

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 March 2008 (13.03.2008)

PCT

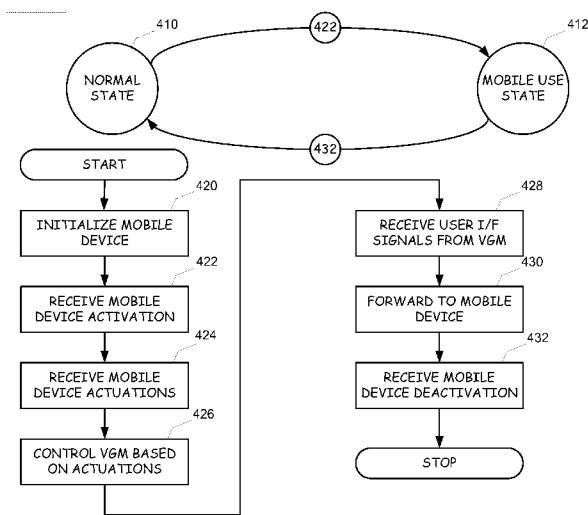
(10) International Publication Number
WO 2008/030739 A2

- (51) International Patent Classification:
A63F 9/24 (2006.01)
- (21) International Application Number:
PCT/US2007/077085
- (22) International Filing Date: 29 August 2007 (29.08.2007)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
11/470,253 6 September 2006 (06.09.2006) US
- (71) Applicant (for all designated States except US): LAS VEGAS GAMING, INC. [US/US]; 4000 West Ali Baba Lane, Suite D, Las Vegas, NV 89118 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): JOHNSON, Sam [US/US]; 11272 Golden Chestnut Place, Las Vegas, NV 89135 (US).
- (74) Agent: GREGORY, Scott, Smith; Smith Frohwein Tempel Greenlee Blaha LLC, Two Ravinia Drive, Suite 700, Atlanta, Georgia 30346 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— without international search report and to be republished upon receipt of that report

(54) Title: MOBILE OPERATION OF VIDEO GAMING MACHINES



A

B

(57) Abstract: Mobile operation of a video gaming machine is achieved through the use of a controller box that interfaces to the control circuitry of the video gaming machine and a mobile device. The mobile device is associated with a video gaming machine and provides an activation request or signal to the controller box. The controller box verifies that the access is available, then operates to bridge the control and operation of the video gaming machine to the mobile device platform.

WO 2008/030739 A2

MOBILE OPERATION OF VIDEO GAMING MACHINES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This PCT patent application claims priority to U.S. nonprovisional application
5 filed on September 6, 2006 pursuant to Title 35, United States Code §100 et seq. and 37
C.F.R. Section 1.53(b) and assigned serial number 11/470,253.

BACKGROUND OF THE INVENTION

[0002] The present invention relates generally to the electronic video gaming industry
and, more particularly to providing mobile capabilities for approved, and operating
10 electronic video gaming units.

[0003] It is hard to imagine that “space” is in issue when you are standing in the middle
of the Nevadan dessert, or even standing in the city of Las Vegas gazing with wonder at
the monstrous sizes of the casino hotels that are so huge, you can even build an
amusement park on top of the building. But, once you go inside the building, especially
15 on a busy day, the space issue becomes very apparent. Every nook and cranny of the
casino floor is jam packed full of machines, tables, cashier desks, and excited patrons
bouncing from one place to the next. But because Las Vegas is situated in the middle of
the dessert, no problem, just build bigger casino/hotels in the future.

[0004] Although that may be one solution to the problem, the gaming industry is looking
20 for other alternatives. One of the main focuses in the gaming industry is in the use of
portable devices. However, it does not take any imagination to think of the vast problems
that could be associated with such devices. Such as, how do you monitor them, how to

you prevent them from being tampered with, how can you ensure that someone isn't; cheating or rigging the device, etc. All of these worries, along with countless others would lead you to the conclusion that the gaming industry should just throw up their hands and give up on this marketing idea. However, need is too tremendous. For
5 instance, a large number of casino patrons can be found lounging around the pool on a hot summer day. For the casino world, this is not the most optimal activity for the hotel guest. It is no secret that the reason we are able to stay in incredible fancy hotel rooms, laden with granite counters and walls, plush with service and inexpensive meals, beverages and ample entertainment, is that the casino arm of the business brings in the
10 bulk of the revenue. Face it, if you stayed in a resort such as New York, New York actually in the city of New York, New York, you would be paying double, maybe even quadruple, the rates that you pay in Las Vegas. But the more time that a guest spends at the shows, the pools, the restaurants, the shops, etc., the less time they spend at the tables and the machines and ultimately, the less gaming revenue the casino generates from that
15 person.

[0005] The drive for use of portable devices in the large-scale gaming industry is an effort to reach those individuals that come to Las Vegas for something other than simply gambling. Portable access to gaming environments can enable guests to participate in gaming environments while they lounge at the pool, wait for their meal to be served, wait
20 for their spouse to finish shopping, or relax in the luxury of their own granite laden room. Thus, for a casino owner, a crowded pool generally means a large amount of revenue that is not presently being earned. Thus, there is a need in the art for a technique to provide portable devices for the gaming industry that can be used by patrons that are located remote from the casino floor. There is also a need in the art for portable devices to be
25 used in the gaming industry that meet the security, accountability and tamper resistant criteria for the industry.

[0006] The State of Nevada, in addressing the industry's need for mobile capabilities, has approved mobile gaming for use inside regulated casinos. The systems that have been introduced to the market basically include mobile gaming devices that wirelessly
30 interface to a server and house thin applications that provide or present to the player, new content, or new gaming systems on the mobile device hosted by the server. Such

products cause tremendous problems in the industry, mainly due to the uncertainty of their vulnerability to hacking, tampering and rigging of the mobile devices, as well as the server driving the mobile devices. In addition, the new content being provided through these devices have not been tested from a marketing perspective and thus, it is unknown whether the public will embrace the products. What is needed in the art is a system and technique to simply extend the time tested and proven video gaming environments into a mobile environment.

SUMMARY OF THE INVENTION

[0007] The present invention provides a solution to the above-described needs in the art and other needs in the art by providing a technique to enable video gaming machines to be accessed, controlled and operated using portable handheld devices. In general, the present invention utilizes a controller box, similar to that described in United States Application for Patent serial number 10/689,407 and having a title of CLOSED-LOOP SYSTEM FOR DISPLAYING PROMOTIONAL EVENTS AND GRANTING AWARDS FOR ELECTRONIC VIDEO GAMES, which is above-incorporated by reference. In embodiments of the present invention, the controller box is referred to as a PortalVision Controller Unit (PCU) and it is typically mounted within an video or electronic gaming machine, but could also be located proximate to the gaming machine. In the incorporated application, the controller box is used for providing additional promotional events, games, transactions, event participations, etc. to a user of the video gaming machine.

