**Title:** SYSTEM AND METHOD FOR PERSONALITY ADOPTION BY ONLINE GAME PERIPHERALS

**Abstract:** An apparatus and methods for personality adoption of online game peripherals interacting with an online game server having multiple online game states. Methods disclosed include techniques for associating a personality with a personality-adopting mobile game peripheral capable of holding a game state at least partially adopted from the game peripheral personality component (e.g., a faceplate, a shell, a key, etc). Additionally techniques are provided for uploading personality-imbued game state to the online game server; and for retrieving personality-imbued online game states to the first personality-adopting mobile game peripheral. Some embodiments involve multiple game peripheral personality components and corresponding personality-adopting mobile game peripherals in a peer-to-peer relationship. Peer-to-peer embodiments include techniques for associating a second personality, using a second game peripheral personality component, with a second personality-adopting mobile game peripheral. Also disclosed are techniques for receiving into the first game peripheral, a second personality from the second personality-adopting mobile game peripheral.
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The present application claims priority to application filed July 17, 2009 under application serial number 12/505,120, which is incorporated herein by reference for all purposes. However, insofar as any definitions, information used for claim interpretation, etc. from the abovementioned application conflicts with that set forth herein, such definitions, information, etc. in the present application should apply.

FIELD OF THE INVENTION

The present invention is directed towards interoperative toys, and more particularly towards toys that adopt a personality for online game interaction.

BACKGROUND OF THE INVENTION

Broad and inexpensive availability of Internet communication as well as communication between inexpensive portable devices including toys has created an environment where such portable devices with highly specific purposes can be deployed. Such portable devices can include characteristics that coordinate the toy with some Internet activity in order to create a more immersive play experience. In some environments, a toy might bear a personality or resemblance or likeness or other relationship to an Internet character or theme. Concurrently, high-tech consumerism has lowered cost and adoption barriers for technologies that support wireless communication between small low-cost devices, and such devices facilitate learning or entertainment where an individual can interact with the device, and/or with other devices, and/or with or through the Internet. Conceptually, a single instance of a toy might be used in game play with any number of Internet games. If the single instance of the toy could itself adopt a personality, or thematic or character likeness, or other characteristics of the Internet game, then game play could be even more immersive. Thus, what is needed are systems and methods to allow thematic or personality characteristics of the toy to be adopted and for such adopted personalities to be coordinated with online activities and other game play activities.
SUMMARY OF THE INVENTION

[0004] Disclosed are apparatus and methods for personality adoption by online game peripherals (e.g. a handheld console, a toy, a badge, etc) for interacting with an online game. Game pieces in the form of a faceplate, a shell, a key, etc, possibly bearing a character likeness, personality or thematic design, can be purchased in advance of game play. Such personality-imbued game pieces can be assembled together with a game peripheral and personality-imbued game play can then commence. In some embodiments, a game peripheral is self-contained, and may be used in a mobile setting, possibly involving peer-to-peer communication with another personality-adopting game peripheral. Methods disclosed include techniques for associating a personality with a personality-adopting mobile game peripheral capable of holding a game state at least partially adopted from the game peripheral personality component. Additionally, techniques are provided for uploading a personality-imbued game state to the online game server; and for retrieving personality-imbued online game states to a personality-adopting mobile game peripheral. Some embodiments involve multiple game-peripheral personality components and corresponding personality-adopting mobile game peripherals in a peer-to-peer relationship. Peer-to-peer embodiments include techniques for associating a second personality, using a second game peripheral personality component, with a second personality-adopting mobile game peripheral as well as techniques for receiving a portion of a second personality from a second personality-adopting mobile game peripheral into the first game peripheral.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] A brief description of the drawings follows:

[0006] FIG. 1 depicts an exemplary online Internet gaming environment including a game server, personality-adopting game peripherals, and game-peripheral personality components.

[0007] FIG. 2 shows an exemplary embodiment of an online gaming environment including interactive personality-adopting game peripherals in a peer-to-peer connection.

[0008] FIG. 3 is a block diagram of components of a system for personality adoption by online game peripherals showing a personality sensor apparatus, according to one embodiment.
FIG. 4 is a block diagram of a personality-adopting game peripheral for use within a system for personality adoption by online game peripherals, according to one embodiment.

FIG. 5A is an exploded view of an assembly of components for use within a system for personality adoption by online game peripherals, according to one embodiment.

FIG. 5B is a side view of a badge for use within a system for personality adoption by online game peripherals, according to one embodiment.

FIG. 5C is a side view of an assembly of components for use within a system for personality adoption by online game peripherals, showing a game peripheral personality component, according to one embodiment.

FIG. 6 depicts exemplary interactions between personality-adopting game peripherals, a game platform, and a game server, according to one embodiment.

FIG. 7 depicts a hierarchy of modes and operations of a game peripheral for use within a system for personality adoption by online game peripherals, according to one embodiment.

FIG. 8 is a depiction of methods for use within a system for personality adoption by online game peripherals in an online environment, according to some embodiments.

FIG. 9 is a diagrammatic representation of a machine in the exemplary form of a computer system, within which a set of instructions may be executed, according to according to one embodiment.

DETAILED DESCRIPTION

In the following description, numerous details are set forth for purposes of explanation. However, one of ordinary skill in the art will realize that the invention may be practiced without the use of these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to avoid obscuring the description of the invention with unnecessary detail.

