to implement the function/act specified in the flowchart and/or block diagram block or blocks. The computer program instructions may also be loaded onto a computer, other programmable instruction execution apparatus, or other devices to cause a series of operational steps to be performed on the computer, other programmable apparatuses or other devices to produce a computer implemented process such that the instructions which execute on the computer or other programmable apparatus provide processes for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

What is claimed is:

1. A gaming machine comprising:

a user interface;

a network interface;

a processor coupled with the user interface and network interface; and

a memory coupled with and readable by the processor and storing therein a set of instructions which, when executed by the processor causes the processor to:

receive a notification that a first player interacting with the user interface is member of a multi-player group comprising plural player members;

after receiving the notification and while the first player is a member of the multi-player group, forward a first number of credits in a credit meter associated with the first player to a gaming server;

in response to forwarding the first number of credits to the gaming server, receive a notification from the gaming server of a second number of credits in a group credit meter for the multi-player group, the second number of credits being larger than the first number of credits and derived from the first number of credits and the first player's credit meter being different from the group credit meter;

while the first player is a member of the multi-player group, forward, to the gaming server, first game play information for a first game played by the first player in a first game of a gaming session, the first game play information comprising a first winning outcome;

in response to forwarding the first game play information to the gaming server, receive, from the gaming server, a notification of a third number of credits in the group credit meter, the third number of credits being derived from a number of credits associated with the first winning outcome;

receive, from the gaming server, a notification of a fourth number of credits in the group credit meter, the fourth number of credits being associated with second game play information for a second game in the gaming session played a second player member of the multi-player group and being derived from a number of credits derived from a second winning outcome in the second game;

in response to an occurrence of a group ending event, determine that the multi-player group has terminated; and

in response to determining that the multi-player group has terminated, increment the first player's credit meter by a sixth number of credits and decrement the group credit meter by the sixth number of credits.

2. The gaming machine of claim **1**, wherein the processor is configured to

receive a group formation request from the first player to form the multi-player group comprising the first player as a member, the group formation request comprising an invitation code to be input by each invited potential player member and one of: a number of player members invited to be in the multi-player group, a predetermined rule set defining, for a winning outcome, a winning outcome allocation among the player members of the multi-player group, and a duration of the multi-player group;

send, via the network interface to a gaming device associated with each of a plurality of potential player members for the multi-player group, a join request comprising an invitation to join the multi-player group;

receive, via the network interface, a plurality of join request responses;

validate each join request response by confirming for each join request: that a sequence of characters in the join request response matches the invitation code and one of: that a location of a corresponding gaming device is within a specified location, that the join request was received within a selected period of time, that the join request response was sent by a selected communication modality, and that the join request was received substantially synchronously with a group chat comprising the corresponding gaming device; and

when the join request response of a selected potential player member is validated successfully, cause the user interface to notify the player member that the multi-player group has been formed.

3. The gaming machine of claim **2**, wherein the processor is configured to:

while a game in the gaming session is played by the first player, receive, via the network interface, an award sharing message that a different player member in the multi-player group has won a winning outcome in a separate game in the gaming session and a share of the winning outcome allocated to an account of the player member, the first player's account being different from an account of the different player member; and

in response to receipt of the award sharing message, cause the user interface to notify the player member that the player member has won the share of the winning outcome.

4. The gaming machine of claim **2**, wherein the gaming machine comprises an electronic gaming machine, wherein the gaming session comprises a slot game, wherein the winning outcome comprises a jackpot, wherein the group formation request comprises a winning outcome range for sharing, wherein the winning outcome is not allocated to other player members when a magnitude of the winning outcome is outside of the winning outcome range for sharing, wherein the predetermined rule set comprises a rule defining a time duration of the multi-player group, and wherein the predetermined rule set comprises a rule requiring a winning outcome won by a player member in the multi-player group to be allocated equally among the player members in the multi-player group.