[0008] The PCU, as described in various embodiments in the incorporated application, connects to and/or makes use of the existing video gaming machine resources. Such resources include the bill validator, the video touch screen, the video from the main game board, the printer and the slot accounting systems, etc. Such interfaces enable the provision of the above enumerated services, as well as other services and features.

[0009] The present invention enables a video gaming machine, equipped with a PCU, to operate as a server to mobile gaming devices. The games that are hosted to the mobile gaming devices are the exact same games made available to the player on the existing video gaming machines with the exception that the player can play them remotely.

Advantageously, this aspect of the present invention allows a casino that is presently running a large array of video gaming machines with existing, known, accepted and compelling content on those machines, to give players mobile access to the content. Thus, it is not necessary for the casino operators or owners to make a determination as to whether other mobile gaming suppliers providing mobile applications have content that is compelling enough to attract and interest their customers. Thus, this alleviates some of the risk of making a large financial investment on a mobile gaming environment that uses unknown technology and unproven content.

{0010} Embodiments of the present invention essentially make better use of the customer's existing assets on the floor and operates to enable them to be made available remotely via mobile devices. This is all accomplished without a requirement to change the base content/game or introduce new gaming environments.

{0011} In one embodiment of the present invention, a PCU associated with a particular video gaming machine also monitors and controls a mobile device associated with that particular machine. If the mobile device is activated, the PCU causes the control of the video gaming machine, as well as the video and audio feedback, to be directed towards the mobile device. In fact, the display and input controls of the video gaming machine can be disabled or a message can be presented on the screen to indicate that the machine is being operated remotely. In this embodiment of the invention, the core of the game, as well as the payout table and the winning determination is all performed, as previously, using the video gaming machine. However, the mobile device operates as a "dumb terminal" to provide the player with a mobile interface to the video gaming machine.

{0012} In another embodiment, back room video gaming machines may be set up and operated in essence, in mobile mode only. A player can check out a mobile device that is associated with a particular back room machine and engage the video game until returning the mobile device.

{0013} In another embodiment, generic mobile devices can be used and then associated with a particular video gaming machine upon being checked out by a customer. Alternatively, a central server may operate as a gateway to multiple mobile devices,

thereby presenting a menu of available video gaming machines and allowing the player to connect to a desired video gaming machine.

[0014] The present invention can be incorporated into a device that operates to enable access and control operation of a video gaming machine by a mobile device. The device includes a video gaming machine control circuit interface; a wireless transceiver; a memory storage unit and a processing unit. The processing unit operates to detect the activation of a mobile device associated with the video gaming machine. The activation can be detected by receiving a signal from the mobile device that identifies the video gaming machine. As a result, the device provides a signal to the video gaming machine control circuit interface indicating that mobile operation is active. At this point, the video gaming machine can be placed into mobile use operation mode and as such, the device operates to bridge the video gaming machine and the mobile device so that the mobile device operates as the user interface for the video gaming machine.

[0015] Advantageously, the present invention enables the deployment of a mobile gaming environment within a traditional casino environment without having to introduce a completely new line of gaming systems with unproven and untested hardware and content. In addition, the present invention enables operators to maximize the use of their video gaming equipment by opening up access to mobile devices. Finally, the present invention enables the provision of a larger fleet of gaming devices with mobile accessible devices being able to be deployed in non-publicly accessible locations. These advantages as well as other aspects, features and embodiments of the present invention are presented in greater detail in the following description.

BRIEF DESCRIPTION OF DRAWINGS

[0016] Fig. 1 is a system diagram illustrating the typical interconnectivity of a video gaming machine environment.

[0017] Fig. 2 is a system diagram illustrating the deployment of one embodiment of the present invention within a common video gaming machine environment.

[0018] Fig. 3 is a block diagram illustrating the typical components included in a controller box suitable for embodiments of the present invention.

[0019] Fig. 4A is a state diagram showing the states of operation and state transitions of a typical video gaming machine operating in accordance with an embodiment of the present invention.

[0020] Fig. 4B is a flow chart diagram illustrating the operation of one
5 embodiment of the present invention that enables mobile devices to control an on-the-floor video gaming machines and to invoke transitions from a normal state to a mobile use state.

DETAILED DESCRIPTION

[0021] The present invention includes a technological solution that enables mobile
10 devices to control, or operate in conjunction with, a video gaming machine or an electronic based gaming environment. Throughout this description, the phrase “video gaming machine” is used to refer to all kinds of gambling machines, such as video poker, black jack, roulette, Keno and slot machines, as well as typical arcade video machines. In addition, the term video gaming machine is also used to describe an electronic based
15 gaming environment. For instance, a live poker table can be incorporated into an electronic based gaming environment using a variety of techniques. Some of these techniques are elaborated on in the detailed description. Thus, it should be appreciated that the various embodiments of the present invention are not limited to any particular gaming environment, although particular environments may give rise to particular novel
20 aspects of the present invention.

[0022] In general, one embodiment of the present invention is a controller box that can be installed within a video gaming machine. The controller box interfaces to the electronics of the video gaming machine and to a wireless transceiver. The controller box can control the operation of the video gaming machine through the interface to the
25 electronics. For instance, the controller box can intercept the video feed to the display of the video gaming machine, modify the video feed, and then render the modified video content onto the display of the video gaming machine or prohibit the display on the video gaming machine. In addition, the controller box can intercept actuations of buttons, switches, levers, etc. and either pass such actuations through to the video gaming
30 machine controller, use them for other purposes, ignore them entirely or store them into

memory. The controller box can also emulate actuation signals by providing signals to the video gaming machine electronics. Finally, the controller box interfaces to a mobile device over the wireless interface.

{0023} Using this embodiment of the present invention, a mobile device can be associated with a video gaming machine. The operation of a video gaming machine equipped with the above-described controller box can proceed as normal until the controller box detects an activation signal from the mobile device. Once detected, the controller box can then act as an enabler to allow the control and operation of the video gaming machine to be partially or entirely performed via the mobile device. Thus, a video gaming machine equipped with this embodiment of the present invention can be enabled for operation through a mobile device. Advantageously, this aspect of the present invention enables a standard, on-the-floor, in-operation, tried and tested video gaming machine to simply become a video gaming platform for a mobile device.

{0024} Now turning to the figures in which like labels refer to like elements, other embodiments, aspects and features of the present invention are more fully described.

