US 20070155507A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2007/0155507 A1

Gatto et al. (43) Pub. Date: Jul. 5, 2007

(54) **IN-ROOM GAMING**

(75) Inventors: **Jean-Marie Gatto**, London (GB); **Thierry Brunet de Courssou**, Henderson, NV (US)

Correspondence Address:
YOUNG LAW FIRM, P.C.
ALAN W. YOUNG
4370 ALPINE ROAD
SUITE 106
PORTOLA VALLEY, CA 94028 (US)

(73) Assignee: **Cyberscan Technology, Inc.**, Palo Alto, CA

(21) Appl. No.: **11/456,763**

(22) Filed: **Jul. 11, 2006**

Related U.S. Application Data

(60) Provisional application No. 60/741,652, filed on Dec. 2, 2005.

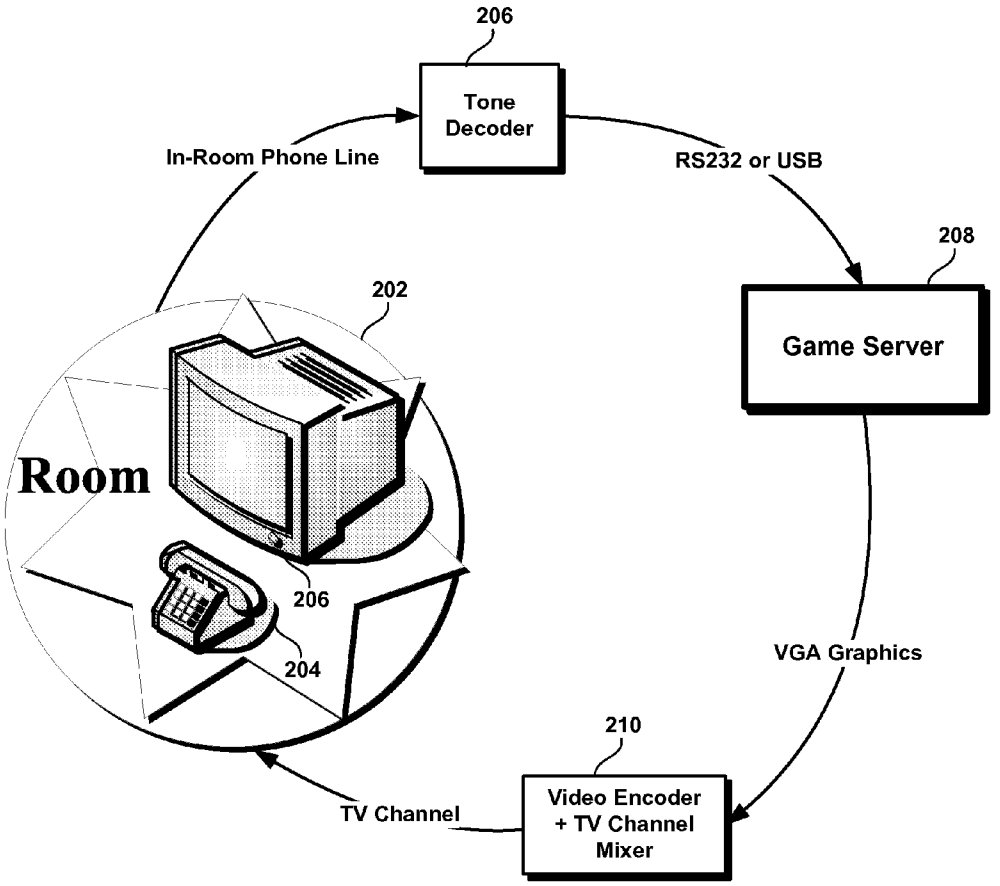
Publication Classification

(51) **Int. Cl.**
A63F 9/24 (2006.01)

(52) **U.S. Cl.** **463/42**

(57) **ABSTRACT**

A method for in-room gaming suitable for cruise ships and remote hotels allows players to play electronic games of skill or chance on their room TV or on any other available TV. Players may interact with the games via an input device as simple as a standard telephone or as powerful as a palm-sized WiFi device fitted with a credit card reader. The method and system need not require any rewiring of the room and leverages on any data service already in place, such as an individual telephone line, a wired or Wifi local area network. The in-room gaming system may include a central gaming server that generates the game video rendering for each player, the video being streamed or otherwise provided to the associated TV via an individual TV channel, thereby enabling rich, powerful and secure gaming while reducing maintenance costs and preventing obsolescence. In-room players may enjoy the flexibility to wager from any available television and may use the in-room gaming system to build relationships and social networks with other players if they desire.



