A method for contacting a patron at a gaming device is disclosed using a patron messaging system via a patron loyalty system. This method includes: providing a patron message database that is operatively associated with a server and the patron loyalty system through a network; providing one or more gaming devices that are interconnecting to the server through the network, and wherein each gaming device includes a player tracking device, a card reader, a display device, and a message response system; entering a patron message intended for one or more patrons into the patron messaging system; storing the patron message in the patron message database; detecting insertion of a patron card into a card reader of a gaming device on the network; forwarding the patron message from the patron message database to the player tracking device incorporated in the gaming device having the inserted patron card; presenting the patron message for viewing on the display device of the gaming device having the inserted patron card; and optionally enabling response to the patron message via the message response system of the gaming device having the inserted patron card.
**FIGURE 1**

- **Systems Network**
  - **Network Information**
  - **Network Interface**
- **Card Reader**
- **Converter Card**
  - **Pentium class Processor (Graphic User Interface enabling Processor)**
  - **Calibration Software**
  - **Systems Logic Process**
  - **Game Display Process**
- **Input/Output Processor (True Real Time enabling Processor)**
  - **Gaming Logic Process**
- **Game Platform**
- **Display Screen**
  - **Gaming Interface**
  - **Systems Interface**
- **Gaming Device**
FIGURE 2
(without input and display system)

Gaming Device

Gaming Interface

Display Screen

Input/Output Processor (True Real Time enabling Processor)

RS 232

Game Platform

Pentium class Processor (Graphic User Interface enabling Processor)

RS 232

Input/Output Processor (True Real Time enabling Processor)

Display Screen

Gaming Interface

Gaming Device

Systems Network
System Information

Network Interface

Card Reader

2 line VF display

12 digit Keypad

18

16

PC

PC

PC

14

RS 232

RS 232
STORE AND FORWARD PATRON ACCOUNT MESSAGING METHOD

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 09/967,221 filed Sep. 28, 2001, entitled INTEGRATED DISPLAY AND INPUT SYSTEM, which is hereby incorporated herein by reference. This application is also a continuation-in-part of U.S. patent application Ser. No. 10/943,771 filed Sep. 16, 2004, entitled USER INTERFACE SYSTEM AND METHOD FOR A GAMING MACHINE, which is hereby incorporated herein by reference. This application is related to co-pending U.S. patent application Ser. No. 11/627,234, filed Jan. 2007, entitled STORE AND FORWARD PATRON ACCOUNT MESSAGING SYSTEM.

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FIELD OF THE INVENTION

[0003] This invention relates generally to a player messaging method and, more particularly, to a methodology for player messaging via a back-end server patron account.

BACKGROUND

[0004] Traditionally, gaming machines have been designed for gaming purposes only. In this regard, gaming machines have been constructed only to include gaming functionality. Recently, however, casino owners have become aware that by adding additional features to gaming machines, they may be able to maintain a player’s attention to the gaming machines for longer periods of time. This, in turn, leads to the player wagering at the gaming machine for longer periods of time, thereby increasing casino profits.

[0005] Customers demand product differentiation and steady improvements. Additionally, patrons want to be assured that they are afforded some degree of special treatment. Some previous attempts to achieve such results, including having casino personnel provide personalized services (players’ clubs and other loyalty programs) have resulted in improved slot performance in exchange for the perceived attentiveness. Notably, this perceived attention is, in and of itself, a commodity. Patrons participate more readily when they feel they have more access and attention.

SUMMARY

[0006] Briefly and in general terms, one presently preferred embodiment is directed towards a method for contacting a patron at a gaming device using a patron messaging system via a patron account and loyalty system. The method including: providing a patron message database that is operatively associated with a server and the patron account and loyalty system through a network; providing one or more gaming devices that are interconnecting to the server through the network, and wherein each gaming device is operatively associated with a message response system; entering and managing a message intended for one or more patrons using a message entry and management system, wherein the message entry and management system is operatively associated with the patron message database; storing the patron message in the patron message database for eventual transmission to a patron upon the detection of a patron card on the system; forwarding the patron message from the patron message database to a player tracking device incorporated in a gaming device, wherein each player tracking device is operatively associated with a display device, and wherein the patron message is viewable via the display device; and optionally enabling response to the patron message via the message response system.

[0007] In accordance with another aspect of a presently preferred embodiment, the patron message database that stores patron messages for eventual transmission, forwards the stored patron messages to the gaming device at which the patron is located upon the detection of a patron card on the system. In some embodiments, the retrieval of patron messages requires a personal identification number. In other embodiments, the retrieval of patron messages requires a username and a password. Referring to another aspect, typically patron messages may be designated as private or public. In this regard, patron messages designated as private require satisfaction of additional security measures for viewing.

[0008] In accordance with still another aspect, in one embodiment the display device on which the patron messages are viewable is a separate device than a gaming display device used for game play on the gaming device. In other embodiments, the display device on which the patron messages are viewable is the same display device used for game play on the gaming device. Moreover, in one embodiment, the display device only displays text-based patron messages. However, in other embodiments, the display device displays multi-media graphically-enabled patron messages.

[0009] In accordance with yet another aspect, in one embodiment the message response system includes an input device, such as a keypad or a touch-screen. The patron messaging system enables many types of functionality including, by way of example only, and not by way of limitation: targeted messaging to groups of patrons, third party marketing, paging services, patron-to-patron messaging services, and combinations thereof. In some embodiments, the patron messaging system is offered as a pay service to casino patrons. In other embodiments, the patrons are offered financial incentives for accepting marketing messages from the patron messaging system. Such financial incentives by way of example only, and not by way of limitation: free game credits, store discounts, restaurant discounts, hotel room discounts, enhanced game odds, enhanced game bonuses, and combinations thereof.

[0010] In another aspect of a preferred embodiment, acknowledging receipt of a patron message activates other processes including: issuing bonuses, sending a waitress to the patron’s gaming station, issuing complementary drinks, and combinations thereof. Further, in some embodiments, the patron messages have additional parameters including abilities to save messages after viewing, print messages after
viewing, automatically delete messages after viewing, and prompt for additional message deletion options.

[0011] Another presently preferred embodiment is also directed towards a method for contacting a patron at a gaming device using a patron messaging system via a patron loyalty system. This method includes: providing a patron message database that is operatively associated with a server and the patron loyalty system through a network; providing one or more gaming devices that are interconnected to the server through the network, and wherein each gaming device includes a player tracking device, a card reader, a display device, and a message response system; entering a patron message intended for one or more patrons into the patron messaging system; storing the patron message in the patron message database; detecting insertion of a patron card into a card reader of a gaming device on the network; forwarding the patron message from the patron message database to the player tracking device incorporated in the gaming device having the inserted patron card; presenting the patron message for viewing on the display device of the gaming device having the inserted patron card; and optionally enabling response to the patron message via the message response system of the gaming device having the inserted patron card.