A toy might be used in game play with any number of Internet games. If the single instance of the toy could be coordinated with thematic or personality characteristics of the Internet
game, game play could be even more immersive. As disclosed herein, such toys can adopt a personality using one or more of a variety of techniques. For example, a removable component may be fitted to the toy, which component may imbue the toy with a personality, and which personality may change in response to some particular Internet online activity (e.g. in response to game play of an online game). In some embodiments, a toy might bear a resemblance or likeness or other relationship to a character or theme. For example, the removable component might bear artwork or symbols suggestive of a particular character or theme, and come in the form of a cover or faceplate, or skin.

Game pieces and toys disclosed herein include devices for immersive game play experiences. The toys may be capable of both "online" and "offline" game play, and the toys may include audio-visual and other sensory feedback. Some embodiments include game peripherals with moving parts and robotics. Embodiments include devices capable of powering a wide variety of toy executions, and lend features and capabilities for game designers and toy designers to integrate personalized game peripheral toys into new and existing online virtual worlds and games.

Imagine... You want to play the multi-player online game "Zoop" and you want to have game powers similar to one of the heroes of the game "Gorp". Just snap on the faceplate corresponding to the character Gorp, and you are imbued with the powers of Gorp. Imagine... You have been playing an online game for weeks, and discover that one needs a key to achieve the higher levels. Buy the key, and use it with the online game to unlock secrets to success at the higher levels.

Various features of some embodiments allow a player to establish and maintain an online personality, and exhibit characteristics of that personality with others via both online worlds and in the real world. Other embodiments include a proximity locator that might automatically connect with other players having compatible personalities, play mini-games (whether connected online or not), and update status and other information when an uplink is available. Further features of some embodiments allow a player to establish and maintain game states based on game play using a particular personality. In particular, some embodiments include a proximity locator that
might automatically connect in a peer-to-peer fashion (or refuse a peer-to-peer connection) based on the compatibility (or lack of compatibility) of the peering of personalities. Once connected (with an interoperaive toy imbued with a compatible personality), some embodiments wirelessly exchange information over a peer-to-peer communication link, and update relationships and other information when an uplink (e.g. an Internet uplink connection) is available. Of course, in both gaming/online worlds as well as in the real world, a friend may be a friend to varying degrees, even to the point of being afoe. In some situations online/game entities (whether a real person or strictly a gaming/online/virtual entity) may be intrinsically a foe (e.g. as related to a game situation, or as related to a peering based on imbued personalities). Such a designation may be controlled in some dimensions by a player, and/or in some dimensions by another player, or may even be controlled in some dimensions under parental control.

[0021] Description of the Environment

[0022] FIG. 1 depicts an exemplary online Internet gaming environment including a game server, personality-adopting game peripherals and game-peripheral personality components. As shown in system 100, a game server 110, a social networking server 180, a control terminal 190, a first player game platform 160 (e.g. a game console, a PlayStation™, a Wii™, a personal computer, a Macintosh™ computer, an iPhone™, a networked device, even a network router, etc) and a second player game platform 170 connect to the Internet 112 over communication links 111, 181, 191, 121, and 131. A personality-adopting game peripheral 140 (e.g. a toy, a badge, a joystick, keypad, keyboard, transducer, etc) connects to a first player game platform 160 over communication link 161, and a peer personality-adopting game peripheral 150 connects to a second player game platform 170 over communication link 151. FIG. 1 also shows a game peripheral personality component 145 associated with a personality-adopting game peripheral 140, and a peer game peripheral personality component 155 associated with peer personality-adopting game peripheral 150. A particular personality-adopting game peripheral 140, 150 might accept (e.g. be
fitted with, be mated with) a game peripheral personality component, which game peripheral personality component in turn embodies a personality in the form of personality bits 149.

[0023] Game play using a personality-imbued game peripheral (e.g. a personality-adopting game peripheral 140, 150 mated with a game peripheral personality component) might be initiated by game software 115 executing on game server 110 (e.g. an online game server, a multi-player server, a virtual world server, etc), and one or more players may join in game play from a peer game platform, with or without a corresponding peer personality-adopting game peripheral. Online social interaction might be initiated by or with a social networking server 180, or by game software 115 executing on servers 180 and/or 110, respectively, and/or other servers (e.g. an online game server, a multi-player server, a virtual world server, a social networking feed server, etc), and one or more players may join in social interaction and/or game play from a game platform 160, 170.

[0024] Players interact with the game software resident on the server over a communication path through the Internet. In some situations, the game software 115 supports multi-player games, in particular the game software 115 supports multi-player games wherein each player participates using a personality-adopting game peripheral (e.g. 140, 150) mated with a game peripheral personality component (e.g. 145, 155). Interaction between players is supported via at least a network communication path from one player (e.g. a first player station 160) through communication link 121 to the Internet 112, through the communication link 111 to the game server 110, again to the Internet 112, and to a second (or nth) player operating a second player game platform 170, through the communication link 131. In some situations, wireless communication is used for any of communication links 121 and 131 (and even communication link 111 for that matter). In fact, some environments support a wireless communication link 175 (e.g. 802.11b, 802.11g, 802.Hn, etc) between two or more game platform systems (e.g. 160, 170), and some environments support one or more wireless routers.

[0025] However, while such an environment and configuration supports multi-player online play, and even in some cases the possibility for peer-to-peer communication (e.g. between a first
player game platform and a second player game platform) over a wireless communication link 175, such a configuration is stationary. When a player moves away from the player's game platform (e.g. goes to school, goes to the mall, etc), then interaction between the player and the game software is interrupted as is interaction between a first player and a second player.