5. The gaming machine of claim **2**, wherein the gaming machine comprises a video game gambling machine, wherein the gaming session comprises video poker, wherein the winning outcome comprises a cash winning outcome, wherein when a notification is not opened by a notified player member of the multi-player group within a predetermined time, the player member's allocable share of the winning outcome comprises other player member's allocable shares of the winning outcome, wherein the gaming session comprises multiple games played by player members in the multi-player group, the player members including the first player and second player member, wherein the games in the gaming session played by the player members in the multi-player group are independent of one another, and wherein the processor causes the user interface to notify the player member of a further portion of the winning outcome allocated to the player member due to a different player member failing to claim that player member's allocable share of the winning outcome.

6. The gaming machine of claim **2**, wherein the gaming machine comprises a virtual gaming machine, wherein the winning outcome comprises a bonus, and wherein the predetermined rule set comprises a rule requiring a winning outcome won by a player member in the multi-player group to be allocated randomly among the player members in the multi-player group, and wherein the predetermined rule set comprises a rule defining a minimum amount of money to be spent collectively by the player members during the duration of the multi-player group before winning outcomes won by player members in the multi-player group to be allocated among the player members.

7. The gaming machine of claim **1**, wherein, in response to occurrence of the group ending event, the processor receives notification of termination of the multi-player group and gaming session in accordance with a set of group ending rules, the set of group ending rules comprising one of a duration of the multi-player group reaches a predetermined time, a credit balance of the group credit meter reaches a predetermined level, cumulative wagers of the player members in the multi-player group reaches a specified amount, and a collective turnover of the player members in the multi-player group reaches a specified level.

8. A gaming machine comprising:

a user interface;

a network interface;

a processor coupled with the user interface and network interface; and

a memory coupled with and readable by the processor and storing therein a set of instructions which, when executed by the processor causes the processor to:

receive a group formation request from a first player to form a multi-player group comprising the first player as a member, the group formation request comprising an invitation code to be input by each invited potential player member and one of: a number of player members invited to be in the multi-player group, a predetermined rule set defining, for a winning outcome, a winning outcome allocation among the player members of the multi-player group, and a duration of the multi-player group;

receive, from a gaming server, a notification of formation of the multi-player group comprising the first player;

after receiving the notification and while the first player is a member of the multi-player group, forward a first number of credits in a credit meter associated with the first player to a gaming server;

in response to forwarding the first number of credits to the gaming server, receive a notification from the gaming server of a second number of credits in a group credit meter for the multi-player group, the second number of credits being larger than the first number of credits and derived from the first number of credits;

while the first player is a member of the multi-player group, forward, to the gaming server, first game play information for a first game played by the first player in a gaming session, the first game play information comprising a first winning outcome;

in response to forwarding the first game play information to the gaming server, receive, from the gaming server, a notification of a third number of credits in the group credit meter, the third number of credits being derived from a number of credits associated with the first winning outcome and the first player's credit meter being different from the group credit meter;

receive, from the gaming server, a notification of a fourth number of credits in the group credit meter, the fourth number of credits being associated with second game play information for a second game played a second player member of the multi-player group in the gaming session and being derived from a number of credits derived from a second winning outcome in the second game;

in response to an occurrence of a group ending event, determine that the multi-player group has terminated; and

in response to determining that the multi-player group has terminated, increment the first player's credit meter by a sixth number of credits and decrement the group credit meter by the sixth number of credits.

9. The gaming machine of claim **8**, wherein the processor is configured to s

end, via the network interface to a gaming device associated with each of a plurality of potential player members for the multi-player group, a join request comprising an invitation to join the multi-player group;

receive, via the network interface, a plurality of join request responses;

validate each join request response by confirming for each join request: that a sequence of characters in the join request response matches the invitation code and one of: that a location of a corresponding gaming device is within a specified location, that the join request was received within a selected period of time, that the join request response was sent by a selected communication modality, and that the join request was received substantially synchronously with a group chat comprising the corresponding gaming device; and

when the join request response of a selected potential player member is validated successfully, cause the user interface to notify the player member that the multi-player group has been formed.