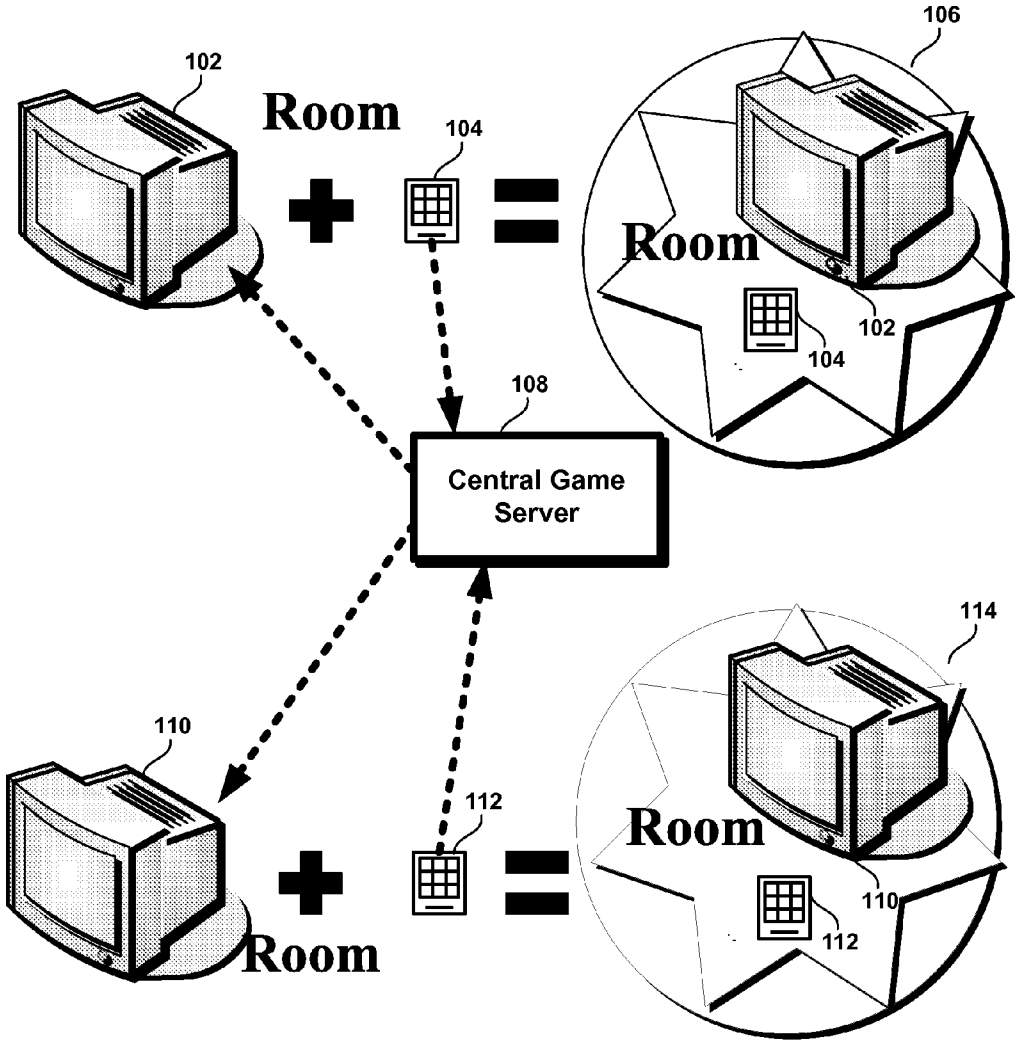

102
Room
104
106
Room
102
104
108
Central Game Server
110
112
Room
114
Room
110
112

FIG. 1

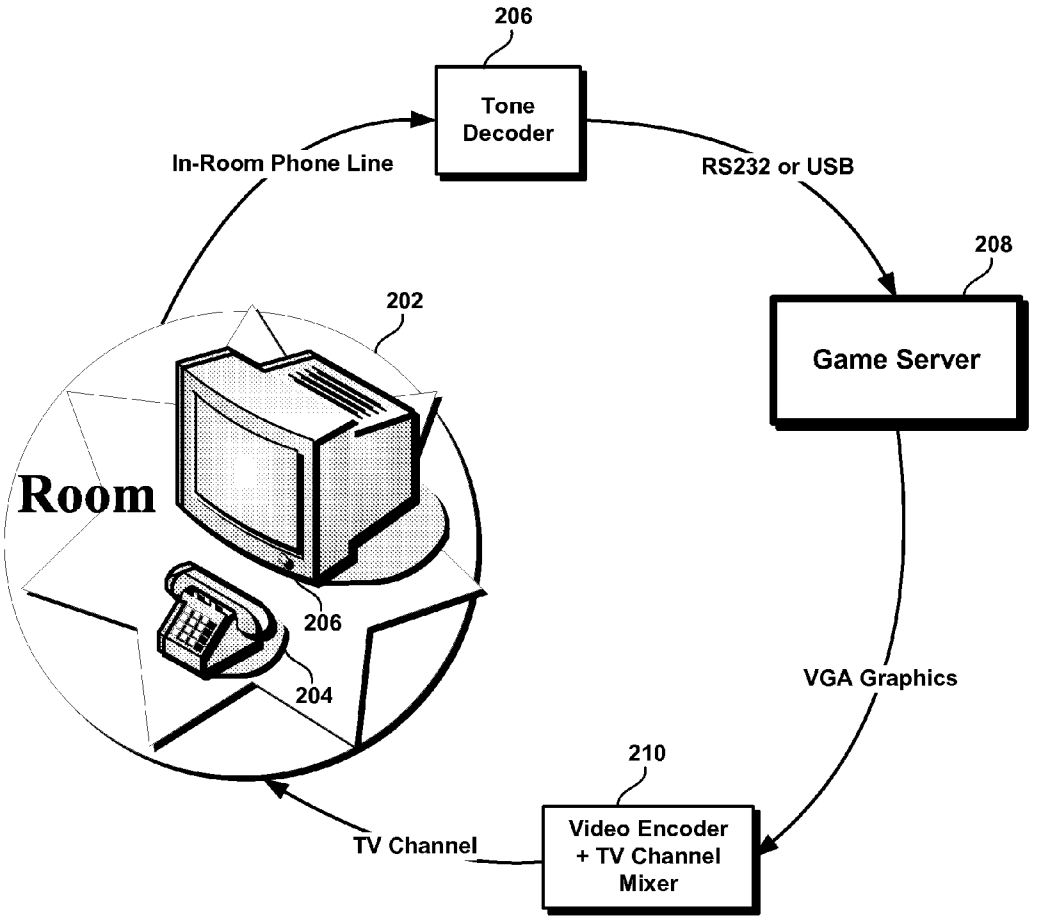

206
Tone Decoder
In-Room Phone Line
RS232 or USB
208
Game Server
202
Room
206
204
VGA Graphics
210
Video Encoder + TV Channel Mixer
TV Channel