[0012] Still another presently preferred embodiment is directed towards a method for contacting a patron at a gaming device using a patron messaging system via a patron account and loyalty system. The method includes: storing a patron message intended for one or more patrons; detecting a card insertion in a card reader at a gaming device by a patron who has a stored waiting message; sending an alert to the patron informing him of the waiting message; receiving a response to the alert, confirming that the patron is ready to receive the waiting message; transmitting the message to a player tracking device associated with the gaming device having the inserted patron card, wherein the player tracking device is operatively associated with a display device; presenting the message on the display device associated with the gaming device having the inserted patron card; and enabling acknowledgement that the player has read the message.

[0013] Other features and advantages of a disclosed embodiment will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate by way of example, the features of the disclosed embodiment.

**DETAILED DESCRIPTION**

[0018] FIG. 5 illustrates a front view of the display screen of a gaming device while a gaming interface is activated;

[0019] FIG. 6 illustrates a front view of the display screen of the gaming device in FIG. 5, while a full screen player services interface is activated;

[0020] FIG. 7 illustrates a front view of the display screen of the gaming device in FIG. 5, while a full screen employee systems interface is activated;

[0021] FIG. 8 illustrates a relational diagram of the security architecture of a display and input system that shows the information security boundary logically dividing the critical game security components inside of the boundary from the non-critical components outside of the boundary, and

[0022] FIG. 9 illustrates patron messaging system for storing and forwarding a patron via a patron account and loyalty system.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0014] FIG. 1 illustrates a relational diagram of a display and input system utilizing a two processor platform gaming device in conjunction with a gaming system;

[0015] FIG. 2 illustrates a relational diagram of the two processor platform gaming device and gaming system of FIG. 1, without the display and input system;

[0016] FIG. 3 illustrates a front view of a display screen of a gaming device while a gaming interface is activated for game play in conjunction with a small systems interface window displaying scrolling text;

[0017] FIG. 4 illustrates a front view of the display screen of the gaming device in FIG. 3, while a gaming interface is activated for game play in conjunction with a partial screen systems interface displaying a 12 digit keypad;

[0023] One embodiment of the display and input system is directed towards the integration of system functions with gaming functions on a video display screen of a gaming device. The display and input system provides enhanced player satisfaction and excitement, as well as improved gaming device reliability, interactivity, flexibility, security, and accountability. Referring now to the drawings, wherein like reference numerals denote like or corresponding parts throughout the drawings and, more particularly to FIG. 1, there is shown a display and input system 10 constructed in accordance with one disclosed embodiment.

[0024] Referring now to FIG. 1, one embodiment of a display and input system 10 for players and casino employees is shown. The display and input system 10 provides an enhanced means for displaying service and system information 14 via a system network 18 to a player and/or to a casino employee. The display and input system 10 enables part or all of a video display screen 40 in a gaming device 50, which had previously been used only as a gaming interface 30, to be utilized as a systems interface 20 for data entry and retrieval of the service and system information 14. The systems interface 20 accesses service and system information 14 from the system network 18. This is a dramatic improvement over traditional system components (input/output peripherals) that have been used in the past to access service and system information 14 from the system network 18.

As shown in FIG. 2, these traditional system components include 2-line, 20 character VF displays and 12-digit keypads. Referring again to FIG. 1, it should be noted that an embodiment of the display and input system 10, does not control game play itself (e.g., game play betting, game play flow, or game play operation). Rather, the display and input system 10 provides only a limited form of game play monitoring, indirectly, with respect to the monitoring of player points.

[0025] As shown in FIG. 2, current gaming devices utilize the video display screen 40 solely as a gaming interface 30 for the device 50. The gaming interface 30 provides access to the display screen 40 associated with game play where the player participates in gaming activity. However, in the embodiment as shown in FIG. 1, the display and input system 10 integrates both the systems interface 20 and the gaming interface 30 via the video display screen 40, which
again, was previously used only for game play via the gaming interface. In one embodiment, the systems interface 20 of the display and input system 10 includes a touch-screen keypad and display. In this manner, service and system information 14 from the system network 18 is displayed to players through the systems interface 20 within the display screen 40. Further, the systems interface 20 provides a player with direct interactive access to the service and system information 14 in the system network 18, preferably by using the display screen 40 as a touch-screen input device. This type of systems interface 20 provides greater simplicity, flexibility, player excitement, interactivity, and developmental options than using traditional system components 60 that provide only limited service/system access, typically through codes or command lines.

[0026] One embodiment of the display and input system 10 uses a game platform 70 as its foundation. The game platform 70 uses two separate processors connected by a serial line, preferably RS-232. The first processor, referred to as the input/output processor 80 (IOP), contains no video or sound hardware. The IOP 80 is responsible for all hard real time processing requirements (e.g., approximately sub 200 milliseconds), which are typically hardware driven requirements. The IOP 80 contains all of the game logic 34, random number generators (RNG), host input/output (I/O), device I/O, and the core main and personality EPROMs. The term “mains,” refers to the majority of the code that runs the physical hardware and peripherals related to the wagering game. The term “personalities” refers to code that contains the rules of the wagering game, which include by way of example only, and not by way of limitation, game odds, probabilities, winning symbols, and the like.

[0027] The second processor is a diskless, Pentium class PC-based processor 90. The processor 90 accesses a CD-ROM (read-only drive) that controls video and sound output. The graphics, sound files, presentation software, and basic operating system are stored on the CD-ROM. A modified BIOS chip, referred to as a BIOS+, provides typical PC boot functions, as well as verification and decryption algorithms. The Pentium class processor 90 is generally defined as a processor capable of supporting a graphic user interface (GUI) gaming environment. In other embodiments, a non-Pentium class (but substantially equivalent) processor is utilized instead of the Pentium class processor 90. Nevertheless, it will be appreciated that this processor can be of any type including, by way of example only, and not by way of limitation, another non-Pentium Intel processor, Advanced Micro Devices (AMD) processor, Motorola processor, or the like.

[0028] One embodiment of the display and input system 10 enables the system components 60 to take advantage of the game platform 70, by enabling the system components 60 to communicate directly with the processor 90, which provides the functionality of a graphic user interface (GUI) instead of having to access service and system information 14 from the system network 18 through a Game Monitoring Unit (Network Interface Card). This communication between the system components 60 and the processor 90 enables the processor to display the service and system information 14 from the system network 18 through a systems interface 20 via the display screen 40. Moreover, the processor 90 accesses the service and system information 14 from the system network 18 and displays the information in the systems interface 20 without involving the game logic process 34 in the IOP gaming processor 80. Thus, in one embodiment, the gaming interface 30 is displayed on the display screen 40 by the game logic process 34 in the IOP 80, while the systems interface 20 is displayed on the display screen 40 by the systems logic process 26 in the processor 90.

[0029] In one embodiment, the processor 90 runs two processes: the game display process 24 and the systems logic process 26. The systems logic process 26 provides access to system information 14 on a system network 18 via the systems interface 20. The game display process 24 includes audiovisual capabilities necessary to generate a wagering game via the gaming interface 30. Typically, these two processes are kept separate due to regulatory concerns.

[0030] As described above, the game logic process 34, runs on the IOP 80. The IOP 80 runs the game logic process 34 that includes the game rules necessary to generate a wagering game via the gaming interface 30. Referring again to the Pentium class processor 90, the game display process 24 is the master process and the systems logic process 26 is the slave process. In response to a proper command, the game display process 24 relinquishes control of the video display screen 40 to the systems logic process 26. After the systems logic process 26 has completed its functions, the systems logic process then returns control of the display screen 40 to the game display process 24.