10. The gaming machine of claim **9**, wherein the processor is configured to:

while a game in the gaming session is played by the first player, receive, via the network interface, an award sharing message that a different player member in the multi-player group has won a winning outcome in a separate game in the gaming session and a share of the winning outcome allocated to an account of the player member, the first player's account being different from an account of the different player member; and

in response to receipt of the award sharing message, cause the user interface to notify the player member that the player member has won the share of the winning outcome.

11. The gaming machine of claim **9**, wherein the gaming machine comprises an electronic gaming machine, wherein the gaming session comprises a slot game, wherein the winning outcome comprises a jackpot, wherein the group formation request comprises a winning outcome range for sharing, wherein the winning outcome is not allocated to other player members when a magnitude of the winning outcome is outside of the winning outcome range for sharing, wherein the predetermined rule set comprises a rule defining a time duration of the multi-player group, and wherein the predetermined rule set comprises a rule requiring a winning outcome won by a player member in the multi-player group to be allocated equally among the player members in the multi-player group.

12. The gaming machine of claim **9**, wherein the gaming machine comprises a video game gambling machine, wherein the gaming session comprises video poker, wherein the winning outcome comprises a cash winning outcome, wherein when a notification is not opened by a notified player member of the multi-player group within a predetermined time, the player member's allocable share of the winning outcome comprises other player member's allocable shares of the winning outcome, wherein the gaming session comprises multiple games played by player members in the multi-player group, the player members including the first player and second player member, wherein the games in the gaming session played by the player members in the multi-player group are independent of one another, and wherein the processor causes the user interface to notify the player member of a further portion of the winning outcome allocated to the player member due to a different player member failing to claim that player member's allocable share of the winning outcome.

13. The gaming machine of claim **9**, wherein the gaming machine comprises a virtual gaming machine, wherein the winning outcome comprises a bonus, and wherein the predetermined rule set comprises a rule requiring a winning outcome won by a player member in the multi-player group to be allocated randomly among the player members in the multi-player group, and wherein the predetermined rule set comprises a rule defining a minimum amount of money to be spent collectively by the player members during the duration of the multi-player group before winning outcomes won by player members in the multi-player group to be allocated among the player members.

14. The gaming machine of claim **8**, wherein, in response to occurrence of the group ending event, the processor receives notification of termination of the multi-player group and gaming session in accordance with a set of group ending rules, the set of group ending rules comprising one of a duration of the multi-player group reaches a predetermined time, a credit balance of the group credit meter reaches a

predetermined level, cumulative wagers of the player members in the multi-player group reaches a specified amount, and a collective turnover of the player members in the multi-player group reaches a specified level.

15. A gaming machine comprising:

a user interface;

a network interface;

a processor coupled with the user interface and network interface; and

a memory coupled with and readable by the processor and storing therein a set of instructions which, when executed by the processor causes the processor to:

receive a group formation request from a first player to form a multi-player group comprising the first player as a member, the group formation request comprising an invitation code to be input by each invited potential player member and one of: a number of player members invited to be in the multi-player group, a predetermined rule set defining, for a winning outcome, a winning outcome allocation among the player members of the multi-player group, and a duration of the multi-player group;

send, via the network interface to a gaming device associated with each of a plurality of potential player members for the multi-player group, a join request comprising an invitation to join the multi-player group;

receive, via the network interface, a plurality of join request responses;

validate each join request response by confirming for each join request: that a sequence of characters in the join request response matches the invitation code and one of: that a location of a corresponding gaming device is within a specified location, that the join request was received within a selected period of time, that the join request response was sent by a selected communication modality, and that the join request was received substantially synchronously with a group chat comprising the corresponding gaming device; and