{0025} Fig. 1 is a system diagram illustrating the typical interconnectivity of a video gaming machine environment. One or more video gaming machines 110 are connected to an operator server 120 through an operator network 130. In the illustrated environment, the video gaming machines 110 are video poker machines but it will be appreciated that other video gaming machines could likewise be connected to the same network. Typically, all of the operator's video gaming machines are connected to the operator's network and it is not necessary for the video gaming machines to be co-located or even be on the same premises. For the illustrated video poker machines, a display 140 is provided with a variety of content including a payout table 150 and a card stack 160.

{0026} In operation, each time winning criteria is satisfied (i.e., a hand that matches a hand on the payout table), a message is sent from the video gaming machine 110 to the operator server 120 over the operator network 130 or, the information maybe stored in the video gaming machine 110 or other memory storage device and the operator server 120 can periodically request or extract the stored information. Information is extracted from this message and stored into the operator server 120. The information may include,

but is not limited to, the payout hand, the time and date the hand was achieved, the identity of the machine and the identity of the player. In the more modern video gaming machines, a magnetic card reader or equivalent device is included in the video gaming machine. The magnetic card reader can be used by players to insert a card that identifies the player and/or operates as a pre-loaded cash card to enable the game to be played.

[0027] Fig. 2 is a system diagram illustrating the deployment of one embodiment of the present invention within a common video gaming machine environment. A processing control unit, as described in various embodiments in the incorporated application, connects to and/or makes use of the existing video gaming machine resources. Such resources for the present invention may include the bill validator, the video touch screen, the video from the main game board, the printer and the slot accounting systems, etc. Such interfaces enable the provision of various aspects and features of the present invention.

[0028] One or more video gaming machines 210 are connected to an operator server 220 through the operator network 230. One or more of the video gaming machines are equipped, either internally or externally, with a controller box 280. The controller box 280 includes a processing control unit 285 and is interconnected with a main processor or controller for the video gaming machine 281. In addition, the controller box 280 includes a wireless transceiver 286 for interfacing to a mobile device.

[0029] Through the video gaming controller 281, or directly from the control box 280, various operations of the video gaming machine 210 can be monitored, detected and controlled. For instance, if the video gaming machine is equipped with a touch sensitive screen 282, the controller box 280 can have an affect on the contents of the display 283 as well as detect actuations of the touch sensitive screen 282. The controller box 280 may likewise detect other actuations of various buttons, levers, dials, coin slots, card readers, etc. and obtain the data or signals there from. The controller box 280 may be configured, based on the various embodiments, to simply listen to signals that are transmitted within the video gaming machine and then respond accordingly or, may actually intercept such signals. Thus, in some embodiments, the controller box 280 may simply identify the activity of the video machine and then take certain actions while in other embodiments,

the controller box 280 may actually govern the entire operation of the video gaming machine by intercepting all control and status signals and then passing them on with or without first modifying them.

{0030} Fig. 3 is a block diagram illustrating the typical components included in a controller box suitable for embodiments of the present invention. The controller box 380 is shown as interfacing to a video gaming machine 310 and to a mobile device 320. The controller box 380 includes a processing control unit 385 that is communicatively coupled to various devices and/or interface components. In the illustrated embodiment, the interface components include a wireless transceiver 386, a memory device 387, a video gaming machine interface 388 and other interfaces 389. The processing unit 385 operates by reading instructions from a program stored in the memory device 387 and executing the instructions, as well as responding to activities on the various interface components.

{0031} The processing control unit 385 can interface with a video gaming machine through the video gaming machine interface 388. In one embodiment, the video gaming machine interface 388 can simply be attached to the communication channels, busses or interfaces of the video gaming machine 310 and monitor the activity. In another embodiment, the video gaming machine interface 388 can operate as a gateway that captures the data and signal flow within the video gaming machine 310 and passes this information to the appropriate destination, with or without modifying the information. In yet another embodiment, the controller box 380 can operate as a hybrid of these two embodiments either based on the particular signals, the particular timing and the operating mode of the video gaming machine 310 and controller box 380. Thus, the processing control unit 385 can obtain the status of the video gaming machine 310, the actuation of any buttons, levers, dials, etc., control the content of the display and the status indicators, identify the insertion of a magnetic card or coins, as well as other information regarding the video gaming machine 310.

{0032} The processing control unit 385 can interface with a mobile device 320 through the wireless transceiver 386. Through this interface, the processing control unit 385 can determine when a mobile device 320 is activated, detect any actuations of buttons, keys,

levers etc. 322, control the content of the data presented on the display 324, and otherwise control and/or monitor the mobile device 320.

[0033] The mobile device 320 may be any of a variety of electronic mobile devices, including personal data assistants (PDA), cellular telephones, proprietary and customer electronics, hand held computers, notebook and laptop computers, electronic pads, GAMEBOY type devices, as well as a variety of other electronic mobile devices. One aspect of the invention includes software and/or firmware that can be loaded into the mobile device 320 to enable it interface to the controller box 380. In addition, such software can enable the mobile device to be provisioned for operation with a video gaming machine, group of video gaming machines, class of video gaming machines (i.e., theme based, denomination based, etc) or the like. One embodiment of this aspect of the present invention includes the ability to load an identification code that uniquely identifies a video gaming machine into the mobile device 320 and possibly an authentication code. This information can be used by the controller box 380 to verify that the mobile device 320 is authorized and compatible to interface to a particular video gaming machine. Similarly, the mobile device 320 may include a unique identifier that the controller box 380 can use to verify the authenticity of the mobile device 320 and whether it may be used to interface to a particular video gaming machine.

[0034] Thus, it will be appreciated that various embodiments of the present invention enable a mobile device to serve as the interface or the user controller of a video gaming machine by incorporating the controller box in or with the video gaming machine. However, it will be appreciated that the controller box is not necessarily a physically separate item, but rather can be incorporated into the video gaming machine as software, firmware or shared hardware. Likewise, the functionality of the controller box can be incorporated into the mobile device. Alternatively, the functionality of the controller box can be shared between the video gaming machine and the mobile device, as well as one or more external systems.

[0035] Fig. 4A is a state diagram showing the states of operation and state transitions of a typical video gaming machine operating in accordance with an embodiment of the present invention. Fig. 4B is a flow chart diagram illustrating the operation of one

embodiment of the present invention that enables mobile devices to control an on-the-floor video gaming machines and to invoke transitions from a normal state to a mobile use state. In the described embodiment, the video gaming machine is one which is located on the casino floor and accessible to public use. The normal state for the video gaming machine 410 is that of the typical video gaming machine. It is operational and in an idle mode waiting for a customer to engage in play. A customer engages the video gaming machine by inserting coins or a magnetic card to enable play from the front of the machine. In this mode of operation, the video display of the video gaming machine provides user feedback as the user presses buttons, pulls levers, turns dials, etc. While operating in the normal mode, the video gaming machine provides a full presentment of the user interface, including updating the video display, sounding buzzers and bells, and flashing lights.