[0031] The display and input system 10 utilizes the video display screen 40 and game platform 70 to make casino services more accessible and friendly to casino patrons. In one embodiment of the display and input system 10, the hardware configuration of the game platform 70 employs an existing gaming communication systems network 18, thus decreasing implementation costs for the casino. A standard gaming network interface 16 to the systems network 18, such as a Mastercom system, includes a multi-drop bus method of communicating to a keypad and display. The Mastercom system is available from Bally Manufacturing, and is described in U.S. Pat. No. 5,429,361 to Raven et al. incorporated herein by reference. One such currently utilized bus is an EPI bus (Enhanced Player Interface bus), and uses industry standard I²C hardware and signaling. The network interface 16 (or equivalent system) also controls the flow of funds used with the gaming device 50 within a particular casino. By utilizing the display and input system 10, the gaming network interface 16 can be instructed to move funds between player’s accounts and gaming devices by merely touching the display screen 40. In addition, many other more sophisticated commands and instructions may be provided. The display and input system 10 improves the player and casino employee interface to the gaming device 50, directly at the gaming device itself.

[0032] One embodiment provides a mechanism for the EPI bus to input system information 14 into, and to retrieve system information from, the processor 90 of the game platform 70. This mechanism is preferably an I²C converter card 100. The I²C converter card 100 has multi-master capabilities, i.e., the card is capable of participating as both a slave and as a master. This multi-master card 100 enables system information 14 (such as information input by a player into a systems interface 20 keyboard) to be sent from the Pentium class processor 90 to the slot system network.
18. Likewise, the card 100 also enables system information 14 (such as display messages) to be sent from the systems network 18 to the processor 90 of the game platform 70 for viewing by the player through the systems interface 20.

[0033] Specifically, in one embodiment of the display and input system 10, the FC converter card 100 is added to the processor 90 of the game platform 70. This enables the game platform 70 to speak and understand the FC protocol message set, and thus, communicate directly with some of the system components 60 (i.e., the keypad and display). Accordingly, in one display and input system 10, the functionality of these system components 60 (the keypad and display) is integrated into a systems interface 20, and the external hardware of these system components 60 (the keypad and display) is eliminated. In another embodiment of the display and input system 10, a FC board is used to convert FC bus messages into a FC-acceptable form over a serial port. Thus, this embodiment would not require an FC converter card 100.

[0034] As shown in FIG. 2, system components 60 for casino patrons and casino employees on gaming devices 50 traditionally have been external devices that are attached to the gaming devices. These system components 60 usually include a card reader, a keypad, and a 2-line VD display for each machine. In traditional gaming devices, these system components 60 are small electronic components that are added to the machine and controlled by a network interface card (referred to hereinafter as a gaming monitoring unit (GMU)). These system components 60 communicate through the GMU to access service and system information 14 from the system network 18. This is in lieu of communicating through the gaming platform 70. Typically, these prior system components 60 (e.g., keypad, card reader, and display) communicate through the GMU using a defined FC protocol message set.

[0035] In one embodiment, the display and input system 10 (shown in FIG. 1) replaces the traditional 12-digit keypad and 2-line VD display system components 60 (shown in FIG. 2), which possess only limited functionality, with a systems interface 20 having a touch-screen keypad and video display, and that is incorporated into the video display screen 40 of the gaming device 50. In other embodiments, the systems interface 20 utilizes various other data input techniques commonly known in the art, instead of the touch-screen data entry. Thus, implementation of the display and input system 10 is an efficient, and highly beneficial, interchanging of parts that integrates the functionality of prior system components 60 into the systems interface 20, while eliminating the external hardware of those components which limited their potential utility.

[0036] In the embodiment described above, the card reader is retained as an external system component 60 and not integrated into the systems interface 20. Thus, the card reader system component 60 still communicates through the GMU in order to access service and system information 14 from the system network 18, instead of communicating through the gaming platform 70. This configuration limits the amount of information resident on an identification card (which the card reader system component 60 will scan) to only an identification number or code. However, in other embodiments, all of the system components 60 in the gaming device 50 are integrated into the systems interface 20. This enables communication directly through the game platform 70 to access service and system information 14 from the system network 18. As such, there is no need for additional assistance from the GMU.

[0037] In an earlier configuration of the game platform 72, as shown in FIG. 2, information input into the display screen 40 by a player is sent only to the IOP 80, and not to the Pentium class processor 90. This configuration is utilized in the earlier game platform 72 because the display screen 40 is used solely by the gaming interface 30 that is run by the game logic process 34 located in the IOP 80. Thus, the display and input system 10, as shown in FIG. 1, must also enable the processor 90 to “see” information that is input to the display screen 40. This is performed by a Y adapter 110 that is connected to the output of the display screen 40. The Y adapter 110 is a cable that routes the information from the display screen 40 to both the IOP 80 and the processor 90. The IOP 80 is generally in control of the display screen 40 via the gaming interface 30; however, when the screen focus shifts to the systems interface 20, the processor 90 assumes control of the display screen 40 using the Y adapter 110 so as to “see” touch-screen commands from the player via the systems interface 20.

[0038] Additionally, in the earlier game platform 72 configuration, as shown in FIG. 2, information sent to the display screen 40 comes solely from the IOP 80. The Pentium class processor 90 is not configured to control the display screen 40 (as shown in the earlier game platform 72 design). Thus, the display and input system 10, as shown in FIG. 1, also includes calibration software 130 that enables the Pentium class processor 90 to calibrate itself to the display screen 40. The calibration software 130 enables the processor 90 to also send information to the display screen 40 for viewing by the player via the systems interface 20.

[0039] Traditionally, the processor 90 employed in the game platform 70 has two on-board serial ports. Typically in the game platform 70, both Pentium on-board serial ports have been used. One serial port is used to communicate with the IOP 80, while the other serial port is dedicated to the Game Authentication Terminal (GAT) function. This port is used by gaming regulators in order to attach to a gaming device 50 and perform verification operations. In one embodiment of the display and input system 10, three serial ports are usually required, since the Pentium class processor 90 must also be connected to the display screen 40. Thus, in order to accommodate the third serial connection from the display screen 40 to the processor 90, a port expander card is added to the processor 90 in one embodiment. Alternatively, USB (Universal Serial Bus) can be used for such connections. The IOP 80 is connected to the network interface 16 by a serial line, preferably RS-232, in both the earlier game platform 72 configuration (as shown in FIG. 2) and in the game platform 70 utilized in conjunction with the display and input system 10 (as shown in FIG. 1). Moreover, USB can be implemented for these connections, as well.

[0040] In another embodiment of the display and input system 10, the functions currently preformed by the network interface 16 are included within the systems logic processes 26 that are run on the processor 90. Preferably, the EPI bus on the FC converter card 100 is still used to connect to any remaining system components 60, such as the card reader. Alternatively, USB can be used for such peripheral connec-
tions. However, in another preferred embodiment, the functionality of all remaining system components 60, such as the card readers, is incorporated into the systems interface 20 run by the Pentium class processor 90. This configuration removes the need for the GMU.