[0026] As earlier indicated, even when a player moves away from the player's game platform (e.g. goes to school, goes to the mall, etc), and interaction between the player and the game software is interrupted, there remains the possibility for peer-to-peer communication (e.g. between a first player's game peripheral and a second player's game peripheral) over a wireless peer-to-peer communication link (e.g. using any one or more of the aforementioned wireless communication links, or other communication mechanisms for that matter). Using such a peer-to-peer communication method between personality-adopting game peripherals, connections between players may be established, possibly involving game play relationships associated with the peered personalities and/or combinations.

Exemplary Embodiments of Personality-adopting Game Peripherals

[0027] FIG. 2 shows an exemplary embodiment of an online gaming environment including interactive personality-adopting game peripherals. This embodiment of the invention is represented within the context of the online gaming environment of FIG. 1. As shown in the system 200, each personality-adopting game peripheral 140, 150 comprises a stationary component 210, 220 and a personality-adopting mobile game peripheral 215, 225. Referring to a first personality-adopting game peripheral 140, a communication link 240 provides for communicating between a stationary component 210 and a first personality-adopting mobile game peripheral 215. Referring to a second personality-adopting game peripheral 150, a communication link 250 provides for communicating between a stationary component 220 and a second personality-adopting mobile game peripheral 225. Referring to the juxtaposition of a first personality-adopting mobile game peripheral 215 and a second personality-adopting mobile game peripheral 225, a wireless communication link 235 is provided. Furthermore, a personality-adopting mobile game
peripheral 215, 225) can be removed (e.g. undocked, unplugged, disconnected) from stationary components 210, 220. Some embodiments include a control terminal 190 (e.g. a personal computer, or a network computer, or any platform capable of rendering a web page, or any I/O device structure on or in a game peripheral component, etc). Also, some embodiments include communication by and between a social networking server 180 and a game server 110 through the Internet 112 via inter-process communication (e.g. feeds, push technologies, pull technologies, web services, HTTP, TCP/IP, etc).

[0028] FIG. 3 is a block diagram of components of a system for personality adoption by online game peripherals, according to one embodiment. As an option, the present system 300 may be implemented in the context of the architecture and functionality of FIG. 1 and FIG. 2. In particular, system 300 might be included in environments 100 or 200. Of course, however, the system 300 may be included in any desired environment. As shown, system 300 performs at least some of the operations of a personality-adopting game peripheral 140, 150. In particular, a stationary component 210 might comprise a communication signal adapter 305 (e.g. USB, Bluetooth, serial I/O, etc), a power subsystem 315 (e.g. a power conditioner, a charging unit, a power conductor, etc), and a mechanical mating interface 310 (e.g. cradle, sheath, connector, etc). The stationary component 210 may also include a power harness 360 for carrying power between a stationary component 210 and a personality-adopting mobile game peripheral 215. Those skilled in the art will recognize that the component 210 might be embodied within a USB cable. Moreover, a personality-adopting mobile game peripheral 215 might include zero or more input and/or output structures and user controls 320 (e.g. a button, a touch screen, an LED, an RFID reader, a switch, etc). In some embodiments user controls are realized as in-device input and/or output structures that might be used to capture user controls, possibly including user controls for changing the personality state and/or any game states stored. Such capture of user controls might include cooperation with any online or web GUI accessible through a communication signal adapter 305. As shown, a personality-adopting mobile game peripheral 215 includes an actuator apparatus 325, which
comprise one or more electrical, or mechanical, or electro-mechanical actuators (see 480, 481, 482 of FIG. 4) that serve to actuate a personality-adopting mobile game peripheral 215 in such a manner that an individual can interact with the device, and/or with other devices, and/or with or through the Internet. Also, a personality-adopting mobile game peripheral 215 includes a personality sensor 330 which comprise one or more electrical, or mechanical, or electro-mechanical sensors serve to associate a personality (e.g. from a game peripheral personality component 145, 155) to a personality-adopting mobile game peripheral 215 in such a manner that the associated personality modifies a game state for game play interaction with other devices, and/or with or through the Internet. For example, in the context of a system for personality adoption by online game peripherals, the apparatus of FIG. 3 might be used in interactive online game play by associating a personality, using a game peripheral personality component 145, 155, with a personality-adopting mobile game peripheral that then holds a game state that is at least partially adopted from a game peripheral personality component 145, 155, and uploads a portion of the game state from the personality-adopting game peripheral assembly 350 to the online game server.

[0029] Of course, a multiple-player game might involve a first personality-adopting game peripheral assembly and a second personality-adopting game peripheral assembly. A personality-adopting game peripheral assembly 350 might connect to the online game (e.g. through stationary component 210) and upload to the online game server at least one bit from the game state of the personality-adopting game peripheral assembly 350. In game play, a personality-adopting game peripheral assembly 350 might retrieve one or more game states from the online game server. At any point in time, a second personality-adopting game peripheral 150 might become associated with a second personality, using a second game peripheral personality component 155, and join multi-player game play. In some game play situations, when a second personality-adopting game peripheral assembly is within communication range of a first personality-adopting game peripheral assembly 350, a first personality-adopting game peripheral 140 might retrieve from a second personality-adopting game peripheral assembly at least one bit for downloading to the first game.
peripheral assembly 350, wherein the at least one bit represents at least a portion of the second game state. In this manner, aspects of personality bits 149 may be communicated to a peer game peripheral.