[0036] The operation of one embodiment of the present invention begins with the initialization of the mobile device 420. The particular procedures involved in the initialization of the mobile device can vary based on the particular embodiment, and although certain aspects of the present invention are not limited to any particular initialization procedure, various aspects of the initialization procedure are novel. In one embodiment, the initialization process involves permanently or semi-permanently associating the mobile device with a particular video gaming machine. For instance, the mobile device may be provided with a unique identification code of the video gaming machine and/or the video gaming machine or controller box associated with the video gaming machine may be provided with a unique identification code for the mobile device. It will also be appreciated that the mobile device can be associated with the controller box rather than a particular video gaming machine. In these embodiments, the mobile device is initialized and always ready for operation with the particular video gaming machine.

[0037] In another embodiment, the initialization of the mobile device is performed at the time of usage or check out. For instance, a customer may check a mobile device out from a cashier and at that moment, the mobile device may be initialized and associated with a particular video gaming machine. Such initialization can be performed in a variety of manners, such as typing in a code, inserting a USB memory device, etc.

[0038] In another embodiment, the mobile device may be more dynamic and may be reinitialized or re-associated with video gaming machines on the fly. For instance, a customer may check out, purchase or use a previously purchased mobile device with one or more video gaming machines. In this embodiment, an initialization or association of the mobile device with a video gaming machine is performed on an as needed basis. If a user wants to engage a particular video gaming machine, the user invokes an association between the video gaming machine and the mobile device. This operation can take on a variety of forms including copying an identification number from the video gaming machine and presenting that number to a cashier along with the mobile device, entering the identification into the mobile device by the user, using a bar code scanner of the video gaming machine and/or the mobile device, using Bluetooth to invoke a synchronization and association, or any of several other techniques.

[0039] In other embodiments, an umbilical cord may be required to synchronize a mobile device with a particular video gaming machine. In yet another embodiment, the mobile devices may be stored in a pocket or on a shelf built into the video gaming machine. In this embodiment, the mobile device can maintain synchronization with the video gaming machine and constantly receive a battery charge will not in use. If a user is engaged with a machine and then needs to move to another location, the user can simply grab the mobile device. Once the mobile device is removed from its location, it activates and then assumes control of the video gaming machine.

[0040] Once the mobile device is initialized, a user can activate the mobile device for play with the video gaming machine. The activation step may be performed prior to engaging in play with the video gaming machine in normal mode, while the user is engaged in play with the video gaming machine, or after the user disengages play with the video gaming machine. A signal indicating the mobile device has been activated is received by the controller box 422. The controller box examines the contents of the activation signal to determine the identity of the mobile device, the user and/or the video gaming machine associated with the mobile device. It should be appreciated that the activation signal may also be used as the step of associating the mobile device with the video gaming machine. In this embodiment, the activation signal includes the identification of the video gaming machine to be associated with the mobile device.

When the activation signal is received, the video gaming machine transitions from the normal state 410 to the mobile use state 412.

[0041] Once the video gaming machine successfully transitions to the mobile use state, the user interface of the video gaming machine is either eliminated or reduced. For instance, in one embodiment the user interface for the video gaming machine is rendered completely impotent with the exception of presenting a message indicating that the video gaming machine is presently in mobile use (i.e., IN USE TO GO MODE). In other embodiments, the actuators of the video gaming machine are disabled but the display operates substantially similar to normal state. Thus, a bystander or a party using a neighboring machine can watch the mobile user play. The controller box receives signals from the mobile device indicating the occurrence of various actuators 424. The controller box may interpret these actuation signals and format them in a manner that the video gaming machine understands or, the signals may be such that they can be directly passed to the video gaming machine. In either case, the signals passed to the video gaming machine are used to control the operation of the video gaming machine 426.

[0042] In response to the various actuations, the video gaming machine will engage in a variety of operations. For instance, such operations may include, as non-limiting examples, dealing a new hand, spinning slot gears, doubling down on a bet, selecting certain cards to be discarded, requesting a Black Jack hit, folding a poker hand, etc. If any such operations result in a change in the user interface, this information is received by the controller box 428 and sent to the mobile device 430.

[0043] Subsequently, the user may deactivate the mobile device which results in transmitting a deactivation signal to the controller box. The controller box receives the deactivation signal and causes the video gaming machine to transition back to the normal state 432.

[0044] If a player goes to cash out, hits a winning combination or scores a jack-pot while the video gaming machine is in the mobile use state, the video gaming machine will not kick out the award winnings. Rather, the user may be credited with the value loaded into the machine or the user may be directed to go to a cashier for cashing out. Alternatively,

the user may approach the video gaming machine and then deactivate mobile mode in order to receive a cash out of his or her winnings.

[0045] Thus, it will be appreciated that the described embodiments essentially transition the monitor and touch screen of the video gaming machine onto a hand held mobile tablet or mobile device. However, the same game board used to determine the winnings and outcomes of the video gaming machine is used for the mobile device operation. The mobile device can receive and display the same information that the user would see if he or she were sitting at the video gaming machine. In other embodiments, the controller box may modify or enhance the video data. Thus, the player interacts with the mobile device which then sends the response back to the controller box for the identified video gaming machine. The controller box then passes this information to the game board for normal processing, just as if the user was sitting in front of the video gaming machine.

[0046] In one embodiment of the present invention, a mobile device may present a menu or card stack to the user which identifies all of the video games and themes that are residing on the floor and that are not currently in use by another party. The customer may select a theme, an available video gaming machine with that theme is then reserved for the customer. If not machines are presently available, the user's request can be queued until a machine becomes available.

[0047] In one embodiment, once a user engages a video gaming machine in mobile mode, the machine is no longer available for use by other customers until such time as the user disengages the mobile use of the machine. In an alternative embodiment, the mobile customer may be assigned a video gaming machine but, if a non-mobile user engages the video gaming machine (i.e., by entering coins into the machine), then the mobile user is transitioned to another video gaming machine.

[0048] In another embodiment, the mobile devices may be associated with video gaming machines that are not physically located on the casino floor, or that are not publicly available for play. For instance, a back room may be used to house an arsenal of video gaming machines for mobile use. It will also be appreciated that such "back room" video gaming machines may be stripped down to simply controller boards operating on a rack without the need for the video displays and user interface systems.