[0041] In another embodiment, the Pentium class processor 90 has control over the game logic process 34 and receives touch-screen data directly from the display screen 40. Moreover, in this embodiment, the IOP 80 is only responsible for hard real time tasks (sub 200 millisecond tasks) such as de-bouncing buttons, monitoring reel spins, time outs, and other generally hardware related tasks. Thus, in this embodiment, all game logic processes 34, game display processes 24, and systems logic processes 26 are performed by the Pentium class processor 90. This embodiment of the display and input system 10 also allows for game rules and personalities to be downloaded via the system network 18. Additionally, in this configuration the Y adapter 110 is not required, since only the Pentium class processor 90 need directly interact with the display screen 40.

[0042] In this embodiment, multiple processes remain on the processor 90. At a minimum, a game logic process 34 and a systems logic process 26 are included which communicate with one another over a well-defined interface. Additionally, in this embodiment, the current system network 18 is replaced by an industry standard, such as 10/100 base T Ethernet running over Cat 5, 4 or 3. Thus, a standard 10/100 base T Ethernet card is added to the Pentium class processor 90 in this embodiment. Preferably, the network employs TCP/IP, http, and XML messaging or a variant of XML. Nevertheless any suitable protocol may be used.

[0043] The display and input system 10 enables the game platform 70 to run a systems interface 20 on the display screen 40 of the gaming device 50 which previously had been only able to run a gaming interface 30. The systems interface 20 enables casino patrons and employees to access service and system information 14 from the system network 18 directly through the display screen 40 of the gaming device 50, and preferably includes a touch-screen keypad and display. Integrating the gaming interface 30 and systems interface 20 together in the display screen 40 provides increased flexibility and functionality, while maintaining the game logic process 34 on the IOP 80 and the systems logic process 26 on the processor 90. Separating the game logic process 34 on the IOP 80 from the systems logic process 26 on the Pentium class processor 90 provides for increased security, as well as increased compatibility due to interchangeability.

[0044] Accordingly, changes can be made to the systems interface 20 (and remaining system components 60) or to the game logic process 34 without impacting one another. This allows independent development organizations to proceed separately, if desired, with one organization directed towards the game logic process 34 and the other organization directed towards the systems interface 20. Yet, when a player views the display screen 40 of the gaming device 50 that has incorporated the disclosed embodiment, the service and system information 14 accessed through the processor 90 appears to be integrated with game logic process 34 that is being run in the IOP 80, just as the systems interface 20 and the gaming interface 30 are integrated in the display screen 40.

[0045] One embodiment of the display and input system 10 provides access to service and system information 14 from the system network 18 that is of interest to the player or the casino employee. Significantly, a display and input system 10 is game independent. In other words, since the display and input system 10 does not affect or control game play, the system 10 can be interchangeably utilized in conjunction with any game, while still providing access to service and system information 14 from the system network 18 for the casino patron and employee provided that the game platform 70 (or gaming platform with equivalent functionality) is utilized.

[0046] The advent of the game platform 70 created an environment that was ripe for the development of the display and input system 10, incorporating the systems interface 20 with a keypad and display into the video display screen 40 of a gaming device 50. Since the game platform 70 includes a Pentium class processor 90 that employs a GUI (e.g., “Windows environment,” or alternatively a LINUX environment or a JAVA applet), this gaming platform enables multiple applications to be run simultaneously (providing many potential advantages for use within a gaming environment). Thus, the display and input system 10 enables an area on the display screen 40 to be allocated as a systems interface 20 in order to show player messages that would previously have had to be displayed on an separate display device (e.g., a 2-line VFD display device); such device being attached to the gaming device 50. In another embodiment, a touch-screen button and/or an identification card are used by the player to activate a full screen systems interface 20 allowing access to system functions such as cashless withdrawal, balance requests, system requests, points redemption, and the like. By having the entire display screen 40 accessible for the systems interface 20, the usefulness of the interface for the casino patrons (and employees) is dramatically improved.

[0047] In one embodiment, the display and input system 10 identifies the player or employee using a traditional “chumb” identification card (i.e., a card with no memory or other type of updating functionality). The display and input system 10 does not use the identification card to record winnings, losses, game plays, or any other type of information. Instead, the identification card contains only a unique player or employee identification number that is permanently and unalterably embedded within the card. All other player information (winnings, losses, game plays, etc.) is stored and accessed on a back-end server, as referenced by the number from the identification card. It will be appreciated, however, that other type of cards may be used, e.g., smart cards, but the enhanced processing and memory capabilities are not required to practice a disclosed embodiment of the display and input system 10.

[0048] In one embodiment of the display and input system 10, as shown in FIG. 3, a small message area 112 on the display screen 40 is reserved for use by the systems interface 20 during game play. In this specific embodiment, the systems interface 20 scrolls system messages to the player within this small message area 112 of the display screen 40, while the remainder of the display screen is used by gaming interface 30. The scrolling message can be set at any desired length. This message might state, for example, “Welcome to Harrah’s Las Vegas! You have 1200 bonus points. Would you like to make a hotel or dinner reservation?” Addition-
ally, by inserting a player identification card into a card reader and/or selecting a player services button 114, a systems interface keypad 116 is activated for additional player services functionality, as shown in FIG. 4.

[0049] Referring now to FIGS. 5-7, in another embodiment, the display screen 40 includes a touch-screen button 118 that activates a full screen systems interface 20 when selected. (In some embodiments insertion of an identification card is also required.) In this embodiment, the game logic process 34 in the IOP 80 recognizes when this touch-screen button 118 on the display screen 40 is selected and, in response, relinquishes control of the display screen 40 to the Pentium class processor 90, thus deactivating (or minimizing) the gaming interface 30 and activating (or maximizing) the systems interface 20. Meanwhile, the processor 90 running the systems interface 20 takes control of the display screen 40 and provides a means of directly accessing the service and system information 14 from the system network 18 using touch-screen data entry. This is accomplished without involving the game logic process 34 in the IOP 80. FIG. 5 shows the display screen 40 of the gaming device 50 with only the full screen gaming interface 30 activated, in accordance with a disclosed embodiment. FIG. 6 shows the display screen 40 of the gaming device 50 with only the full screen player services interface 20 activated, in accordance with a disclosed embodiment. FIG. 7 shows the display screen 40 of the gaming device 50 with only the full screen employee systems interface 20 activated, in accordance with a disclosed embodiment.

[0050] In one embodiment of the display and input system 10 that utilizes a card reader (or other identification technique) to recognize a particular player, the systems interface 20 displays a textual greeting to that player, for example, “Welcome, Mr. Smith!” in response to recognizing Mr. Smith’s identification card. Preferably, as shown in FIG. 6, the systems interface 20 also has touch-screen icons buttons 120 including, by way of example only, and not by way of limitation, “Beverages,” “Change,” “Services,” “Transactions,” and “Return to Game.” Further, each of these icon buttons 120, when selected, launches a new full screen display within the systems interface 20 to display to the player. For example, in one embodiment, when the “Transactions” icon buttons 120 is selected, a new screen is activated that includes the text, “Mr. Smith, Account Balance: Bonus Points=1200, Player Funds=$150, Available Credit=$850, Casino Matching Funds Available=$25,” as well as the “Return to Game” icon buttons 120. As a further example, when the player selects a “Cashless Withdrawal” button in another embodiment, a new screen is activated that includes a touch-screen keypad and the textual question, “How much do you want?” as well as “Enter,” “Clear,” and “Back” buttons. Preferably, this interface also includes an “Information” button that, when selected, launches a new screen within the systems interface 20 that provides answers to frequently asked questions and other useful information. Moreover, the interface preferably includes a “History” button that, when selected, launches a new screen within the systems interface 20 that provides a history log of all transactions and other actions performed on that gaming device 50.