FIG. 2

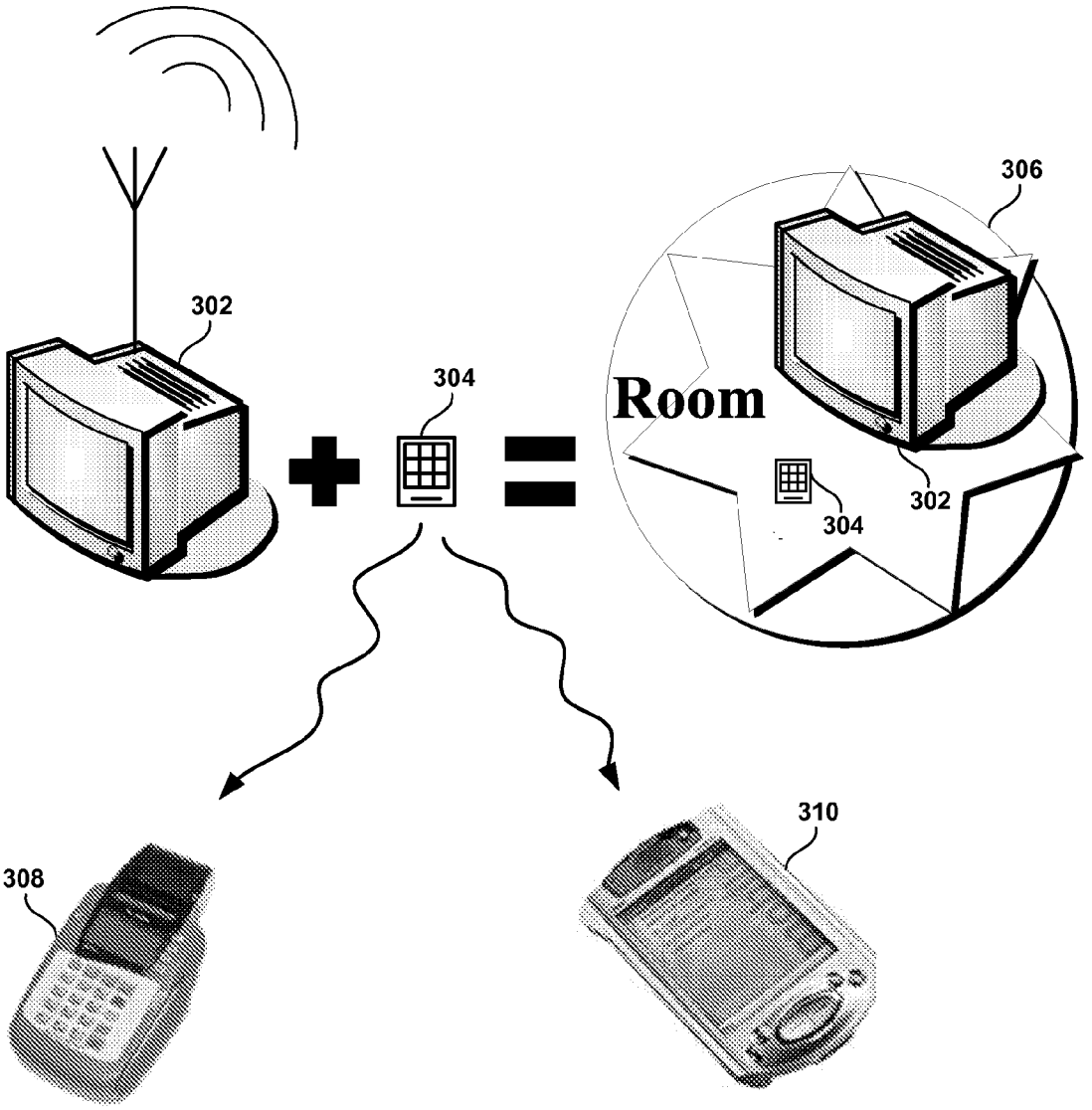


FIG. 3

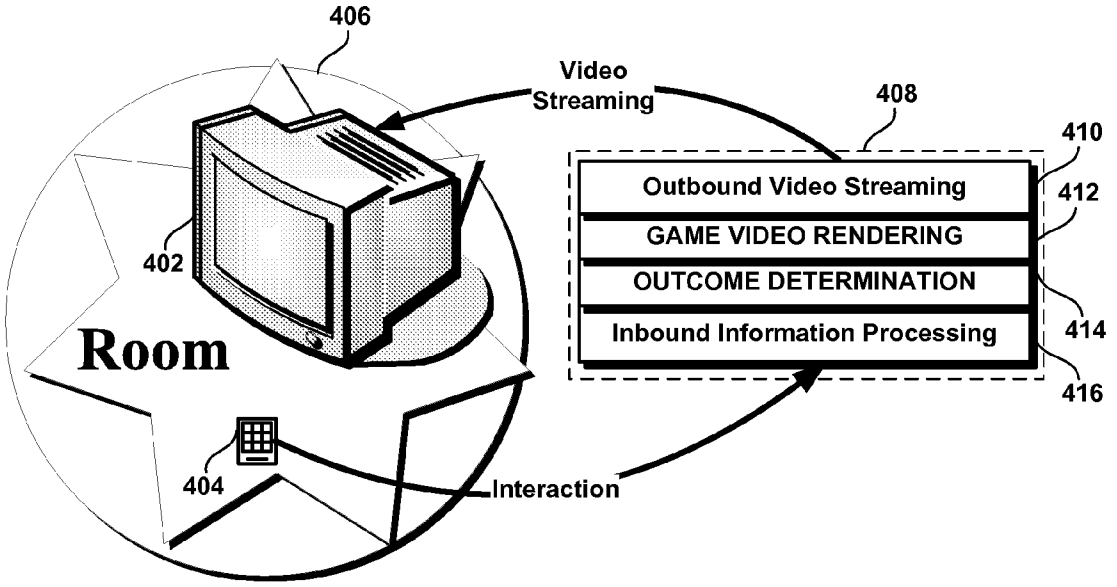

406
Video
Streaming
408
410
Outbound Video Streaming
412
GAME VIDEO RENDERING
OUTCOME DETERMINATION
414
Inbound Information Processing
416
402
Room
404
Interaction

FIG. 4

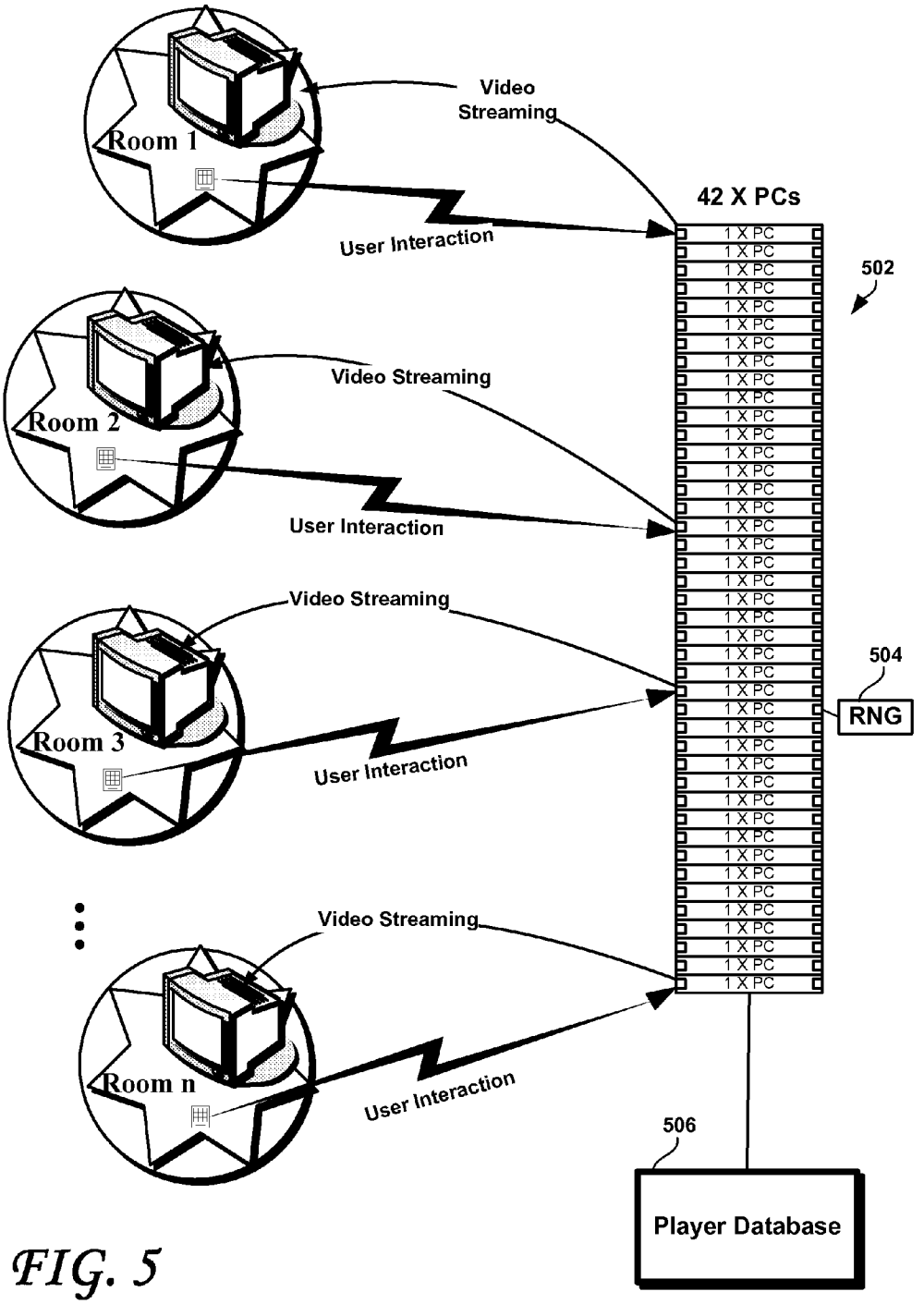

Room 1
Video Streaming
User Interaction
42 X PCs
1 X PC
502
Room 2
Video Streaming
User Interaction
Room 3
Video Streaming
User Interaction
504
RNG
Room n
Video Streaming
User Interaction
506
Player Database