[0049] In a Bluetooth equipped mobile device embodiment, the mobile device can automatically associate with a gaming machine and drop the appropriate applet on the display to enable the games to be played on the mobile device. For instance, a cellular telephone or PDA equipped with Bluetooth can engage in a synchronization process with a video gaming machine. This can be conducted under the control of the user or the phone may automatically synchronize with a nearby available gaming machine. Once synchronized, an icon or applet can appear on the user's screen. To access the game, the user simply selects the applet and commences play. The user interface to the machine is then the mobile device but the game is actually played using the infrastructure of the gaming machine.

[0050] It should be understood that a gaming machine may actually host more than one game. For instance, a single slot machine may actually host multiple games on the same platform. In the various embodiments that have been described, as well as other embodiments, the mobile device can be associated with a machine, thereby restricting access to the entire machine when a user is playing the machine via a mobile interface, or it may simply be associated with only one of the games available on the machine. This latter embodiment enables the video gaming machine to remain available to other mobile users or direct machine users for games that are not presently being played through a mobile device. Similarly, it will be appreciated that a gaming machine may actually be able to process multiple instances of the same game. As such, the gaming machine may host one or more mobile devices yet remain available for direct usage on the floor.

[0051] Although the present invention has been described in the context of machine based games, it should also be appreciated that many casinos are moving towards server based gaming environments. In these environments, the gaming machine actually interfaces to a server for providing the gaming functionality and the video gaming machine operates more similar to a thin client. The present invention may also be incorporated into this type of environment. In one embodiment, the gaming machines would still operate as the server to the mobile devices thereby providing the same server based games to the mobile clients via their mobile devices. In another embodiment, the mobile devices may themselves interface to the server and thereby gain access to the available games.

[0052] It should be appreciated that the communication between the mobile devices and the gaming machines can be conducted through a short haul network, such as a LAN, wireless LAN, Bluetooth, or other wireless protocols, or it may be conducted through a long haul network such as the Internet or digital mobile network. For instance, various
5 embodiments have already been described for a mobile device operating within or near a casino. However, the mobile device may also be located in a different State and yet still be associated with a gaming machine through the Internet. For instance, a user visiting a Las Vegas casino may associate a mobile device with a gaming machine. This association may be active through a short haul network while the user is near the casino
10 but then switch over to a long haul network when the user leaves the casino. Thus, the user could sit in his office in Atlanta Georgia and play a gaming machine in Las Vegas. Likewise, the user may be able to associate his mobile device with a gaming machine by registering over the Internet, telephone, mail-in form or the like, without ever having to be near the machine physically. The billing for game play can be directly charged to a
15 customers account or the carrier providing communication service to the mobile device may actually include the billing for game play. Thus, the user can remotely access a gaming machine located in a gaming jurisdiction using a mobile device located outside of that gaming jurisdiction.

[0053] The present invention has primarily been described as operating within the
20 confines of a traditional video gaming environment. It should also be appreciated that the present invention may also be deployed an embodiment that bridges a mobile user with an actual gambling event. For instance, the controller box may interface to an array of video cameras, microphones and sensor equipment positioned appropriately around a poker table, a black jack table, a roulette table or the like. Taking the poker table as a
25 non-limiting example, the controller box can be used to transmit pertinent information to a mobile device to enable a mobile participant to monitor the activity of the game, place bets, view his or her hand, etc. Such an embodiment of the present invention can advantageously open a large number of poker table seats without having to actually dedicate valuable floor space to such activities, which generally are not as profitable to a
30 casino as the traditional video games, black jack tables, etc.

[0054] Similarly, the present invention can be used to enable mobile participation at a black jack table or other environments.

[0055] Another aspect of the present invention is providing an alarming system within the mobile device. For mobile devices that belong to the casino, an alarming mechanism
5 can be included so that if the device is moved out of the casino or a certain distance from the video gaming machine, an alarm will sound at a first level to warn the user and at a second level to alert security.

[0056] In the description and claims, each of the verbs, “comprise” “include” and “have”, and conjugates thereof, are used to indicate that the object or objects of the verb are not
10 necessarily a complete listing of members, components, elements or parts of the subject or subjects of the verb.

[0057] The present invention has been described using detailed descriptions of embodiments thereof that are provided by way of example and are not intended to limit the scope of the invention. It will be appreciated that other uses of the present invention
15 are also anticipated. The described embodiments comprise different features, not all of which are required in all embodiments of the invention. Some embodiments of the present invention utilize only some of the features or possible combinations of the features. The scope of the invention is limited only by the following claims.

CLAIMS

What is claimed is:

1. An apparatus for enabling access and operation of video gaming machines by a mobile device, the apparatus comprising:

5 a video gaming machine control circuit interface;

a wireless transceiver;

a memory storage unit;

a processing unit, communicatively coupled to the wireless transceiver, the memory storage unit, and the video gaming machine control circuit interface, and

10 being operable in response to instructions stored in the memory storage unit, to:

detect activation of a mobile device associated with the video gaming machine;

interface with the mobile device using the wireless transceiver;

15 provide a signal to the video gaming machine control circuit interface indicating that mobile operation is active; and

bridge the video gaming machine and the mobile device so that the mobile device operates as the user interface for the video gaming machine.

2. The apparatus of claim 1, wherein the video gaming machine control circuit interface includes an interface to the user interface of the video gaming machine.

20 3. The apparatus of claim 1, wherein the video gaming machine control circuit interface includes an interface to control the display of the video gaming machine.

4. The apparatus of claim 1, wherein the video gaming machine control circuit interface includes an interface to control the operation of the video gaming machine.

25 5. The apparatus of claim 1, wherein the processing unit is operable to detect activation of a mobile device associated with the video gaming machine by receiving a signal from the mobile device over the wireless transceiver.

6. The apparatus of claim 5, wherein the received signal uniquely identifies the video gaming machine.

7. The apparatus of claim 5, wherein the received signal uniquely associates the mobile device with the video gaming machine.

5 8. The apparatus of claim 1, wherein the signal provided to the video gaming machine control circuit interface indicating that mobile operation is active results in a message indicator being displayed on the display of the video gaming machine.

9. The apparatus of claim 1, wherein the processing unit is further operable to:

10 detect deactivation of the mobile device;

provide a signal to the video gaming machine control circuit interface indicating that mobile operation is inactive; and

terminating the bridge of the video gaming machine and the mobile device so that the video gaming machine returns to normal operation.

15 10. A method for providing access to a video gaming machine from a mobile device, the video gaming machine including a controller box that operates as an enabler for the access, the method comprising the steps of:

receiving an activation signal from a mobile device;

20 in response to the receiving the activation signal, causing the video gaming machine to operate in a mobile device operated mode;

receiving operational actuations from a remote device;

providing the operational actuations to the video gaming machine so as to control the operation of the video gaming machine;

receiving user interface signals from the video gaming machine; and

25 providing the user interface signals to the mobile device for presentment to a user.