[0051] As discussed above, an embodiment of the display and input system 10, as shown in FIG. 1, uses a game platform 70 as its foundation. The game platform 70 itself, is a highly advantageous system, that enables casino owners to draw off of the large library of casino game functions available in a traditional master processing unit (MPU) stand-alone platform, while adding the graphics and sound capabilities of a personal computer. Current stand-alone MPU systems also contain drivers for all types of casino games (slot, poker, keno, etc.). The IOP 80 in the game platform 70 is derived from a traditional MPU stand-alone platform, and provides access to the above-described library of casino game functions and drivers for these casino games.

[0052] However, the PC industry has a large number of tools that can create graphics and sound very efficiently. For this and other reasons, the game platform 70 includes a Pentium class processor 90 running an operating system that accepts PC sound and graphics content. In one embodiment, the operating system in the processor 90 of the game platform 70 is Microsoft NT embedded. The game platform 70 combines the strengths of a traditional stand-alone MPU game engine with the audio and visual capabilities that are available in the PC industry. Thus, the game platform 70 enables PC content to be used directly on a game platform vis-a-vis a Windows operating system environment (or other suitable graphic user interface (GUI)).

[0053] The IOP 80 in the game platform 70 differs from the traditional stand-alone MPU architecture in several ways. For example, in the game platform 70 the contents of the graphics chips are not located in the IOP 80 (as they are in the MPU), but rather are replaced by enhanced graphics and animations stored on the CD-ROM. Additionally, in the game platform 70 the contents of sound chips are not located on the IOP 80 (as they are in the MPU), but rather they are replaced by enhanced sound files stored on the CD-ROM. The Pentium class processor 90 has presentation software for displaying the graphics and sound upon request from the game logic process 34 within the IOP 80.

[0054] In one embodiment, the game platform 70 utilizes an “EPROM and CD-ROM paired” design. In this configuration, the IOP 80 contains the game logic 34, random number generators (RNG), and core mains and personalities. In addition, the IOP 80 does all of the input/output activities for driving hoppers, buttons, lights, accelerators, etc. These functions are all contained on EPROM and are verifiable by traditional IC testing techniques. The BIOS+ on the Pentium motherboard verifies the CD-ROM before loading any properties on to the Pentium RAM. The CD-ROM contains the operating system, display, and audio and graphics programs.

[0055] One example of the media flow proceeds in the following sequence: (1) Verify the boot chip using traditional IC verification techniques. (2) The power comes up. The BIOS+ runs a self-verification on its own code. (3) The processor 90 begins executing the BIOS+. (4) The BIOS+ comes up far enough to read the CD-ROM. Verification is run on the entire CD-ROM contents using a SHA-1 algorithm contained within the BIOS+. (5) A private key encrypted SHA-1 value, located in a secure location on the CD-ROM, is decrypted with the public key and algorithm contained on the BIOS+. (6) The results of the SHA-1, and now decrypted SHA-1 value, are compared. A match allows the operating system, program files, graphics, and audio to be loaded into the Pentium’s RAM from the CD-ROM. (7) Since the IOP 80 can boot faster from EPROM, the IOP waits to hear that the Pentium has booted and loaded all
needed software components into RAM. (8) The IOP 80 then checks the Pentium software levels using the same scheme used to match game driver levels to personality chip requirements. If the versions are acceptable, the IOP 80 confirms that the game personality contained in the EPROM matches the game personality on the CD-ROM. (9) The game then proceeds, driven by the IOP 80. Thus, the game personality contained in the EPROM on the IOP 80, and the game personality on the Pentium CD-ROM, are a matched set. If the two do not match, a fatal error results, rendering the game inoperable. This also means that the regulators must approve both the EPROM and the CD-ROM for every game released for distribution and approval.

[0056] In another embodiment, the game platform 70 utilizes a “CD-ROM controlled” design. In this configuration, with the introduction of the BIOS+ driven SHA-1 CD-ROM verification, the game personality contents are placed only on the CD-ROM, and not an EPROM located in the IOP 80. This design provides the advantage of reducing the testing and distribution workload for gaming regulators. By utilizing this configuration, only a CD-ROM needs to be tested and released for new game content. This also eliminates the potential for compatibility mismatches between a personality chip in an EPROM of the IOP 80, and in the CD-ROM contents associated with the Pentium class processor 90. Moreover, this “CD-ROM controlled” design also eases the need for compatibility checks between the IOP 80 and Pentium class processor 90. Existing game driver level checks between the IOP 80 mains and the game personalities remain in place and are equally effective in this RAM-based personality design. Once the Pentium class processor 90 boots and successfully verifies the contents of the CD-ROM, a binary image of the game personality is downloaded from the CD-ROM to a RAM chip located within the IOP 80. This RAM chip occupies the same socket that the game personality EPROM did in the IOP 80 in the “paired” design game platform 70.

[0057] In the game platform 70, since there are two motherboards, the IOP 80 and Pentium 90, else must have an operating system. The IOP 80 preferably uses VRTX as its operating system. VRTX is a reliable, real-time operating system with multi-tasking capabilities that has been used in the gaming environment for many years. The Pentium class motherboard 90 preferably uses Microsoft Windows NT embedded. NT embedded is particularly effective since many tools and developers are available for producing creative content on Windows-style platforms. However, other operating systems could also be selected in other embodiments, depending on many factors, including the desired graphic user interface (GUI).

[0058] Windows NT embedded differs from standard desktop operating systems, such as Windows 98 and Windows NT, which require a hard drive. These operating systems make use of a swap file to move programs and data between RAM and a hard disk. However, NT embedded eliminates the need for a swap file. NT embedded is customizable in this regard, allowing the swap file size to be set to zero so that no writable mass storage device is required. Further, NT embedded is preferably modified and compiled with only those components required to run a particular game (or games). In other words, there are no additional drivers or services provided. Typically, there is no GUI interface, keyboard, mouse drivers, or TCP/IP stack (or networking capabilities whatsoever). Preferably, this modified version of NT embedded is completely stand-alone and provides none of the traditional accessing “handles.”

[0059] Referring now to security requirements, a primary objective of the security design is to satisfy all security requirements and gaming jurisdiction directives. The relevant directives require that the verification information and the verification code reside on a “conventional ROM device.” However, pursuant to the proposed amendments to Gaming Regulations, a “conventional ROM device” may include FLASH memory components provided that they cannot be altered while installed in a gaming device. To satisfy these directives, the verification algorithm in the game platform 70 resides on a conventional ROM device, secured within the Pentium/IOP assembly.