FIG. 5

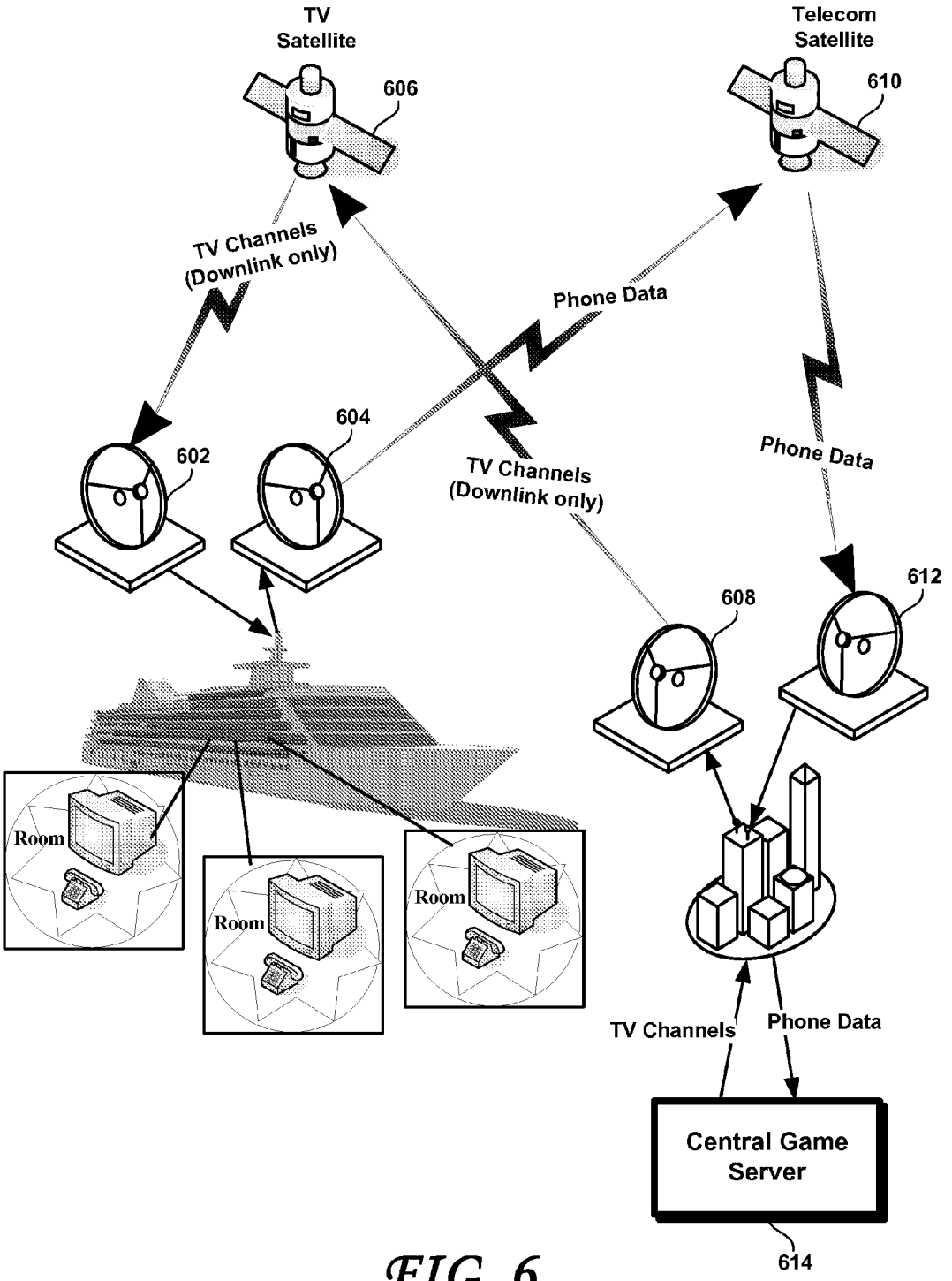

TV
Satellite
606
Telecom
Satellite
610
TV Channels
(Downlink only)
Phone Data
602
604
TV Channels
(Downlink only)
Phone Data
608
612
Room
Room
Room
TV Channels
Phone Data
Central Game
Server
614

FIG. 6

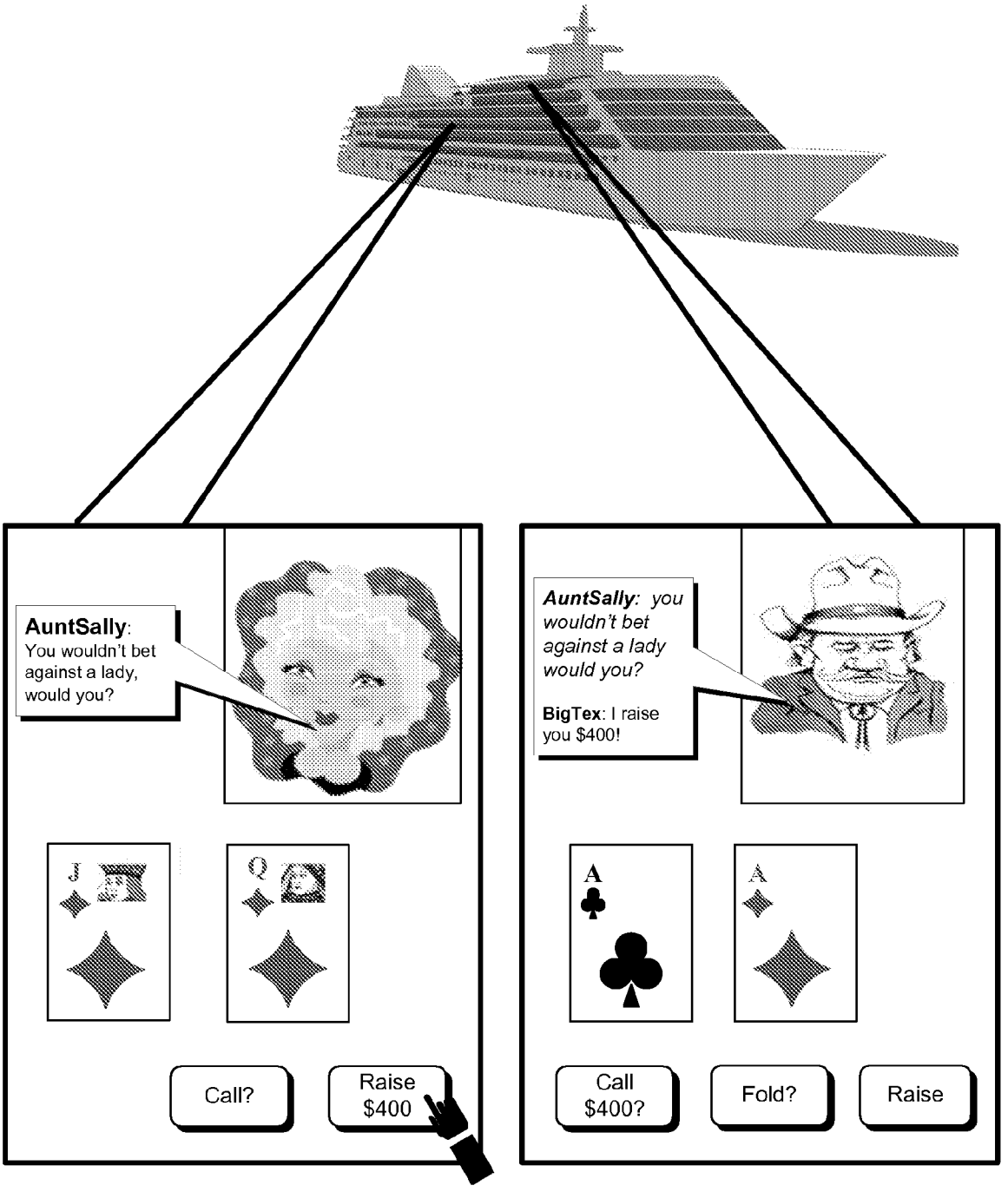

AuntSally:
You wouldn't bet against a lady, would you?
Call?
Raise $400
AuntSally: you wouldn't bet against a lady would you?
BigTex: I raise you $400!
Call $400?
Fold?
Raise

FIG. 7

IN-ROOM GAMING

[0001] This application claims the benefit under 35 U.S.C. §119(e) of provisional application Ser. No. 60/741,652, filed Dec. 2, 2005, which application is hereby incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] This invention relates generally to the field of pay computer-controlled games, either games of skills or games of chance, and more particularly to the architecture and configuration of systems that offer such games.

Description of the Prior Art and Related Information

[0003] Previous systems for allowing guests in the hospitality industry to play electronic games of skill or chance on the television sets in their rooms have all used costly, specialized technology such as interactive set-top boxes, full PCs, or other elaborate game play networks. These systems have a number of shortcomings, the first of which being that they involve a significant initial financial commitment on the part of operators for the purchase of hardware. These existing in-room systems are also slow to install and often require considerable maintenance since much of their delicate, costly hardware is spread out across numerous guest rooms and is susceptible to guest abuse. Moreover, in-room equipment is rapidly becoming obsolete because of the continuous need for ever increasing power to drive upgraded graphics. The lack of interactive TV set top box standards, especially relative to game security, has prevented the cost-effective and widespread deployment of secure in-room TV gaming.