11. The method of claim 10, wherein the step of receiving an activation signal from a mobile device further comprises receiving a signal that uniquely identifies the video gaming machine.

12. The method of claim 10, wherein the video gaming machine hosts a plurality of games and the step of receiving an activation signal from a mobile device further comprises receiving a signal that uniquely identifies one of the plurality of hosted games on the video gaming machine.

13. The method of claim 12, wherein the step of causing the video gaming machine to operate in a mobile device operated mode further comprises preventing further user access to the uniquely identified one of the plurality of hosted games but maintaining available access the other hosted games.

14. The method of claim 10, wherein the video gaming machine hosts multiple instances of a game and the step of receiving an activation signal from a mobile device further comprises receiving a signal that uniquely identifies the video gaming machine and the step of causing the video gaming machine to operate in a mobile device operated mode further comprises assigning one instance of the game to the mobile device while maintaining access to other instances of the game.

15. The method of claim 10, wherein the step of causing the video gaming machine to enter a mobile device operated mode further comprises the steps of:
rendering the user controls of the video gaming machine as impotent; and
displaying a message indicator on the display of the video gaming machine.

16. The method of claim 10, wherein the mobile device is provisioned to be associated with a particular video gaming machine and the step of receiving an activation signal from a mobile device further comprises receiving a signal indicating the identity of the mobile device and the associated video gaming machine.

17. The method of claim 10, wherein the mobile device can be provisioned to be associated with any one of a plurality of video gaming machines and the step of receiving an activation signal from a mobile device further comprises receiving a signal indicating the identity of the associated video gaming machine.

5 18. The method of claim 10, wherein the video gaming machine is positioned in a public area and is available for use by the public, further comprising the steps of:
allowing a normal mode of operation for the video gaming machine; and
in response to the receiving the activation signal, causing the video gaming machine to enter a mobile device operated mode by exiting the normal mode of
10 operation.

19. The method of claim 18, further comprising the steps of:
receiving a deactivation signal from a mobile device;
in response to receiving the deactivation signal, causing the video gaming machine to return to the normal mode of operation.

15 20. A system for enabling a mobile device to operate as a user interface and controller of a video gaming machine, the system comprising:
a controller box including a processing unit, a wireless transceiver, a video gaming machine control circuit interface and a memory storage unit;
a mobile device including a wireless transceiver, display and actuators;
20 the processing unit in the controller box, in response to executing instructions in the memory storage unit, being operable to:
receive an activation signal from the mobile device;
determine that the activation signal is associated with a particular video gaming machine;
25 causing the operation of the video gaming machine to be controlled by the mobile device; and

capturing user feedback information produced by the video gaming machine and provide the information to the mobile device.

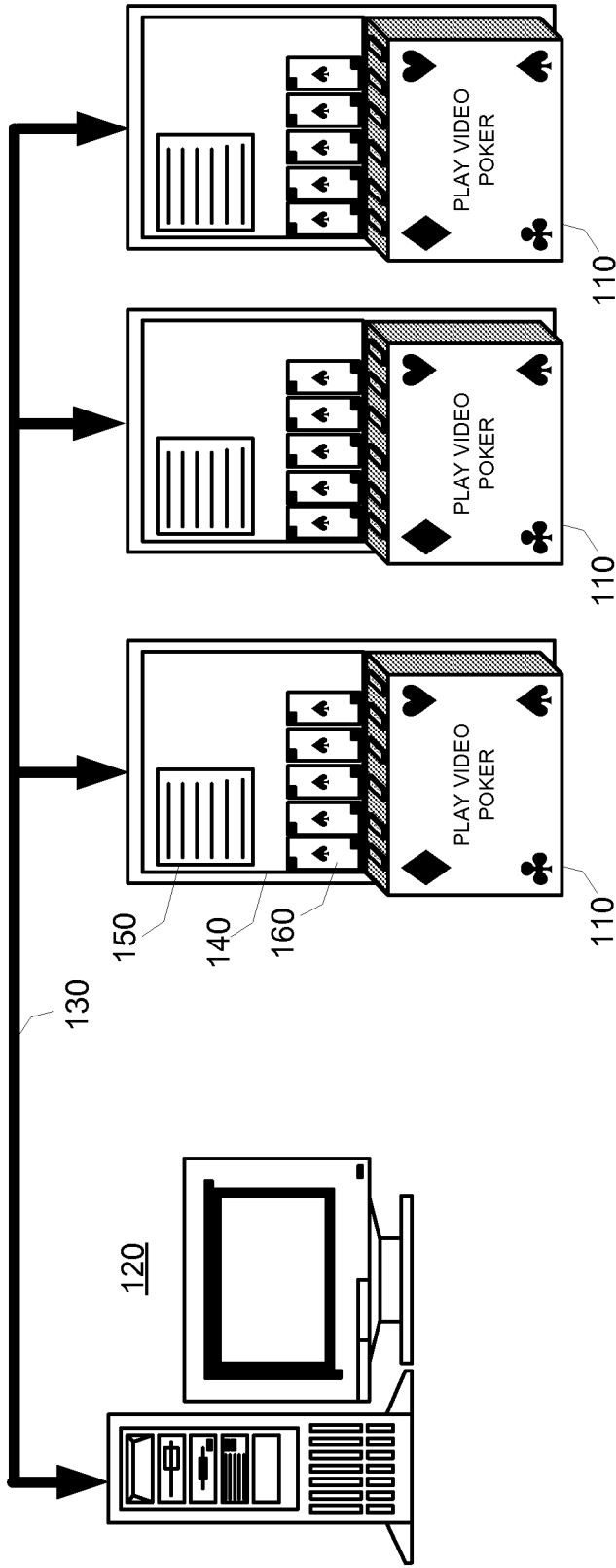
21. The system of claim 20, wherein the mobile device includes a display and actuators, and is operable to:

- 5 display user feedback information received from the controller box;
 detect actuation of one or more actuators; and
 transmit a signal to the controller box indicative of the detected actuation.

22. The system of claim 20, wherein the mobile device is operable to:

- receive a video gaming machine identifier; and
10 transmit an activation signal to the controller box, the activation signal
including the video gaming machine identifier.

23. The system of claim 20, wherein the mobile device is operable to receive an indicator from the controller box that a winning event has occurred and to display this information.