[0030] Returning to the apparatus of the personality sensor 330, the personality sensor serves to read a personality (e.g. wholly or partially from a game peripheral personality component 145, 155). In exemplary embodiments, reading a personality might be implemented by identification of a particular game peripheral personality component 145, 155, which identification is then used in forming any manner of associations. In some embodiments, a game peripheral personality component 145, 155 might be formed with a mechanical mating such that a game peripheral personality component 145, 155 can be removably affixed to a personality-adopting game peripheral 140, 150. During the time that the game peripheral personality component 145 is affixed to the personality-adopting game peripheral 140, 150, identification of the game peripheral personality component 145 might be performed by personality sensor 330 by sensing a locking tab sensor. In other embodiments, identification of a game peripheral personality component 145, 155 might be performed by identification including sensing an optical pattern (e.g. by the physical design of the game peripheral personality component, and/or by occluding light from sensors or photocells), or by identification via an RFID (e.g. by reading an RFID tag), and of which techniques serve to imbue at least one bit of personality bits 149 to the game peripheral component.

[0031] In some cases, the personality bits 149 can be associated through identification of a game peripheral personality component 145 in combination with a sequence of inputs. For example, a particular personality (i.e. a compound personality ID) might be associated on the basis of a sequence of events as depicted in Table 1.
Table 1: Game personality association from a sequence of inputs

<table>
<thead>
<tr>
<th>Game Peripheral Personality Bits</th>
<th>Followed by...</th>
<th>Then Followed by...</th>
<th>Compound Personality ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>RFID tag=1000</td>
<td>-</td>
<td>1001 (bitwise or)</td>
</tr>
<tr>
<td>0002</td>
<td>RFID tag=1000</td>
<td>-</td>
<td>10000002 (concatenation)</td>
</tr>
<tr>
<td>0003</td>
<td>RFID tag=1000</td>
<td>RFID tag=2000</td>
<td>200010000003 (concatenation)</td>
</tr>
<tr>
<td>0004</td>
<td>Visual Code=0110</td>
<td>-</td>
<td>01100004 (concatenation)</td>
</tr>
</tbody>
</table>

[0032] Additional embodiments are discussed infra.

[0033] FIG. 4 is a block diagram of a personality-adopting game peripheral 140 for use within a system for personality adoption by online game peripherals, according to one embodiment. As an option, the present system 400 may be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 3. In particular, system 400 might be included in environments 100 or 200. Of course, however, the system 400 may be included in any desired environment. As per the exemplary implementation shown, the game peripheral includes a microcontroller 435 which may be embodied by any of a wide variety of microprocessors or microcontrollers (e.g. PIC processor, TINY processor, etc), which might include a flash memory 440 as an integrated component, or might include an interface for flash memory, or both. The microcontroller might support an interface to any of a variety of external memory types and configurations; for example, for external memory 442. The microcontroller 435 might also support a variety of external devices. For example, commercially available microcontrollers often support a variety of serial and/or parallel devices through a general purpose I/O (GPIO) section. In some embodiments, the microprocessor might provide support (e.g. hardware or software, or both) interfaces to human interface devices such as buttons (e.g. momentary switches, capacitive switches, photocells, other light-sensitive components, etc) 405, electrically actuated visible indicators (e.g. light emitting diodes, LEDs, etc) 410, graphic screens (e.g. an LCD screen, a VGA screen, a touch-screen, etc) 415, and/or audio devices (e.g. a buzzer, a speaker, piezoelectric transducers, electrostatic transducers, mechanical actuators, etc) 425. In some cases, including
embodiments disclosed infra, the microcontroller 435 might support functions for, or interfaces to, wireless transceivers (e.g. 802.1 Ib, 802.1 Ig, 802.1 In, etc) 430 and/or to other wireless transceivers or devices (e.g. infrared, piezoelectric emitters, proximity sensors, etc) 430 and/or to RFID readers 420, and/or to one or more sensors 422, 423 for carrying out sensing operations discussed herein, especially, but not limited to sensing personality IDs from a game peripheral personality component 145, 155. Still more, the microcontroller 435 might interface directly or indirectly to a universal serial bus (USB) component 447 or any other known-in-the-art interface suitable to communicate with a personal computer or game console, or with a game console embodied within a personal computer, or with any other computing device configured to present a user interface, which communication is supported by data I/O bus 455. As regards the subsystem 475, personality-adopting game peripherals might contain one or more electro-mechanical actuators 480 (e.g. gears, wheels, levers, bumpers, vibrators, buzzers, etc) coupled to one or more actuators 481, 482 (e.g. solenoid, torroid, LED, etc). Some embodiments of subsystem 475 might include a battery 445 or other device for storing or generating a charge (e.g. a capacitor, a solar collector, a fuel cell, etc), and the power subsystem might include human interfaces, e.g. an LED 448, for discerning the state of the power subsystem, and might include charging circuits 446 (e.g. charging circuit output alimentation), power connector adapters 449, and electrical conductors 450 suited for carrying current used in providing power to various portions of the system 400. Those skilled in the art will recognize that the flash memory 440 might be used to retain microprocessor software instructions, and/or configuration data, and/or personality states, game play states, and/or the state regarding the player's social relationships, social interactions, and social interaction restrictions, even including user settings.