SUMMARY OF THE INVENTION

[0004] Embodiments of the present invention rely on existing in-room televisions and telephones and do not, therefore, require additional or specialized rewiring in the rooms. More sophisticated equipment may optionally be added such as high-definition TV, encrypted TV channels, computer controlled interactive devices and individual payment card processor terminals. However, embodiments of the present invention enable the operator to revert to using the basic television and telephone configuration at any time. Embodiments of the present invention may be implemented in any cruise ship or remote hotel, irrespective of the age of the television and of the existing telephone system. Embodiments of the present invention may also include a central game server that may be located on the hospitality premises (that is, on the ship or within the hotel) or at a location that is remote from the hospitality premises. To place wagers, players may use a "personal play action controller" to place wagers. Some possible personal play action controllers may include, but are not limited to, standard telephones, wireless phones with wired base, mobile phones, PDAs, palm-sized devices optionally fitted with credit card readers, guest portable computers outfitted with smart card readers. Players may enter commands on their respective personal play action controllers, which commands may then be transmitted to the game server, either directly via data communication or via a telephone tone decoder, depending upon the implementation. The (local or remote) central game server may then process these commands, determine the outcome of the game and send corresponding selected streaming video back to the television in the player's room.

[0005] Embodiments of the present invention may utilize different technologies for upstream or uplink transport (from the personal play action controllers to the central game server) and for downstream or downlink transport (from the central game server(s) to the corresponding player's TV). Having upstream and downstream communications utilize separate transport technologies enables the re-use much of the existing telephone and television infrastructure of most any ship or remote hotel. According to embodiments of the present invention, the uplink bandwidth requirements are small. However, to provide a responsive gaming experience, the uplink transport technology should have relatively low latency. Telephone technology fits both requirements, in that it is a relatively low bandwidth medium (as it was originally developed for voice communications) and in that it has low latency, which allows even widely separated users to have natural and lag-free conversations. The downstream transport technology, however, preferably accommodates a higher bandwidth, such as to accommodate a plurality of simultaneous high-bandwidth video signals.

[0006] Upgrading either the upstream transport technology or the downstream technology (either partially or totally) is always possible within the scope of the present inventions, without necessitating significant equipment upgrades to maintain the functionality of embodiments of the present invention. Uplink interaction may be carried out via the telephone tone decoder, or via a computer controlled hand-held device, PC or laptop fitted with a phone data modem, mobile phone (e.g., GSM), or fitted with Ethernet link or WiFi. Ethernet may also be used for upstream communications via a suitable TV set top box.

[0007] According to embodiments of the present invention, in-room gaming functionality may be implemented and enabled starting with a basic but secure system that may include, for example, a television, a telephone and a Central Gaming server. Such basic system may be selectively (and progressively, if desired) upgraded with better personal play action controllers (using data modems, GSM-enabled devices, Ethernet and/or Wifi, for example).

[0008] Also, considering a 2000 room cruise ship, it may be assumed (for illustrative purposes only) that no more that 100 players may play at same time, so server capacity may provisioned for 100 players, using, for example, 100 personal computers (configured as standalone models, pizza box or blade form factor PCs, for example) and 100 TV channels. The TV channels may be encrypted or unencrypted. If TV channels are unencrypted, hotel guests may see other players playing (by flipping the TV channels on their televisions). Seeing other players engaging in wagering activities may trigger an urge to play in other players as well.

[0009] A TV channel may be linked to a personal play action controller by requesting the player to punch a code that is displayed on the TV screen in his or her hotel or stateroom. Other more sophisticated schemes may be derived, depending on the capability of the personal play action controller available. Indeed, the personal play action controller may be as simple as a telephone or as sophisticated as handheld or mobile PC wirelessly coupled to a LAN.

[0010] Accordingly, an embodiment of the present invention is a method for distributed in-room gaming in a hospitality industry establishment having a plurality of rooms,

each of the rooms having a television and a telephony device. The method may include steps of decoding codes generated by the telephony device in a first of the plurality of rooms; receiving the decoded codes in a central game server, the decoded codes being indicative of a wager input into the telephony device by a player in the first of the plurality of rooms; responsive to the received decoded codes, generating a game outcome in the central game server, and at least one of generating and selecting video and sound according to the generated game outcome, and sending the video and sound to the television in the first room via a predetermined television channel for reception and display.

[0011] The method may also include steps of displaying a code generated by the central game server on the television in the first room, and authorizing a gaming session by requesting the player to enter the displayed code on the telephony device. A step of encrypting the predetermined television channel may also be carried out. The sending step may be carried out with the television being configured to decrypt the predetermined television channel. The receiving step may be carried out with the central game server including player account means for storing individual player details, authentication credentials and credit balance. The player details may include, for example, player usernames, player pictures, player-selected avatars and/or player payment instruments, to name but a few possibilities. The decoding step may be carried out using a touch tone decoder and the telephony device may be or include a standard tone dial telephone. The decoder may be connected to a predetermined telephone line and the decoding step may be carried out with the codes generated by the telephony device being dialed by the player composing a number from the telephony device in the first room. The method may also include a player verification step, which may be carried out by requiring the player to enter his or her authentication credentials on the telephony device when initiating a gaming session with the central gaming server. The telephony device may be or include a credit card processor including a credit card reader. The method may further include a step of funding an account by receiving payment card information from a payment card inserted into the card reader by the player, and thereafter receiving player interaction and wagers via a keypad of the credit card processor. The account funding step may be carried out using a payment card further configured as a player card.

[0012] The game outcome generating step may be carried out by the central game server responsive to commands input via the in-room telephony device. The sending step may include the central game server transmitting graphics and sound to the television via a video and sound encoder. A step may be carried out of crediting or debiting the player's payment instrument according to the outcome in the game outcome generating step. The method may also include a step of cashing out, the cashing out step including (a) crediting a remaining balance of the player to a credit card or bank account via electronic fund transfer and/or (b) awarding the player's remaining balance in cash. A step may be carried out of displaying a list of currently playing guests on one or more of the televisions in the plurality of rooms. A step may also be carried out of enabling guests in different rooms to communicate with one another during game play. Guests in different rooms may be enabled to wager against one another in games of skill or chance.

[0013] According to another embodiment thereof, the present invention is a gaming network in a hospitality industry establishment having a plurality of rooms. The network may include a television in each participating one of the plurality of rooms; a telephony device in each participating one of the plurality of rooms; a game server remote from the televisions and from the telephony devices and, between each participating room and the game server, a first communication channel coupling the telephony device to the remote game server to enable the remote game server to receive player inputted commands directly from the telephony device, and a second communication channel coupling the game server to the television to enable the game server to transmit game outcome content to the television responsive to the player-inputted commands.

[0014] The second communication channel may include a TV channel encrypted using a TV encryption standard. The television or television set top box may be equipped with one or more TV decryption card readers. A TV decryption card inserted in the standard TV decryption card reader may be configured to be associated to the player, and the central game server may further be configured to cause the game outcome associated to the player to be displayed on a predetermined encrypted TV channel decoded using the decryption card. The telephony device may be or include, for example, a telephone, a personal digital assistant (PDA) including a data modem, a credit card processor, or a palm-sized device including a data modem. The palm-sized device may include a card reader. The telephony device may be or include a telephone and the first communication channel may be established by the player composing a predetermined telephone number from his or her room. The telephony device may be or include, for example, a laptop, a palmtop and/or a handheld device equipped with a telephony modem, for example. Player interaction with the game server may be made available via a standard network protocol. The telephony device may be integral, for example, to a PC, a laptop, a palmtop, a game box and/or a handheld device equipped with a local area network (LAN) interface or WiFi, and player interaction with the game server may be made available via a standard network protocol. The second communication channel may be an RF communication channel and the television may be coupled to the second communication channel by an aerial antenna. The second communication channel may be an RF communication channel and the game server may be coupled to the second communication channel by a satellite dish. A TV cable may be disposed between the game server and the television and the second communication channel may be carried by the TV cable. The second communication channel may be configured as Asymmetric Digital Subscriber Line (ADSL). A tone decoder may be coupled between the telephony device and the game server. The tone decoder may be configured to interpret player-inputted commands from the telephony device and to transmit the interpreted player-inputted commands to the game server. An RS232 (for example) line may couple the tone decoder to the game server. Alternatively, a USB line (for example) may couple the tone decoder to the game server. A video and audio encoder may be coupled to the television and the game server may be configured to transmit graphics and sound to the television via the video and audio encoder.