PRIOR ART

FIG. 1

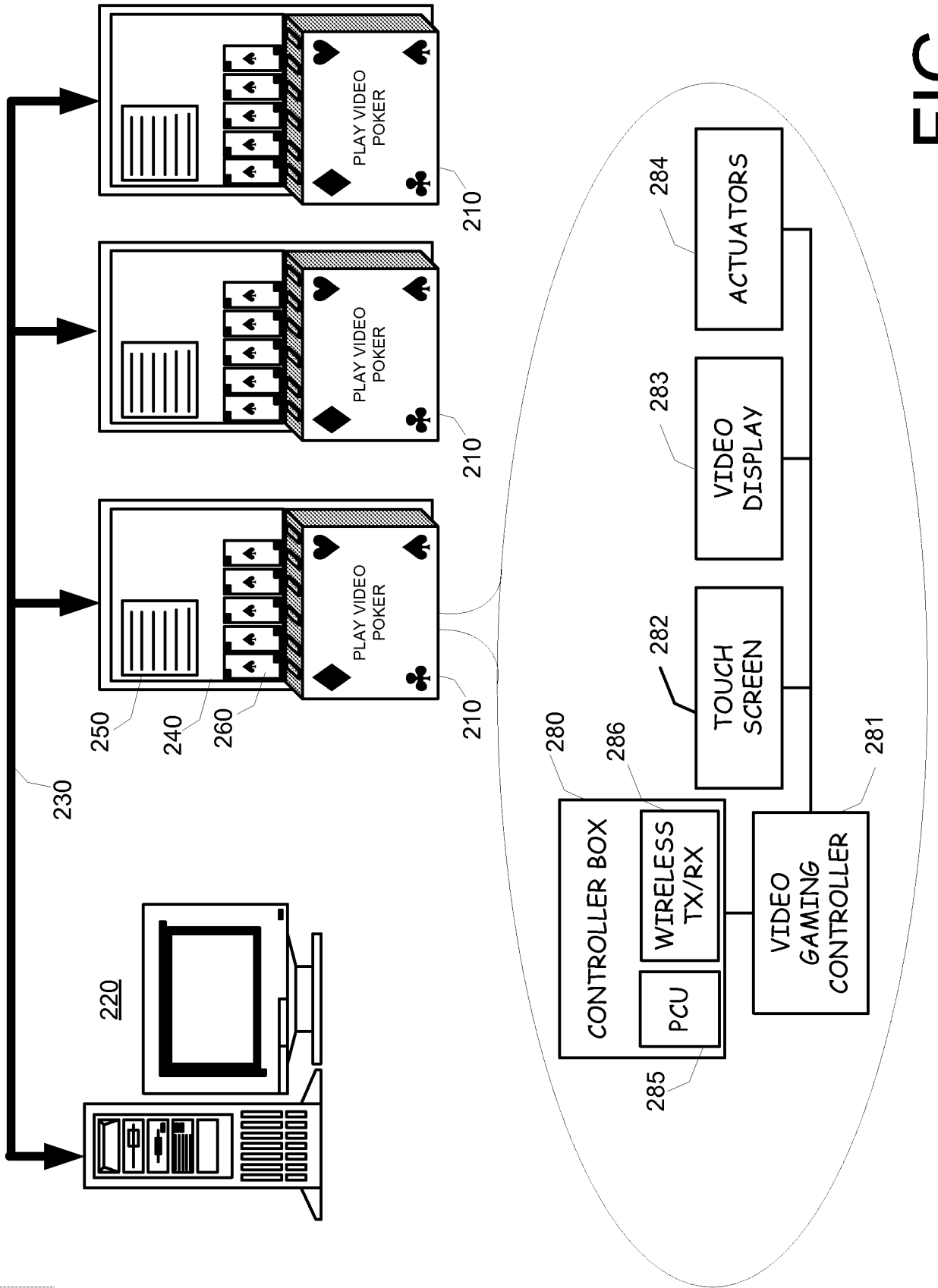


FIG. 2

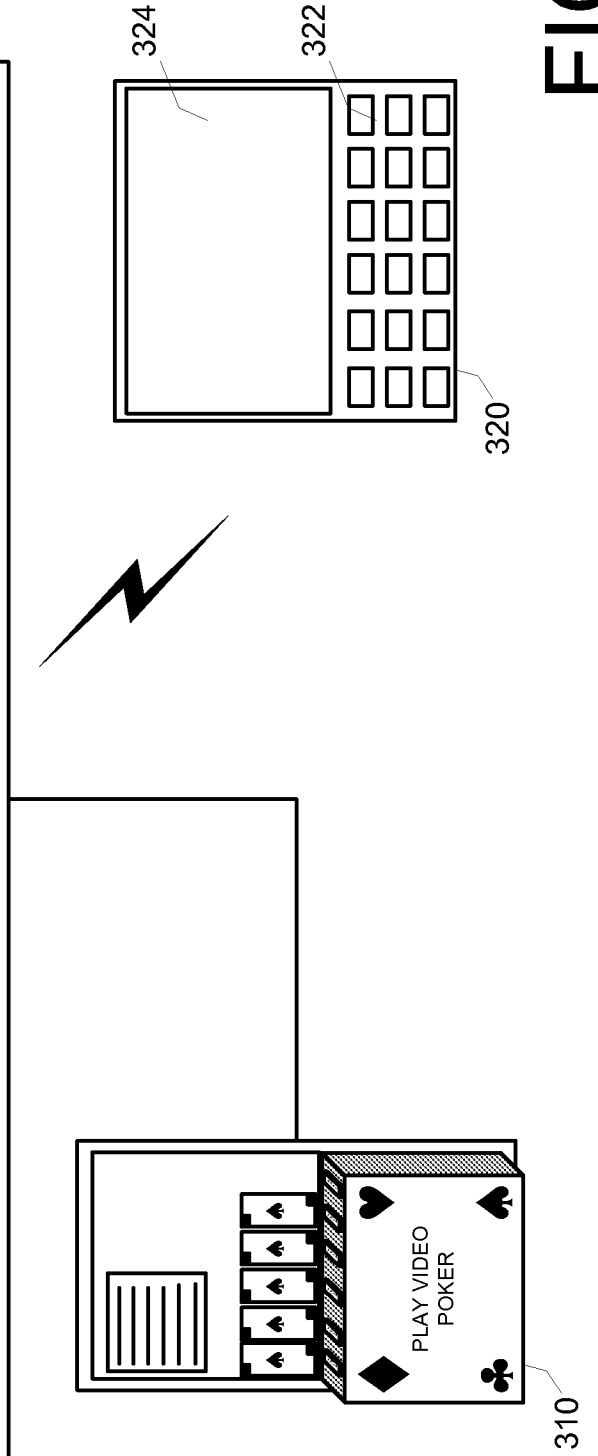
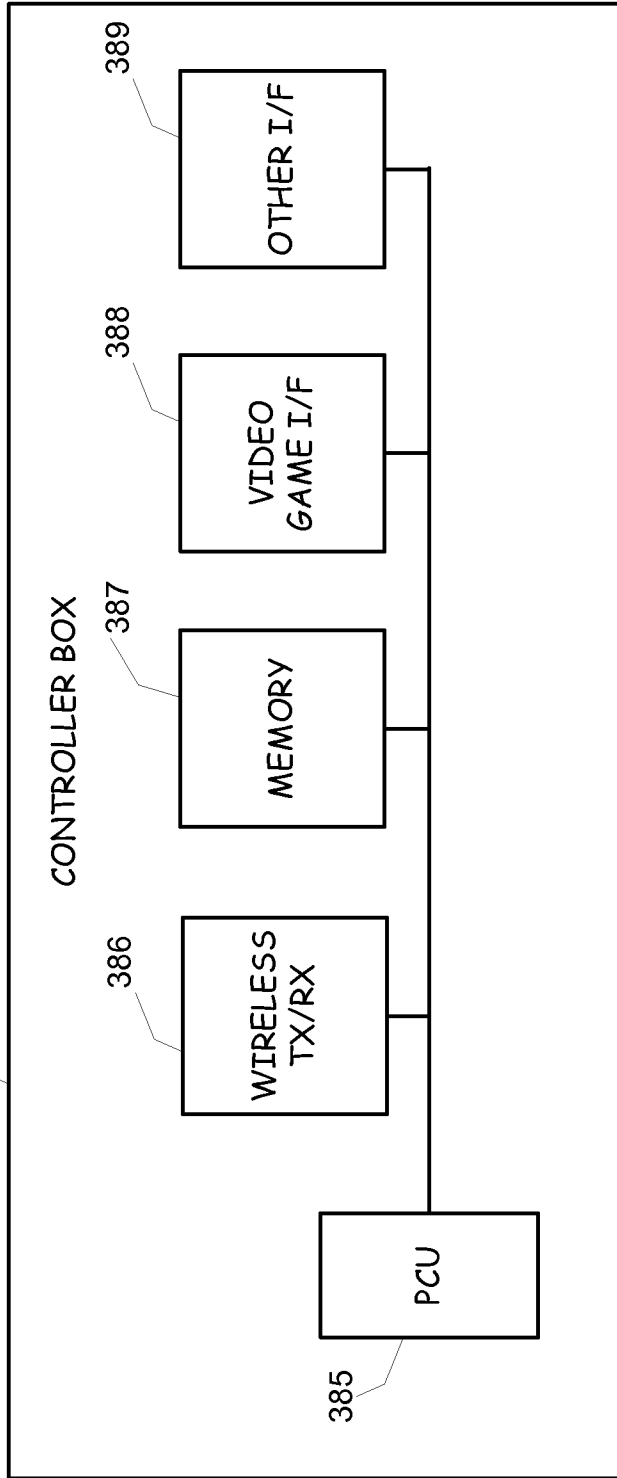