[0060] The security architecture logically divides the game security components inside and outside of an information security (INFOSEC) boundary. The critical game security components are located on the inside the INFOSEC Boundary, as shown in FIG. 8. On the secure inside of the INFOSEC Boundary, the game platform 70 includes the IOP 80 and the Pentium class processor 90, connected by a serial line. Preferably, the IOP portion 80 of the design is based on a Motorola 68332 and EPROMs on a VRTX operating system. Preferably, on the Pentium portion 90, the BIOS+ chip plugs into the Pentium motherboard and is physically secured within the Pentium assembly chassis. The conventional ROM device is socketed into the Pentium motherboard 90 and can be covered with a tamper-evident material. The CD-ROM assembly 92 is logically outside of the INFOSEC boundary. The CD-ROM assembly 92 contains a commercial off-the-shelf CD read-only reader and the game CD-ROM. The game CD-ROM assembly 92 contains a custom version of NT embedded as the operating system, presentation programs, audio content, and video content.

[0061] The game platform 70 provides a secure boot and initial CD-ROM verification. The EPROM verification software resides within the IOP 80. The verification software verifies all EPROMs on the IOP board 80 (i.e., mains and personalities) upon application of power to the game platform 70. Next, after the application of power to the platform, the BIOS+ performs a self-verification on all of its code. Once satisfactorily completed, the Pentium class board 90 begins executing code from the BIOS+ contained in the conventional ROM device. This process verifies the conventional ROM device and detects any substitution of the BIOS+.

[0062] Upon boot-up of the Pentium, the BIOS+ executes a SHA-1 verification of the entire CD-ROM. The digital signature is calculated and compared with an encrypted signature stored in a secure location on the CD-ROM using the RSA private/public key methodology. If the signatures compare, the BIOS+ allows the modified NT embedded operating system to boot from the CD-ROM, followed by the game presentation software. After verification of the total CD-ROM, the modified (and now verified) NT embedded operating system is loaded from the CD-ROM into the Pentium RAM. Next, display programs and content are verified, before being loaded into the IOP RAM to be executed for normal game operation.

[0063] The game platform 70 performs many verification processes during boot-up and operation. Each game person-
ality EPROM image on the IOP 80 is compared with those on the accompanying CD-ROM. Further, verification of all files on the CD-ROM is conducted by an algorithm that originates on the BIOS+. The IOP board 80 informs the Pentium 90 of any tilts that occur. Additionally, the IOP 80 initiates re-verification of the CD-ROM. Moreover, on the EPROM-controlled IOP 80, memory is continuously tested in order to immediately catch any changes.

The advantages of utilizing the display and input system 10 are numerous. These advantages include, by way of example only, and not by way of limitation, simplification of the use and appearance of the systems interface 20 by integrating the interface 20 into the display screen 40; providing fonts and icons which are larger and more aesthetically appealing; providing special services to players, (e.g., multiple languages, assistance for handicapped individuals); lowering overall system costs by eliminating hardware components; lowering maintenance costs as a result of the fewer hardware components; facilitating interactive uses of the systems interface 20 and game interface 30; providing the ability to customize the “look and feel” of the systems interface 20 for players and casino employees; facilitating the efficiency of modifying the systems interface 20; and allowing system features and components to be modified without affecting the game design or logic.

Referring now to FIG. 9, in a presently preferred embodiment, a “store-and-forward” patron messaging system 200 enables personalized messages to be sent to the player at a gaming device 210 for any of several purposes, including by way of example only, and not by way of limitation: (1) enabling broadcasts to specific groups identified by marketing, (2) enabling a variety of player-specific or group-specific promotional efforts, and (3) using the game position (i.e., a gaming device 210) as a communications station. Typically, these messages are sent from the casino that is hosting the patron, however, in some embodiments, the casino may store and forward messages from individuals (e.g., friends, family, and the like) or from third parties (restaurants, airlines, transportation service companies, outside marketing companies, and the like). Such “externally originating” store and forward messages from individuals that are sent via outside e-mail accounts, mobile phones, and/or PDAs (personal digital assistants) will be discussed in further detail below.

The “store-and-forward” patron messaging system 200 is a feature that can be implemented on a player tracking device 215, such as a GMU (Game Monitoring Unit) (e.g., the M300 GMU or other similar device) of a gaming device 210. The messaging system 200 provide an expanded level of service to patrons of casino loyalty clubs, promoting the improved actual and perceived access that derives from increased personalization. As a result, additional features for marketing and product differentiation are provided.

In a presently preferred embodiment, the “store-and-forward” patron messaging system 200 provides increased personalization also promotes membership in a property’s loyalty program (e.g., “your card keeps you connected”). The messaging system 200 provides product differentiation as well as a platform that enables future expansion of this feature as a new method of contacting patrons. Further, with this individualized messaging system 200, alerts and other notifications generated by the system can be combined with various degrees of personalization so that the player receives additional attention. Moreover, other applications also including by way of example only, and not by way of limitation: specialized messages for slot tournaments, special offers, event notification, and the like.

In a presently preferred embodiment, the patron messaging system 200 is a store-and-forward messaging system, that enables specific personalized messages to be created, stored on a system-side server, and forwarded to an Enhanced Player Interface panel (or iView-type player tracking device) where a given patron is engaged in slot play (or other gaming play). This is typically initiated when the player inserts a (loyalty) club card into a card reader at a gaming device 210. Specifically, in one embodiment, the message entry and management component of the “store-and-forward” patron messaging system 200 is a lightweight application that is installed at one or more central locations, (e.g. one or more cabinets, a loyalty club booth, a front desk, a concierge, and the like). Typically, the messaging system 200 enables an operator to: (1) enter a short message intended for a specific loyalty club member, or (2) review and accept an incoming short message intended for a specific loyalty club member. In one embodiment, such a message is stored on a system server (often, but not necessarily, a back-end server system), and then is forwarded to the specified patron at the gaming device 210 when the system detects the player card in use on the casino floor.

In a presently preferred embodiment, the patron messaging system 200 preferably, but not necessarily, utilizes a PIN (personal identification number) system to help ensure that these personalized messages reach only the intended recipient, since these messages are typically more individualized and/or private than normal (standardized) system messages. In one embodiment, the patron messaging system 200 system is implemented as an extension of a player loyalty system. Additionally the patron messaging system 200 may also support other group targeted messaging, third party marketing, paging services, patron-to-patron messaging, and the like. In another aspect of one embodiment, specific types of functionality, such as patron-to-patron paging, are offered as an additional pay service; possibly as part of an “a la carte” type of optional feature. In still another aspect of one embodiment, patrons are offered financial incentives (e.g., free credits, store, restaurant, or hotel room discounts, enhanced game odds or bonuses, and the like) for accepting marketing messages (e.g., casino marketing message, third party marketing, and the like).

In a presently preferred embodiment, the “store-and-forward” patron messaging system 200 is a closed, internal messaging system for sending personalized messages to casino patrons that may be read and acknowledged (including possibly responding thereto) using an Enhanced Player Interface panel or iView-type player tracking device as an interface terminal. Additionally such a message, since it is necessarily brief, could be printed on a ticket printer. The issuing of a return receipt to the sender that confirms receipt of message is another component in a preferred embodiment of the patron messaging system 200.