when the join request response of a selected potential player member is validated successfully, cause the user interface to notify the player member that the multi-player group has been formed;

while the first player is a member of the multi-player group, forward a first number of credits in a credit meter associated with the first player to a gaming server;

in response to forwarding the first number of credits to the gaming server, receive a notification from the gaming server of a second number of credits in a group credit meter for the multi-player group, the second number of credits being larger than the first number of credits and derived from the first number of credits;

while the first player is a member of the multi-player group, forward, to the gaming server, first game play information for a first game played by the first player in a gaming session, the first game play information comprising a first winning outcome;

in response to forwarding the first game play information to the gaming server, receive, from the gaming server, a notification of a third number of credits in the group credit meter, the third number of credits being derived from a number of credits associated with the first winning outcome and the first player's credit meter being different from the group credit meter;

receive, from the gaming server, a notification of a fourth number of credits in the group credit meter, the fourth number of credits being associated with second game play information for a second game played a second player member of the multi-player group in the gaming session and being derived from a number of credits derived from a second winning outcome in the second game;

in response to an occurrence of a group ending event, determine that the multi-player group has terminated; and

in response to determining that the multi-player group has terminated, increment the first player's credit meter by a sixth number of credits and decrement the group credit meter by the sixth number of credits.

16. The gaming machine of claim **15**, wherein the processor is configured to:

while a game in the gaming session is played by the first player, receive, via the network interface, an award sharing message that a different player member in the multi-player group has won a winning outcome in a separate game in the gaming session and a share of the winning outcome allocated to an account of the player member, the first player's account being different from an account of the different player member; and

in response to receipt of the award sharing message, cause the user interface to notify the player member that the player member has won the share of the winning outcome.

17. The gaming machine of claim **15**, wherein the gaming machine comprises an electronic gaming machine, wherein the gaming session comprises a slot game, wherein the winning outcome comprises a jackpot, wherein the group formation request comprises a winning outcome range for sharing, wherein the winning outcome is not allocated to other player members when a magnitude of the winning outcome is outside of the winning outcome range for sharing, wherein the predetermined rule set comprises a rule defining a time duration of the multi-player group, and wherein the predetermined rule set comprises a rule requiring a winning outcome won by a player member in the multi-player group to be allocated equally among the player members in the multi-player group.

18. The gaming machine of claim **15**, wherein the gaming machine comprises a video game gambling machine, wherein the gaming session comprises video poker, wherein the winning outcome comprises a cash winning outcome, wherein when a notification is not opened by a notified player member of the multi-player group within a predetermined time, the player member's allocable share of the winning outcome comprises other player member's allocable shares of the winning outcome, wherein the gaming session comprises multiple games played by player members in the multi-player group, the player members including the first player and second player member, wherein the games in the gaming session played by the player members in the multi-player group are independent of one another, and wherein the processor causes the user interface to notify the player member of a further portion of the winning outcome allocated to the player member due to a different player member failing to claim that player member's allocable share of the winning outcome.

19. The gaming machine of claim **15**, wherein the gaming machine comprises a virtual gaming machine, wherein the

winning outcome comprises a bonus, and wherein the predetermined rule set comprises a rule requiring a winning outcome won by a player member in the multi-player group to be allocated randomly among the player members in the multi-player group, and wherein the predetermined rule set comprises a rule defining a minimum amount of money to be spent collectively by the player members during the duration of the multi-player group before winning outcomes won by player members in the multi-player group to be allocated among the player members.

20. The gaming machine of claim **15**, wherein, in response to occurrence of the group ending event, the processor receives notification of termination of the multi-player group and gaming session in accordance with a set of group ending rules, the set of group ending rules comprising one of a duration of the multi-player group reaches a predetermined time, a credit balance of the group credit meter reaches a predetermined level, cumulative wagers of the player members in the multi-player group reaches a specified amount, and a collective turnover of the player members in the multi-player group reaches a specified level.

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