FIG. 3

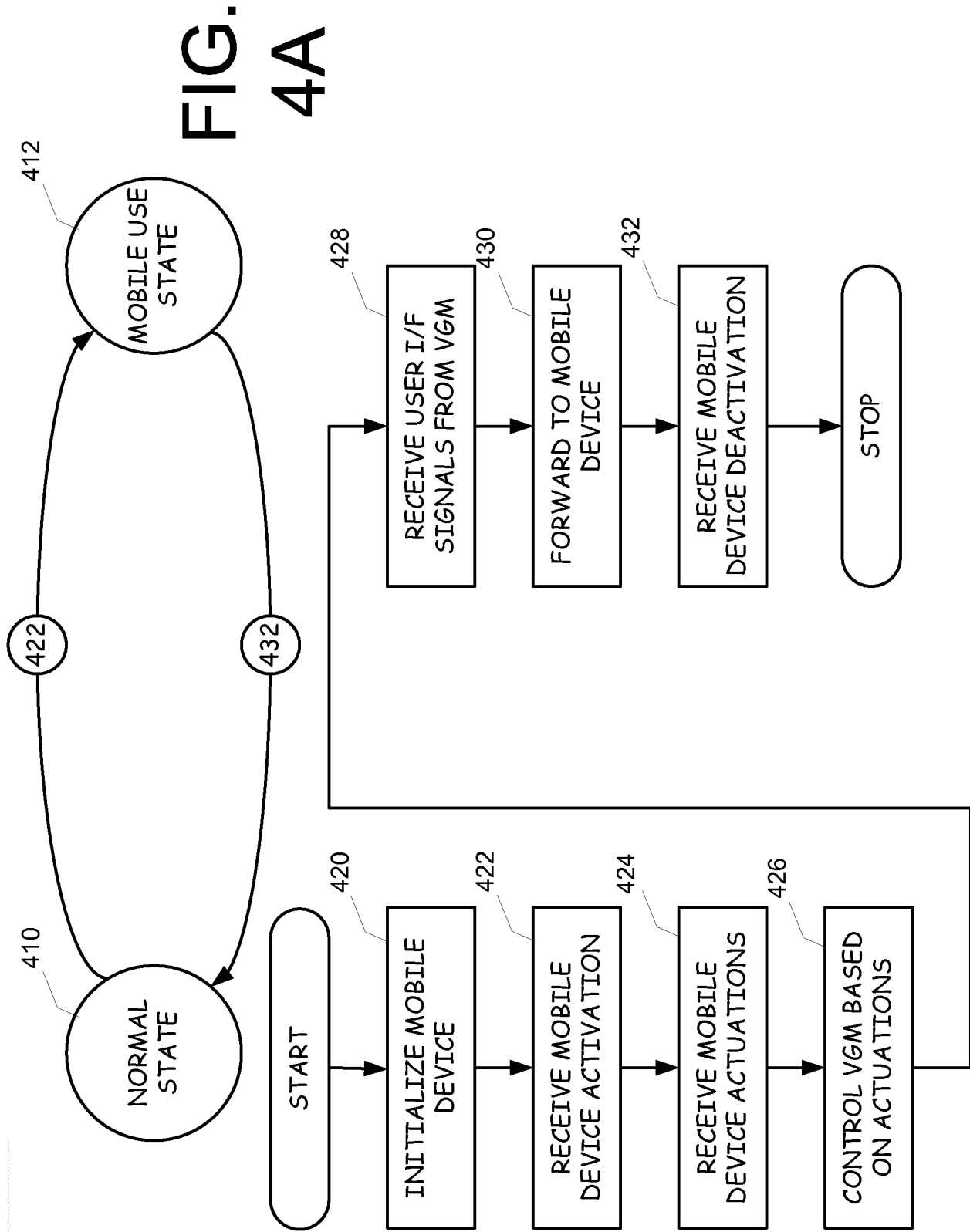


FIG. 4A

FIG. 4B