In another presently preferred embodiment, the “store-and-forward” patron messaging system 200 also includes support for “externally originating” messages and/
or e-mails. These “externally originating” store and forward messages may be sent from individuals via outside e-mail accounts, mobile phones, and/or PDAs. For example, if someone knows that their friend (John Smith) likes to play at Harrah’s casino, they could send John a message at the e-mail address of: jsmith@harrahsls-player.com. Such a message might read, “John, give me a call when you get this message. Bob.” The “store-and-forward” patron messaging system 200 would then store this message, and forward the message to John Smith when it detected his “card-in.”

[0072] In another aspect of a presently preferred embodiment, a “store-and-forward” patron messaging system 200 that enables “externally originating” store and forward messages also utilizes a filter system for spam or other undesirable e-mails. Examples of filter systems include, by way of example only, and not by way of limitation: a “white list” of approved individuals and/or e-mail addresses; CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) or other optical recognition tests designed to distinguish computers from humans; and/or a Challenge and Response test that responds to incoming e-mail messages by sending a challenge to the claimed sender of the e-mail. The Challenge and Response filter then requires the sender to perform some action outlined in the challenge message to assure delivery of their message, which otherwise will typically not be delivered.

[0073] As described above, in one specific embodiment, the “store-and-forward” patron messaging system 200 is implemented as a feature of a GMU (e.g., the MC300 GMU, or other suitable player tracking device 215). Typically, the patron messaging system 200 works in concert with a server-side system, specifically a loyalty or player tracking system. In this regard, the patron messaging system 200 is programmable to relay or forward stored, personal messages to individual patrons. Other possible uses of the messaging system 200 include, by way of example only, and not by way of limitation: (1) notification to a patron that his table is ready at the restaurant (enabling him to continue slot play while waiting); (2) a directed alert to one or more players that the airport shuttle has arrived (enabling continued slot play rather than standing outside to wait); (3) personal paging (rather than using the public address system); and (4) delayed paging of a patron who is expected to arrive later. As explained above, in one embodiment, the patron messaging system 200 functions as an extension of a loyalty club system (e.g., CMS/CMP). Typically, a CMS/CMP (casino management personnel/system) system performs casino player tracking and collects regular casino floor and player activity data. The patron messaging system 200 stores a message (typically text, but as game-side user interface progress, graphics and other multimedia content may also be included in the message) until the player’s card is detected on the casino floor (e.g., by a card reader in a gaming device 210). In one embodiment, the message text itself is entered using a message entry and management system that enables an operator to (1) identify the loyalty club member, (2) enter a brief message, and (3) enter any other relevant processing particulars (auto-delete on delivery, require PIN entry to read message, delete if not read in 5 days, or other options as adopted in the design). Further, in another aspect of one embodiment, the receipt of such a message triggers other processes including, by way of example only, and not by way of limitation: issuing bonuses, sending a server to the patron’s gaming station, complementary drinks, and the like.

[0075] In one presently preferred embodiment, the “store-and-forward” patron messaging system 200 has three components: (1) a message entry and management system 220 through which an operator enters and manages message texts intended for individuals or groups of individuals, (2) a patron message database 230, which is typically integrated into the casino loyalty system’s server-side application, and (3) a message response system 240 that is typically incorporated into the code of the player tracking device 215 (e.g., MC300 GMU code) to handle delivery and response interaction with the player at the game terminal itself.

[0076] Additionally, in one embodiment, the GMU 215 (other player tracking device in which the patron messaging system 200 is incorporated) does not communicate directly with the loyalty/player tracking system servers (e.g., CMS/CMP) but rather depends on a SDS server (or other suitable interfacing network infrastructure) to bridge those components. Thus, in such a network configuration, a protocol extension is utilized between SDS and the CMS/CMP servers (e.g., or other message protocol modification at the GMU 215).

[0077] In one presently preferred embodiment, the message entry and management system 220 is integrated into the player tracking software. In another presently preferred embodiment, the message entry and management system 220 is implemented as a stand-alone application that is installed at stations normally without requiring access player tracking data. In such an environment, entering a personalized message presents a naturally well suited feature (e.g., concierge functions) to player tracking and player loyalty systems and programs.

[0078] In another aspect of a presently preferred embodiment, messages are optionally classified as: (1) private (created for viewing by one person only, requiring a PIN for access), (2) group (a limited broadcast for people waiting for a shuttle, a group waiting for a restaurant reservation, and the like), or (3) public (broadcast to all or most of the patrons currently playing slots; other casino games; or games of a particular theme, denomination, wager amount, location, or the like). In still another aspect of one embodiment, messages have additional parameters including, by way of example only, and not by way of limitation: (1) the ability to be marked for automatic deletion once they have been confirmed as read, (2) the ability to be set to expire if not read within a certain number of days, or (3) the ability to have messages marked as important, with an optional notification to the originator if the message is not picked up within a given period of time.

[0079] In one aspect of a presently preferred embodiment, once the loyalty (player tracking) system detects a card insertion by a player who has a stored message waiting, an alert is sent to the player informing him of waiting message. This alert is added to any other messages that may be normally sent to a player at the start of game play (depending upon the details of the particular loyalty system). In one embodiment, after the player responds to the alert (confirming that he’s ready to receive the message), the message is transmitted (typically, but not necessarily, via a SDS server) to the GMU 215 (or other suitable player tracking device).
The GMU 215 (or other suitable player tracking device) in turn sends the message to an attached display device 250. In one embodiment, the player then acknowledges that he has read the message. Once the player acknowledges that the message has been read: (1) the message can be saved, (2) the message can be printed, (3) the message can be automatically deleted, and (4) the player can be prompted with message deletion options, depending on that message's settings.

Continuing, in another aspect of a presently preferred embodiment, after confirmation has been obtained that the player has read the message, the GMU 215 notifies the SDS server that the message had been read. At this point the SDS server forwards this message to the loyalty server (e.g., CMS/CMP server) for final processing. Typically, but not necessarily, for messages marked as "private," the loyalty system transmits the expected PIN along with the message so that the GMU 215 may authenticate the player’s identity before releasing the message text. Alternatively, in another embodiment, the PIN query is formulated as a separate message and sent back to the loyalty system for authentication. However, this method does result in somewhat increased network traffic.

Currently, some display devices 250 employed by many casino gaming devices 210 are two-line VFD (EPI) unit, with a line width of 20 characters. Therefore, in these type of gaming embodiments, it is efficient to limit the message to a length that is manageable in such a short display device 250. As larger display devices 250 with more capabilities are deployed (e.g., iView-type multi-media-enabled screens) the length limit may be extended. As such, in a presently preferred embodiment, the message length limit is configurable. Similarly, since some EPI (enhanced player interface) input devices are numeric keypads, responses are typically limited to yes/no or multiple choice lists in these embodiments. For input devices that are deployed with touch-screen capabilities, the possible kinds of response are expanded to include short reply messages.

Although the disclosed embodiments have been described in language specific to computer structural features, methodological acts, and by computer readable media, it is to be understood that the disclosed embodiment defined in the appended claims is not necessarily limited to the specific structural features, acts, or media described. Therefore, the specific structural features, acts and mediums are disclosed as exemplary embodiments implementing the disclosed embodiment.