**Exemplary Configurations of Personality-Adopting Game Peripheral Assemblies**

[0034] FIG. 5A is an exploded view of an assembly of components for use within a system for personality adoption by online game peripherals, according to one embodiment. As an option, assembly of components of FIG. 5A may be implemented in the context of the architecture and
functionality of FIG. 1 through FIG. 9 herein. In particular, the design of FIG. 5A might be included in environments 100 or 200. Of course, however, the design of FIG. 5A may be included in any desired environment. As per the exemplary implementation shown, a personality-adopting game peripheral assembly comprises a collection of electro-mechanical components mounted onto a printed wiring component 5A10. This collection of electro-mechanical components mounted onto a printed wiring component is housed by a housing bottom portion 5A30 and a housing top portion 5A20. A housing bottom portion 5A30 and a housing top portion 5A20 may be fastened together using one or more fasteners 5A40. The assembly of 5A10, 5A20, and 5A30 comprises a personality-adopting mobile game peripheral 215. This assembly may accept a removable shell component 5A50 (e.g. a faceplate, a skin), which may be formed as a removable component to be fitted to the housing top portion 5A20. Once fitted, a removable shell component 5A50 serves to imbue the collection of electro-mechanical components mounted onto a printed wiring component 5A10 with a personality. In some embodiments, imbuing a personality includes actuating a mechanical unlocking/locking mechanism 5A60.

[0035] FIG. 5B is a side view of a badge for use within a system for personality adoption by online game peripherals, according to one embodiment. As an option, the badge of FIG. 5B may be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 9 herein. In particular, the badge of FIG. 5B might be included in environments 100 or 200. Of course, however, the design of FIG. 5B may be included in any desired environment. As per the exemplary implementation shown, the game peripheral design is implemented in the form of a stylized badge. For purposes of the disclosure herein, the term "badge" is used strictly as a convenient name for a personality-adopting mobile game peripheral. As shown, the design of FIG. 5B includes a main base portion 5B20, an area for a label 5B10, an area for a visual screen 5B40 (e.g. LCD screen), one or more areas for user input or feedback, area 5B30, and/or area 5B50 (e.g. buttons LEDs), and a second base portion 5B25. As shown, the second base portion 5B25 serves as a chassis and housing for one or more audio devices. As an option, the main base portion 5B20
and/or the second base portion 5B25 may include an area (e.g. area 5B30, area 5B50) for mounting and/or protruding one or more buttons or LEDs or other human interface devices (e.g. momentary switches, capacitive switches, photocells, other light-sensitive components, etc).

[0036] FIG. 5C is a side view of an assembly of components for use within a system for personality adoption by online game peripherals, showing a game peripheral personality component, according to one embodiment. As an option, the badge of FIG. 5C may be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 9 herein. In particular, the assembly of components for use within a system for personality adoption by online game peripherals of FIG. 5C might be included in environments 100 or 200. Of course, however, the apparatus of FIG. 5C may be included in any desired environment. As shown, the design of FIG. 5C includes a game peripheral personality component in the likeness of a key 5C20. This key might be used with an assembly of components 5C10 (e.g. by inserting the key into orifice 5C30) for providing a personality.

Configurations of Systems and Methods

[0037] FIG. 6 depicts exemplary interactions between personality-adopting game peripherals (i.e. Peripheral-1 692 and Peripheral-2 690), a game platform 694 and a game server 696. As shown, the present system 600 may be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 5C. In particular, system 600 might be implemented within environments 100 or 200. Of course, however, the system 600 may be included in any desired environment. Additionally FIG. 6 depicts exemplary interactions between two personality-adopting game peripherals (i.e. Peripheral-1 692 and Peripheral-2 690) in standalone (i.e. offline) mode. As shown, Peripheral-1 692 takes on a personality from a game peripheral personality component 145 (Peripheral-1 Associate Personality operation 605). Peripheral-2 690 takes on a personality from a peer game peripheral personality component 155 (Peripheral-2 Associate Personality operation 606), which associations may be made using any of the personality imbuing techniques disclosed herein. Sensing of the personality, and more particularly the completion of the Peripheral-1
Associate Personality operation 605, might trigger an alert on Peripheral-1. In such a case, the associating of a personality, using a game peripheral personality component, with a game peripheral might result in a visual alert and/or an audible alert (see operation 607). Embodiments disclosed supra include audio transducers, buzzers, LEDs, and similar electro-mechanical devices suited to carry out such alerts. Continuing, Peripheral-1 initiates communication with the game platform 694 via an identification and credentialing message (see Identify message 610). This messaging (see Identify message 610) or other messaging (e.g. Game State message 628) might be initiated under user control, or it might be initiated spontaneously under control of Peripheral-1. Moreover, the Identify message 610 might contain some or all of the game state. In particular, a game state might comprise at least a portion of a game state that includes a personality, and be uploaded to a game server 696 via a Request Login message 609a. In this embodiment, the messaging serves for uploading at least one bit of game state from a personality-adopting mobile game peripheral (e.g. Peripheral-1 692) to the online game server (e.g. Game Server 696).

Once credentials are confirmed (see Confirm operation 611), and optional upload of game state from any previous play has been completed (see Game State message 628), game play is enabled, and the game server 696 is ready for a request to start from the user of the game platform (see message Request Start 609b). Upon a successful Request Start message 609b, the game server initiates play interaction with the game platform (see Play operation 604). In turn, the game state is stored at the game peripheral (see Store State message 616), and an alert at a personality-adopting mobile game peripheral (e.g. Peripheral-1 692) is actuated (See Actuate operation 608). Thus, in this embodiment, the game server response (see State message 613) serves for retrieving from the online game server at least one bit that might result in a visual alert and/or an audible alert.