[0015] The game server may include a plurality of blade (for example) servers. Each of the plurality of blade servers

may be associated with a respective one of the televisions in the participating rooms. Alternatively, each blade server may be associated with more than one of the televisions in the participating rooms. A database may be coupled to the game server. The database may be configured to store player information, among other types of information. The player information may include player usernames, player pictures, player-selected avatars and/or player payment instruments, for example. The network and the central game server may be configured to enable a player to play on any available television within the network using a telephony device. The game outcome content may be an outcome of a game as determined by the game server. The second communication channel may include an Internet Protocol (IP) television channel allocated to the television and the game server may be configured to stream the game outcome content to the television channel allocated to the television over Internet Protocol (IP). A random number generator (RNG) may be coupled to the game server. A plurality of game servers may be provided, and each of the plurality of game servers may be coupled to a different random number generator. Alternatively, the plurality of game servers may be coupled to the same random number generator. The game server may include an inbound processing module configured to receive the player-inputted command over the first communication channel, an outcome determination module to determine an outcome of a game, a content rendering module to generate and render content according to the determined outcome of the game and an outbound video streaming module to stream the rendered content to the television over the second communication channel. The first and/or second communication channels may include a wired and/or a wireless computer network. The computer network may be encrypted.

[0016] The gaming server may be remotely located from the hospitality industry establishment. The first communication channel may be established between the game server and a telecom satellite, and the second communication channel may be established between the game server and a TV satellite. A first communication dish may be provided to send and receive telephony data between the game server and the telecom satellite and a second communication dish for the game server to send TV content to the TV satellite. A third communication dish may be provided to send and receive telephony data between the player telephony device and the telecom satellite and a fourth communication dish may be provided for the player TV to receive TV content from the TV satellite. For example, the hospitality industry establishment may be a cruise ship.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. **1** illustrates an embodiment of the present invention in which a television and a personal play action controller are combined to enable a hospitality industry operator to create an "in-room gaming TV" that allows guests to communicate and wager.

[0018] FIG. **2** illustrates an embodiment of the present invention, reduced to its simplest form in which the personal play action controller is or includes a standard telephone. FIG. **2** also illustrates an exemplary mode of operation of this embodiment.

[0019] FIG. **3** illustrates additional embodiments of the present invention that include various types of TV reception and various types of personal play action controllers.

[0020] FIG. **4** illustrates further aspects of embodiments of the present invention in which a personal play action controller may communicate (uplink) with a central game server and in which the central game server may communicate (downlink) with the television via streamed video. In this embodiment, the personal play action controller may not communicate directly with the television.

[0021] FIG. **5** illustrates an embodiment of the present invention in which each in-room gaming TV may communicate with its own dedicated PC at and/or coupled to the central game server.

[0022] FIG. **6** illustrates FIG. **6** illustrates embodiments of the present invention in which the game server is located on land and in which the communications to and from the central game server are carried out via satellite.

[0023] FIG. **7** illustrates further aspects of embodiments of the present invention in which players may elect to make their picture and/or username available to other players to stimulate competition and create relationships.

DETAILED DESCRIPTION

[0024] Reference will now be made in detail to the construction and operation of preferred implementations of the present invention illustrated in the accompanying drawings. The following description of the preferred implementations of the present invention is only exemplary of the invention. The present invention is not limited to these implementations, but may be realized by other implementations.

[0025] FIG. **1** illustrates an embodiment of the present invention in which a television **102**, **110** and a personal play action controller **104**,**112** are combined to enable a hospitality industry operator to create an "in-room gaming TV"**106**, **114** respectively. The in-room gaming TVs **106**, **114** allow guests to communicate and wager (against a central game server **108** and/or against one another). in-room gaming TVs **106** may communicate with the game server **108** maintained by the hospitality premises operator. The central game server **108** may be collocated in the guest facility (e.g., hotel, cruise ship and the like) or may alternatively be disposed at a remote location. It should be noted that embodiments of the present invention enable in-room gaming with only a minimum of setup expenses. This is because, in its simplest embodiment, the present invention utilizes the equipment that is already almost universally available in guest rooms; that is, a standard television and a telephone. In this embodiment, no computer hardware is necessary in the guest rooms, nor is there software to develop or maintain for any in-room device. Little or no additional hardware and/or cabling may be necessary in the guest rooms. Moreover, as detailed below, the central game server may be configured using standard, off-the shelf personal computers or rack-mounted servers. Consequently, this embodiment may be rapidly deployed across a large number of guest rooms at a non-prohibitive cost.

[0026] FIG. **2** illustrates an embodiment of an in-room gaming TV **202** in which a standard (e.g., touchtone) telephone **204** is used with a standard television (digital or analog, CRT, LCD TV, LDC projection, DLP projection or Plasma, standard or High-Definition, NTSC, PAL or SECAM, for example) **206** to enable players to make wagers. In the embodiment of FIG. **2**, players interact with

a game displayed on the television **206** and may make wagers using the keypad of the standard touchtone telephone **204**. Keycodes may then be decoded by a tone decoder **206** and forwarded to the central game server **208**, which interprets the player's actions and determines the correct game outcome. The tone decoder **206** may communicate with the game server **208** via a serial connection such as an RS232 link for example, as the data rates upstream to the game server are likely quite low. Alternatively, the tone decoder **206** may communicate with the game server **208** via a USB connection, for example. The video rendering of the determined outcome of the game may then streamed to the television **206** via a TV channel allocated to the player's room. This may be carried out via a standard video encoder and television channel mixer **210**, for example. In this manner, the uplink and downstream communication channels may be different from one another and rely, at least for the upstream communication channel (i.e., from the in-room gaming television **202** to the game server **208**) upon the existing telephone and/or data lines already deployed in the guest rooms.

[0027] FIG. **3** illustrates other aspects of embodiments of the present invention. The television **302** may utilize most any available TV channel reception methods. For example, as shown in FIG. **3**, the television **302** may utilize an aerial antenna to receive the video stream and other relevant gaming data from the gaming server. Alternatively, the television **302** may be configured to receive the TV channel enabling the guest to place wagers via a satellite dish, cable, ADSL and/or Internet Streaming, to name but a few possibilities. Similarly, the personal play action controller **304** may be embodied as a standard telephone (wired or wireless), wireless phone, mobile phone, PDA **310** and/or other PC (e.g., a laptop computer) or palm-sized device (optionally outfitted with card reader), as shown at **308**. The personal play action controller may be provided by the game operator or may be the property of the player. According to an embodiment of the present invention, the personal play action controller **304** (however embodied) need not communicate with the television, TV decoder and/or any set top box that may be present. Indeed, the personal play action controller **304** need only communicate with the central game server **208**, via a telephone line, telephone modem, Ethernet or WiFi (for example). Payment on the wagers placed by players of present in-room gaming systems may be by credit card or player card that may be read via a standard secure handheld credit card processor (whether wired to base or wireless) that is configured to communicate with an authorization server. An example of such a handheld credit card processor that operates via the guest room's telephone link is shown specifically at reference numeral **308**. Player interaction may be carried out via the credit card processor's keypad, whether a standard or a modified keypad.

[0028] FIG. **4** illustrates further aspects of embodiments of the present invention. According to the embodiment of FIG. **4**, the personal play action controller **404** may communicate with the central game server **408**, where game processing and rendering may occur. As shown, the player interaction, keyed into the player's personal play action controller **404**, may be processed in an inbound information processing module **416**. The keypad of the play action controller (play action controller which may be based on a standard wired/wireless telephone, handheld computer controller with data modem, or a credit card processor) may be custom designed to more closely resemble the usual play buttons found on a standard casino slot machine. Thereafter, an outcome of the game currently played by the player may be determined in an outcome determination module **414** according to, for example, a Random Number Generator (RNG) and one or more predetermined paytables. Suitable graphics, sounds and/or video sequences may then be generated and rendered in the video rendering module **412** and streamed or otherwise sent or provided to the television **402** or other display in the player's room via the outbound video module **410** of the central game server **408**. Once a game outcome is determined by the central game server, streaming video may be transmitted to the television **402** on which the player is playing.