Furthermore, the various embodiments described above are provided by way of illustration only and should not be construed to limit the disclosed embodiment. Those skilled in the art will readily recognize various modifications and changes that may be made to the disclosed embodiment without following the example embodiments and applications illustrated and described herein, and without departing from the true spirit and scope of the disclosed embodiment, which is set forth in the following claims.

What is claimed:

1. A method for contacting a patron at a gaming device using a patron messaging system via a patron account and loyalty system, the method comprising:

   providing a patron message database that is operatively associated with a server and the patron account and loyalty system through a network;

   providing one or more gaming devices that are interconnecting to the server through the network, and wherein each gaming device is operatively associated with a message response system;

   entering and managing a message intended for one or more patrons using a message entry and management system, wherein the message entry and management system is operatively associated with the patron message database;

   storing the patron message in the patron message database for eventual transmission to a patron upon the detection of a patron card on the system;

   forwarding the patron message from the patron message database to a player tracking device incorporated in a gaming device, wherein each player tracking device is operatively associated with a display device, and wherein the patron message is viewable via the display device; and

   optionally enabling response to the patron message via the message response system.

2. The method of claim 1, wherein the patron message database that stores patron messages for eventual transmission, forwards the stored patron messages to the gaming device at which the patron is located upon the detection of a patron card on the system.

3. The method of claim 1, wherein retrieval of patron messages requires a personal identification number.

4. The method of claim 1, wherein retrieval of patron messages requires a username and a password.

5. The method of claim 1, wherein the patron messages may be designated as private or public.

6. The method of claim 5, wherein patron messages designated as private require satisfaction of additional security measures for viewing.

7. The method of claim 1, wherein the display device on which the patron messages are viewable is a separate device than a gaming display device used for game play on the gaming device.

8. The method of claim 1, wherein the display device on which the patron messages are viewable is the same display device used for game play on the gaming device.

9. The method of claim 1, wherein the display device only displays text-based patron messages.

10. The method of claim 1, wherein the display device presents multi-media graphically-enabled patron messages.

11. The method of claim 1, wherein the message response system includes an input device.

12. The method of claim 11, wherein the input device includes a keypad.

13. The method of claim 11, wherein the input device includes a touch-screen.

14. The method of claim 1, wherein the patron messaging system enables targeted messaging to groups of patrons.

15. The method of claim 1, wherein the patron messaging system enables third party marketing.

16. The method of claim 1, wherein the patron messaging system enables paging services.

17. The method of claim 1, wherein the patron messaging system enables patron-to-patron messaging services.
18. The method of claim 1, wherein the patron messaging system is offered as a pay service to casino patrons.

19. The method of claim 1, wherein the patrons are offered financial incentives for accepting marketing messages from the patron messaging system.

20. The method of claim 19, wherein the financial incentives include free game credits, store discounts, restaurant discounts, hotel room discounts, enhanced game odds, enhanced game bonuses, or combinations thereof.

21. The method of claim 1, wherein acknowledging receipt of a patron message activates other processes including: issuing bonuses, sending a server to the patron’s gaming station, issuing complementary drinks, and combinations thereof.

22. The method of claim 1, wherein the patron messages have additional parameters including abilities to save messages after viewing, print messages after viewing, automatically delete messages after viewing, and prompt for additional message deletion options.

23. A method for contacting a patron at a gaming device using a patron messaging system via a patron loyalty system, the method comprising:

- providing a patron message database that is operatively associated with a server and the patron loyalty system through a network;
- providing one or more gaming devices that are interconnecting to the server through the network, and wherein each gaming device includes a player tracking device, a card reader, a display device, and a message response system;
- entering a patron message intended for one or more patrons into the patron messaging system;
- storing the patron message in the patron message database;
- detecting insertion of a patron card into a card reader of a gaming device on the network;
- forwarding the patron message from the patron message database to the player tracking device incorporated in the gaming device having the inserted patron card;
- presenting the patron message for viewing on the display device of the gaming device having the inserted patron card; and
- optionally enabling response to the patron message via the message response system of the gaming device having the inserted patron card.

24. The method of claim 23, wherein the entering of a patron message intended for one or more patrons into the patron messaging system is performed using a message entry and management system.

25. The method of claim 23, wherein retrieval of patron messages requires a personal identification number.

26. The method of claim 23, wherein retrieval of patron messages requires a username and a password.

27. The method of claim 23, wherein the patron messages may be designated as private or public.

28. The method of claim 27, wherein patron messages designated as private require satisfaction of additional security measures for viewing.

29. The method of claim 23, wherein the display device on which the patron messages are viewable is a separate device than a gaming display device used for game play on the gaming device.

30. The method of claim 23, wherein the display device on which the patron messages are viewable is the same display device used for game play on the gaming device.

31. The method of claim 23, wherein the display device only displays text-based patron messages.

32. The method of claim 23, wherein the display device presents multi-media graphically-enabled patron messages.

33. The method of claim 23, wherein the message response system includes an input device.

34. The method of claim 33, wherein the input device includes a keypad.

35. The method of claim 33, wherein the input device includes a touch-screen.

36. The method of claim 23, wherein the patron messaging system enables targeted messaging to groups of patrons.

37. The method of claim 23, wherein the patron messaging system enables third party marketing.

38. The method of claim 23, wherein the patron messaging system enables paging services.

39. The method of claim 23, wherein the patron messaging system enables patron-to-patron messaging services.

40. The method of claim 23, wherein the patron messaging system is offered as a pay service to casino patrons.

41. The method of claim 23, wherein the patrons are offered financial incentives for accepting marketing messages from the patron messaging system.

42. The method of claim 41, wherein the financial incentives include free game credits, store discounts, restaurant discounts, hotel room discounts, enhanced game odds, enhanced game bonuses, or combinations thereof.

43. The method of claim 23, wherein acknowledging receipt of a patron message activates other processes including: issuing bonuses, sending a waitress to the patron’s gaming station, issuing complementary drinks, and combinations thereof.

44. The method of claim 23, wherein the patron messages have additional parameters including abilities to save messages after viewing, print messages after viewing, automatically delete messages after viewing, and prompt for additional message deletion options.

45. A method for contacting a patron at a gaming device using a patron messaging system via a patron account and loyalty system, the method comprising:

- storing a patron message intended for one or more patrons;
- detecting a card insertion in a card reader at a gaming device by a patron who has a stored waiting message;
- sending an alert to the patron informing him of the waiting message;
- receiving a response to the alert, confirming that the patron is ready to receive the waiting message;
- transmitting the message to a player tracking device associated with the gaming device having the inserted
patron card, wherein the player tracking device is operatively associated with a display device;
presenting the message on the display device associated with the gaming device having the inserted patron card; and
enabling acknowledgement that the player has read the message.

46. The method of claim 45, further comprising: enabling externally-originating patron message to be sent from individuals via outside e-mail accounts, mobile phones, personal digital assistants, or combinations thereof.

47. The method of claim 45, further comprising: filtering externally-originating patron message to blocking spam and other undesirable e-mails.

48. The method of claim 47, wherein filtering includes using CAPTCHAS, challenge and response tests, white lists, black lists, or combinations thereof.

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