While online and during any Play operation (or any other time within a login session for that matter) a player might meet other players, or a player might encounter (i.e. come into proximity with) other players, which players might be 'foes' (i.e. with respect to any current or previously adopted personality or other aspect of game play), or they might be 'friends' (i.e. with
respect to any current or previously adopted personality or other aspect of game play). Strictly as an example, a player may come into proximity with another player, formerly imbued with a friendly personality but who has diminished with regard to degree of friendship or trust, or perhaps has even adopted a personality considered to be a foe. Any of the aforementioned changes in state (e.g. identifying a personality, identifying a friend, establishing a trust level, identifying a foe, changing a level of friendship) may be retained during and after game play on the game server, and may further be communicated to a personality-adopting game peripheral (see State message 613) and stored onto a personality-adopting peripheral (see Store State message 616). That is, at points during play or when the play session is suspended or ends, game state (possibly including statistics) is provided to the game platform (see State message 613). In turn, the game state is stored at the game peripheral (see Store State message 616) and a visible change to the game peripheral might be actuated. In some game situations, such a state change (e.g. resulting from a Store State message 616) to the game peripheral might include actuating one or more of a plurality of movable components. In such a case, the actuator apparatus 325 is enabled for actuating movable components (e.g. locking/unlocking, opening/closing, pushing/pulling, starting/stopping, etc) based on the game state.

[0040] The aforementioned sequence of messages may transpire while the play interaction is in the online mode, such as whenever the game server 696 participates in message exchanges with a game platform 694 via the Internet. FIG. 6 also depicts exemplary methods for personality-adopting of a game peripheral after resuming communications with an online game server having multiple game states. In some embodiments game play can be initiated spontaneously by establishing a connection between the game peripheral and the online game server (see messages Identify 610, Request Login 609a, and Request Start 609b). The game server 696 may respond to such a resume request by associating the game peripheral with at least one game state (see message Request Join 623). In some embodiments, at least one of a game platform 694 or an Internet-enabled game peripheral 692, 694 is operable for retrieving from the online game server at least one
bit for downloading to the game peripheral, wherein the at least one bit represents at least a portion of the at least one game state (see message State 624 and message Store State 630). As can be understood from the description of this embodiment, the game server serves to download a state whenever the game server recognizes a game state or a change in a game state that is to be downloaded. In particular, since the server can autonomously send a state message, neither a game platform nor a game peripheral need explicitly issue any state request message in order to serve for retrieving from the online game server the game state for actuating an electro-mechanical component of the game peripheral (see Actuate operation 626).

FIG. 6 also depicts exemplary offline interactions between a game peripheral (see Peripheral-1 692), and another game peripheral (see Peripheral-2 690) in an offline mode. Even in an offline mode (e.g. when there is no operable direct or indirect Internet connection with a game peripheral), Peripheral-1 and Peripheral-2 are capable of sending and receiving messages wirelessly via one or more of a wide range of protocols (e.g. instant messaging, IR COMMS protocols, TCP/IP, UDP, serial codes, etc). As shown, Peripheral-1 sends its identity to Peripheral-2 (see message Identify 612), and Peripheral-2 sends its identity to Peripheral-1 (see message Identify 614). Having thus established peer-to-peer identity, possibly including game state comprising one or more personality bits 149, the game peripherals are each operable to carry out play instructions, possibly under at least partial command by the game peripheral holder, possibly using any or all input and/or output structures and user controls 320. In this manner, the personality bits 149 may be stored in a personality-adopting mobile game peripheral 215, 225, which personality bits 149 can be known or shared or traded by and/or with the mobile peer personality-adopting game peripheral. Of course some operations of play (see operation Play 615) may alter game state on one or both game peripherals. Any of the aforementioned changes in state may be retained on/in a personality-adopting mobile game peripheral, and may later be communicated when an uplink is available. Moreover, any altering in the status of the game state (or other state changes for that matter) may be retained on/in a personality-adopting mobile game peripheral, and such a change is operable for
actuating at least one of a plurality of movable or electro-mechanical components. In some embodiments, when a personality-adopting mobile game peripheral holders return to an online mode, for example by reconnecting a personality-adopting mobile game peripheral to a personal computer, or to a game console or to a docking station, the game peripherals can provide game state via uplink to the game server, and the game state as stored during a period of offline mode play is uploaded to the game server (see messages Game State 628, Request Start 609b, and Request Join 623). As previously indicated, the notion of game state as stored during a period of offline mode play might include a state related to status of a relationship. As is recognized by those skilled in the art, since a personality-adopting mobile game peripheral contains a unique ID, the holder of a game peripheral can be unambiguously associated with a particular entity. Such a request to re-join game play (see message Request Join 623) might result in a game state changing event, and the game server might provide state (see message 624) to a personality-adopting mobile game peripheral, which in turn might actuate (see Actuate operation 626). Still more, in a domino effect, a changed state in (for example) game peripheral Peripheral-1 692 might result in a game state message (see State message 629) being sent from one game peripheral to a peer personality-adopting mobile game peripheral within proximity.