[0029] FIG. **5** illustrates an embodiment of the present in-room gaming methods and systems in which each in-room gaming TV in the rooms may communicate with its own dedicated PC at the central game server **502**. A player database **506** may be maintained for storing player photographs and/or biographical information that players may elect to make available to other players. The player database **506** may also include specifics of the player's payment instruments (e.g., credit cards, etc.). The central game server **502** may include one or more RNGs. For example, each of the constituent PCs of the game server **502** may be provided with its own hardware RNG. Alternatively, each of the constituent PCs of the game server **502** may be coupled to a single RNG. Note that FIG. **5** is but one possible embodiment of the game server **502**. For example, the game server **502** need not be constituted by individual PCs. FIG. **5**, however, illustrates the trend in server hardware to increase the processing power per square foot of floor space. As shown, computer cabinets are available in multiples of the standardized "U" size and 42 U high cabinets (as shown) are commonly used for computer servers. 1 U-size "pizza box like" servers are very popular with Internet service providers, which form factor allows 42 computer servers to be stacked on top of one another in a 42 U size cabinet, as shown. Already, computer suppliers are packing twice and even 4-times this density, whereby 2 and 4 computer servers are integrated in a 1 U rack, thus offering 84 and 168 computer servers **112** per 42 U cabinet, as shown at reference numerals **1504** and **1506**, respectively. Therefore, it is becoming a relatively straightforward matter to provide high density processing, enabling the game server to provide a server for each guest room, if that is deemed worthwhile and cost effective.

[0030] An alternative to the 1 U pizza size form factor servers is the "blade" size factor whereby a complete server may be integrated on a narrow board or blade. One presently proposed configuration allows 9 or 10 blade servers to be logged into a 3 U size rack, which may, in turn, be stacked onto one another. The complete server fits on a small board that may be very easily accessed for replacement or upgrade. Higher density dense servers are being developed that make use of very low power processing components such as fitted in laptops and hand held PCs, to help resolve heat dissipation problems. It is to be noted that each of the servers discussed above may include a complete computer with CPU, memory, disk, network interface, and optionally full graphics.

[0031] According to one embodiment of the present invention, each of the PCs shown in FIG. **5** corresponds to a

central game server and may be associated with and connected to a remotely located personal play action controller. Each of the PCs shown in FIG. **5** may optionally be configured for multimedia graphics, generating 3D video and data streams encoded in a manner that is suitable for transmission to the televisions or other displays, decoded and displayed for the players' enjoyment. In this manner, the central game server **502** may be constructed of an array of inexpensive servers, such as off the shelf PCs. Indeed, according to another embodiment of the present invention, the video stream shown to the player may be generated (in MPEG4 format, for example) and streamed to the gaming machine over a broadband connection.

[**0032**] A high-speed network may be provided to bring the video signal to the television (or other display device) within the guest rooms which then may not require anything more than their own video receiver. Suitable means of transmitting such a video signal to the guest rooms may include, for example, cable or wireless TV, HDTV or digital TV broadcast whereby each television or other display may be tuned to receive or able to receive a separate predetermined frequency corresponding to the image to be displayed to the player, high quality video streaming such as MPEG2, MPEG4, or other emerging digital video standards via Fast Ethernet such as 100 Mbps, 1000 Mbps and upcoming higher bandwidth protocols, a fiber optic network, a wireless network such as IEEE 802.11b (11 Mbps), 802.11a (54 & 72 Mbps @ 5 GHz), 802.11g (54 Mbps @ 2.4 GHz) and upcoming higher bandwidth protocols. It is to be noted that the means of video transmission and reception listed above, whether based on TV technology or media streaming technology, are already fairly economical and it is believed that the associated costs will continue to decrease rapidly.

[**0033**] According to an embodiment of the present invention, high quality graphics and video may be provided to the guest rooms if generated by an individual server (e.g., PC, as shown in FIG. **5**) at the central game server **502**. The generated video signal may then be transmitted to the guest room to be displayed on the in-room television or other in-room display. In this manner, there is considerable power to generate very advanced and attractive graphics for the player. Real-time translation to video streaming such as MPEG2 or MPEG4 may require hardware acceleration that may be carried out by a separate dedicated integrated circuit or alternatively may be directly integrated within the graphic processing unit of the server associated with the guest room (or range of guest rooms, as a one-to-one correspondence between guest rooms and PCs within the game server may not be necessary). The assignment of a PC or other processor within the game server **502** to a guest room may be made dynamically, as the players log onto the network to begin game play. In this manner, the individual PCs within the central game server may effectively operate as a pool of available processor resources, to be assigned and used dynamically, as the game play traffic requires.

[**0034**] According to further embodiments of the present invention, set top boxes provided within each of the guest rooms may rather inexpensively enhance the panoply of services available to the guest and enable a rich gaming experience. Devices to receive high quality video information from the central game server **502**, decode it and display it on a TV screen or a video display monitor are readily available. These devices use advanced electronic components developed for the latest generation Internet ready set top boxes and interactive TV systems. For example, such devices may be drawn from the devices and systems disclosed in commonly assigned and co-pending patent application Ser. No. 09/932,282 filed on Aug. 17, 2001 and entitled "Interactive Television Devices And Systems," the disclosure of which is incorporated herein in its entirety.

[**0035**] FIG. **6** illustrates embodiments of the present invention in which the central game server is located on land (alternatively may be located on another ship) and in which the communications to and from the game server are carried out via satellite. As shown, the various in-room gaming TVs aboard the cruise ship may send the player interaction data via a suitable antenna **604** to an orbiting geostationary telecom satellite (for example), as shown at **610**. Such interaction data may be in the form of telephone data. The telecom satellite **610** may then relay the received telephone data to a (land-based, for example) receiving antenna **612**, which may be coupled to a central game server **614**. In turn, the central game server **614** may determine the outcome of the game, any payout information, and generate and render suitable graphics and video to be sent back to the player having caused the interaction data to be sent to the telecom satellite **610**. The rendered graphics may then be transmitted, via a suitable antenna **608**, to an orbiting or geostationary television satellite **606** which may then relay the received graphics and/or video stream to a suitable receiving antenna **602** on the cruise ship for transmission to the player's In-Room TV. Therefore, it is understood that the upstream communication channel (i.e., from the personal play action controller to the central game server **614** may be different than the downstream communication channel from the central game server **614** to the In-Room TV. Alternatively, embodiments of the present invention may be implemented wherein the upstream and downstream communication channels are one and the same. In addition, one or both of the communication channels may include the Internet.

[**0036**] FIG. **7** illustrates a feature of an embodiment of the present in-room gaming methods and systems in which the players may elect to make their photograph (or other avatar) and/or username available to gamers in other rooms to stimulate competition and create relationships. This feature may be selectively turned on or off by the players, as desired. Photographs may come from the player database or any other means of capturing a player's picture.

[**0037**] The central game server may also be linked to standard slot machines located on-board the cruise-ship or in the remote hotel premises.

[**0038**] While the foregoing detailed description has described preferred embodiments of the present invention, it is to be understood that the above description is illustrative only and not limiting of the disclosed invention. Those of skill in this art will recognize other alternative embodiments and all such embodiments are deemed to fall within the scope of the present invention. Thus, the present invention should be limited only by the claims as set forth below.

What is claimed is:

1. A method for distributed in-room gaming in a hospitality industry establishment having a plurality of rooms, each of the rooms having a television and a telephony device, the method comprising the steps of:

decoding codes generated by the telephony device in a first of the plurality of rooms;

receiving the decoded codes in a central game server, the decoded codes being indicative of a wager input into the telephony device by a player in the first of the plurality of rooms;

responsive to the received decoded codes, generating a game outcome in the central game server, and

at least one of generating and selecting video and sound according to the generated game outcome, and

sending the video and sound to the television in the first room via a predetermined television channel for reception and display.

2. The method of claim 1, further including the steps of

displaying a code generated by the central game server on the television in the first room, and

authorizing a gaming session by requesting the player to enter the displayed code on the telephony device.

3. The method of claim 1, further comprising a step of encrypting the predetermined television channel.

4. The method of claim 3, wherein the sending step is carried out with the television being configured to decrypt the predetermined television channel.

5. The method of claim 1, wherein the receiving step is carried out with the central game server further comprising player account means for storing individual player details, authentication credentials and credit balance, the player details including at least one of player usernames, player pictures, player-selected avatars and player payment instruments.

6. The method of claim 1, wherein the decoding step is carried out using a touch tone decoder and wherein the telephony device is a standard tone dial telephone.

7. The method of claim 6, wherein the decoder is connected to a predetermined telephone line and wherein the decoding step is carried out with the codes generated by the telephony device being dialed by the player composing a number from the telephony device in the first room.

8. The method of claim 1, further comprising a player verification step, the player verification step being carried out by requiring the player to enter his or her authentication credentials on the telephony device when initiating a gaming session with the central gaming server.

9. The method of claim 1, wherein the telephony device is a credit card processor including a credit card reader and wherein the method further comprises a step of funding an account by receiving payment card information from a payment card inserted into the card reader by the player, and thereafter receiving player interaction and wagers via a keypad of the credit card processor.

10. The method of claim 8, wherein the account funding step is carried out using a payment card further configured as a player card.

11. The method of claim 1, wherein the game outcome generating step is carried out by the central game server responsive to commands input via the in-room telephony device.

12. The method of claim 1, wherein the sending step includes the central game server transmitting graphics and sound to the television via a video and sound encoder.

13. The method of claim 5, further comprising a step of crediting or debiting the player's payment instrument according to the outcome in the game outcome generating step.

14. The method of claim 1, further comprising a step of cashing out, the cashing out step including one of (a) crediting a remaining balance of the player to a credit card or bank account via electronic fund transfer and (b) awarding the player's remaining balance in cash.

15. The method of claim 1, further comprising a step of displaying a list of currently playing guests on at least one of the televisions in the plurality of rooms.

16. The method of claim 1, further comprising a step of enabling guests in different rooms to communicate with one another during game play.

17. The method of claim 1, further comprising a step of enabling guests in different rooms to wager against one another in games of skill or chance.

18. A gaming network in a hospitality industry establishment having a plurality of rooms, comprising:

a television in each participating one of the plurality of rooms;

a telephony device in each participating one of the plurality of rooms;

a game server remote from the televisions and from the telephony devices, and

between each participating room and the game server,

a first communication channel coupling the telephony device to the remote game server to enable the remote game server to receive player inputted commands directly from the telephony device, and

a second communication channel coupling the game server to the television to enable the game server to transmit game outcome content to the television responsive to the player-inputted commands.

19. The gaming network of claim 18, wherein the second communication channel includes a TV channel encrypted using a TV encryption standard.

20. The gaming network of claim 18, wherein the television or television set top box is equipped with at least one standard TV decryption card reader.

21. The gaming network of claim 20, wherein a TV decryption card inserted in the standard TV decryption card reader is configured to be associated to the player, the central game server displaying the game outcome associated to the player on a predetermined encrypted TV channel decoded using the decryption card.

22. The gaming network of claim 18, wherein the telephony device is one of a telephone, a personal digital assistant (PDA) including a data modem, a credit card processor, and a palm-sized device including a data modem.

23. The gaming network of claim 22, wherein the palm-sized device includes a card reader.

24. The gaming network of claim 18, wherein the telephony device is a telephone and wherein the first communication channel is established by the player composing a predetermined telephone number from his or her room.

25. The gaming network of claim 18, wherein the telephony device is one of a PC, a laptop, a palmtop and a handheld device equipped with a telephony modem and

wherein player interaction with the game server is made available via a standard network protocol.

26. The gaming network of claim 18, wherein the telephony device is integral to one of a PC, a laptop, a palmtop, a game box and a handheld device equipped with a local area network (LAN) interface or WiFi, and player interaction with the game server is made available via a standard network protocol.

27. The gaming network of claim 18, wherein the second communication channel is an RF communication channel and wherein the television is coupled to the second communication channel by an aerial antenna.

28. The gaming network of claim 18, wherein the second communication channel is an RF communication channel and wherein the game server is coupled to the second communication channel by a satellite dish.

29. The gaming network of claim 18, further including a TV cable disposed between the game server and the television and wherein the second communication channel is carried by the TV cable.

30. The gaming network of claim 18, wherein the second communication channel is configured as Asymmetric Digital Subscriber Line (ADSL).

31. The gaming network of claim 18, further including a tone decoder coupled between the telephony device and the game server, the tone decoder being configured to interpret player-inputted commands from the telephony device and to transmit the interpreted player-inputted commands to the game server.

32. The gaming network of claim 31, further comprising an RS232 line coupling the tone decoder to the game server.

33. The gaming network of claim 31, further comprising a USB line coupling the tone decoder to the game server.

34. The gaming network of claim 18, further including a video and audio encoder coupled to the television and wherein the game server is configured to transmit graphics and sound to the television via the video and audio encoder.

35. The gaming network of claim 18, wherein the game server includes a plurality of blade servers.

36. The gaming network of claim 35, wherein each of the plurality of blade servers is associated with a respective one of the televisions in the participating rooms.

37. The gaming network of claim 35, wherein each blade server is associated with more than one of the televisions in the participating rooms.

38. The gaming network of claim 18, further including a database coupled to the game server, the database being configured to store player information.

39. The gaming network of claim 38, wherein the player information includes at least one of player usernames, player pictures, player-selected avatars and player payment instruments.

40. The gaming network of claim 18, wherein the network and the central game server are configured to enable a player to play on any available television within the network using a telephony device.

41. The gaming network of claim 18, wherein the game outcome content is an outcome of a game as determined by the game server.

42. The gaming network of claim 18, wherein the second communication channel includes an Internet Protocol (IP) television channel allocated to the television and wherein the game server is configured to stream the game outcome content to the television channel allocated to the television over Internet Protocol (IP).

43. The gaming network of claim 41, further comprising a random number generator coupled to the game server.

44. The gaming network of claim 41, further comprising a plurality of game servers, and wherein each of the plurality of game servers is coupled to a different random number generator.

45. The gaming network of claim 41, further comprising a plurality of game servers, and wherein the plurality of game servers are coupled to the same random number generator.

46. The gaming network of claim 18, wherein the game server includes an inbound processing module configured to receive the player-inputted command over the first communication channel, an outcome determination module to determine an outcome of a game, a content rendering module to generate and render content according to the determined outcome of the game and an outbound video streaming module to stream the rendered content to the television over the second communication channel.

47. The gaming network of claim 18, wherein at least one of the first and second communication channels includes one of a wired and a wireless computer network.

48. The gaming network of claim 47, wherein the computer network is encrypted.

49. The gaming network of claim 18, wherein the gaming server is remotely located from the hospitality industry establishment and wherein the first communication channel is established between the game server and a telecom satellite, and wherein the second communication channel is established between the game server and a TV satellite.

50. The gaming network of claim 49, further including a first communication dish to send and receive telephony data between the game server and the telecom satellite and a second communication dish for the game server to send TV content to the TV satellite.

51. The gaming network of claim 49, further including a third communication dish to send and receive telephony data between the player telephony device and the telecom satellite and a fourth communication dish for the player TV to receive TV content from the TV satellite.

52. The gaming network of claim 18, wherein the hospitality industry establishment is a cruise ship.

* * * * *