[0042] FIG. 7 depicts a hierarchy of modes and operations under a personality-adopting game peripheral 140 that may interoperate with a game server or a social networking server or a virtual world server (i.e. in the connected/online mode 710), or may interoperate with other game peripherals (i.e. a peer-to-peer mode or standalone/offline mode 715), according to some embodiments. FIG. 7 is purely exemplary. As shown, the present system 700 may be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 6. In particular, system 700 might be included in environments 100 or 200. Of course, however, the system 700 may be included in any desired environment. As shown a game peripheral may interact in an online mode, performing at least such operations as synching data 720, requesting or displaying hints or clues
In some embodiments, an operation for synching data might result in a visual alert, an audible alert, or any other form of actuation.

A personality-adopting game peripheral is operable for user detection of other personality-adopting mobile game peripherals within proximity, offering the possibility of user detection and personality sensing and/or friendship offer, indicating foe (or friend) status, offering sharing of inventory, cloaking of a personality (e.g., personality masking), temporarily adopting an alternate personality (e.g., personality posing), and/or actuating based on characteristics of the sensed personality (e.g., personality alert), etc. Of course some operations may be performed regardless of the mode, though some operations are operable only when in online mode, and some operations are operable only when in standalone mode.

In addition to communications between game peripherals and other game peripherals and communications between game peripherals and game consoles, game peripherals are operable to read tokens. For example, given a game peripheral with an RFID reader, a game peripheral is operable to read an RFID tag from a token. A token may have the form of a card (RFID card) or a key (RFID key) or a puzzle piece, or any other game piece, whether RFID-enabled or not, or whether the reading mechanism is RFID or some other technology. Strictly for ease of exemplifying communications, Table 2 shows sample game peripheral interactions with its environment.

<table>
<thead>
<tr>
<th>Table 2: Game peripheral interaction</th>
<th>With a Game Server</th>
<th>With Another Game Peripheral</th>
<th>With a Token</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mode</strong></td>
<td><strong>Activate</strong></td>
<td><strong>Another player joins at</strong></td>
<td><strong>Read token</strong></td>
</tr>
<tr>
<td><strong>Online</strong> (server client)</td>
<td><strong>Login</strong></td>
<td>same game console</td>
<td><strong>ID</strong></td>
</tr>
<tr>
<td></td>
<td><strong>State synchronization</strong></td>
<td><strong>Identify proximity</strong></td>
<td><strong>Store token ID</strong></td>
</tr>
<tr>
<td></td>
<td><strong>State upload (from game peripheral)</strong></td>
<td><strong>Modify friendship state</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>State download (to game peripheral)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Hint download</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Identify proximity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Modify friendship state</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offline (peer-to-peer)</td>
<td>Local communications</td>
<td>Identify, Share or Trade state</td>
<td>Read token ID</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------</td>
<td>-------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify proximity</td>
<td>Store token ID</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Modify friendship state</td>
<td></td>
</tr>
</tbody>
</table>

[0045] Now, with an understanding of the operation of a game peripheral with its environment, exemplary play (e.g. in game play or in real life or in a virtual world life) can be expressed as follows:

1. Online
   a. Login with an imbued personality and enter training area. Collect any new state since last online visit, optionally using a web page or other screen device.
   b. Pick up hints, pick up and store provisions, and learn, possibly facilitated or limited by an imbued personality.
   c. Perform game actions, possibly using and storing game artifacts or accoutrement, possibly facilitated or limited by an imbued personality.
   d. Feed game or virtual world characters, which characters may be determined based upon an imbued personality.
   e. Monitor and store game statistics or virtual world characteristics via visible symbols on the game peripheral.
   f. Upload new game(s) or virtual world state(s).
   g. Identify friend or foe, which friend or foe status may be determined based on an imbued personality.
   h. Display friend/foe icons, alerts, warnings.
   i. Mate-up action between two game peripherals that have each been actuated into a particular mechanical state, which mechanical state may be determined based on an imbued personality.

2. Offline
   a. Peer-up with other players via game-peripheral-to-game-peripheral communications.
b. Use game-peripheral-to-game-peripheral communications to make friends in the offline world, then carry the friendship into an online world.

c. Exchange hints, provisions, and/or other ideas with peers.

d. Play mini-games to win currency, change status, amass inventory, etc from peers.

e. Buy tokens, game routes, game secrets, artifacts, or accoutrement.

f. Scan tokens with a game peripheral.

Table 3: Interactions with tokens

<table>
<thead>
<tr>
<th>Example Scan Events</th>
<th>Example Result</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>TokenA, TokenB, TokenC</td>
<td>Flying ability</td>
<td>Note: This example shows scanning order recognition.</td>
</tr>
<tr>
<td>TokenB, TokenA, TokenC</td>
<td>Underwater breathing</td>
<td>Note: This example shows that TokenA1 is distinguishable from TokenA2, and from TokenA3, etc.</td>
</tr>
<tr>
<td>TokenA1, TokenA2, TokenA3</td>
<td>Stronger power of A'</td>
<td></td>
</tr>
<tr>
<td>TokenP1</td>
<td>Add indicated known user to &quot;black list&quot;</td>
<td>A parental controls regime might include a token for approval or disapproval of friends.</td>
</tr>
<tr>
<td>TokenP2</td>
<td>Remove indicated known user from &quot;black list&quot;</td>
<td>A parental controls regime might include a token for approving a previously disapproved friend.</td>
</tr>
</tbody>
</table>

Of course, tokens can be reused/rescanned over time, thus this and other reusability characteristics may extend the life of a token to a plurality of use events.
FIG. 8 is a depiction of methods for use within a system for n-way communication with and between personality-adopting game peripherals in an online environment, according to some embodiments. As an option, the present methods 800 and/or 890 may be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 7. In particular, methods 800 and/or 890 might be included in environments 100 or 200. Of course, however, the methods 800 and/or 890 may be included in any desired environment. As shown, the operations 810, 820, 830, 840, 850, 860, 870, 880, 892, 894, 896, and 898 may each be executed independently and/or concurrently, so long as the requirements for initial or continued operation of a specific operation or sub-operation have been satisfied. In one possible execution of operations, a user or parent might purchase a personality-adopting game peripheral, possibly also with one or more game peripheral personality-imbuing components (see operation 810), possibly also with one or more RFID tags. The user in turn might connect a personality-adopting game peripheral to a game console, and visit a personality-adopting game peripheral-enabled website (see operation 820). Such a personality-adopting game peripheral-enabled website might be specific to the purchased game peripheral personality component personality, or it might be a personality-adopting game peripheral-enabled website affiliated in some other way (e.g. via syndication, federation, feed, tag, etc) to another website. The personality-adopting game peripheral, now connected to a personality-adopting game peripheral-enabled website, might indicate a "connected" state (see operation 830). The game console or uplinked website might accept an upload of game state information from a personality-adopting game peripheral (see operation 840) at which time a user might enter (or establish) an initial association profile. In some embodiments, a particular personality, at least partially established by the game peripheral personality component, is uploaded to the uplinked website (see operation 850). The user might then play online games, visit social networking sites, establish push/pull feeds, make friends (online or offline or both), and otherwise interact via an uplink or via local peer-to-peer communication (see operation 860). Of course, as disclosed above, a user's offline state is stored in a game peripheral, and is synchronizable when an uplink is available (e.g.
when a personality-adopting game peripheral is connected to a game console or router or other uplink); thus, at some point, the states resident in a user's game peripheral can be uploaded and made available for a variety of accesses including a download of game state to a personality-adopting game peripheral (see operation 870), which operation then serves to actuate a personality-adopting game peripheral (see operation 880).

[0049] As an option, the method 890 may also be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 7. In particular, method 890 might be included in environments 100 or 200. Of course, however, the method 890 may be included in any desired environment. As shown, the operations 892, 894, 896, and 898 may each be executed independently and/or concurrently, so long as the requirements for initial or continued operation of a specific operation or sub-operation have been satisfied. In one possible execution of operations, the method 890 facilitates personality adoption for online game peripherals for interaction with an online game server having multiple online game states. Operation 892 serves for associating a personality, using a game peripheral personality component, with a personality-adopting mobile game peripheral holding a game state at least partially adopted from the game peripheral personality component. Operation 894 serves for uploading, from a personality-adopting mobile game peripheral to the online game server, at least one bit from the game state. Operation 896 serves for retrieving from the online game server at least one bit representing at least a portion of a plurality of online game states. Operation 898 might then actuate an electro-mechanical component of a personality-adopting mobile game peripheral.

[0050] As used hereinabove, the terminology "game server" and "virtual world server" and "social networking server" refer generally to the same apparatus, namely a "server", and are used herein interchangeably when referring to the structure of the apparatus known as a "server".

**Configurations Using a Network of Computers**

[0051] FIG. 9 is a diagrammatic representation of a network (system 900) and a machine (system 950) in the exemplary form of a computer system, within which a set of instructions may
be executed, according to one embodiment. As an option, the present system 900 may be implemented in the context of the architecture and functionality of FIG. 1 through FIG. 9. In particular, system 900 might be included in environments 90 or 200. Of course, however, the system 900 may be included in any desired environment. As shown FIG. 9 depicts a network 900, including nodes for client computer systems 902 through 902_N, nodes for server computer systems 904 through 904_N, nodes for network infrastructure 906 through 906_N, any of which nodes may comprise a machine 950 within which a set of instructions for causing the machine to perform any one of the techniques discussed above may be executed. The embodiment shown is purely exemplary, and might be implemented in the context of one or more of the figures herein.

Any node of the network 900 may comprise a general-purpose processor, a digital signal processor (DSP), an application specific integrated circuit (ASIC), a field programmable gate array (FPGA) or other programmable logic device, discrete gate or transistor logic, discrete hardware components, or any combination thereof capable to perform the functions described herein. A general-purpose processor may be a microprocessor, but in the alternative, the processor may be any conventional processor, controller, microcontroller, or state machine. A processor may also be implemented as a combination of computing devices (e.g. a combination of a DSP and a microprocessor, a plurality of microprocessors, one or more microprocessors in conjunction with a DSP core, or any other such configuration, etc).

In alternative embodiments, a node may comprise a machine in the form of a virtual machine (VM), a virtual server, a virtual client, a virtual desktop, a virtual volume, a network router, a network switch, a network bridge, a personal digital assistant (PDA), a cellular telephone, a web appliance, or any machine capable of executing a sequence of instructions that specify actions to be taken by that machine. Any node of the network may communicate cooperatively with another node on the network. In some embodiments, any node of the network may communicate cooperatively with every other node of the network. Further, any node or group of nodes on the network may comprise one or more computer systems (e.g. a client computer system, a server
computer system) and/or may comprise one or more embedded computer systems, a massively parallel computer system, and/or a cloud computer system.

[0054] The computer system 950 includes a processor 908 (e.g. a processor core, a microprocessor, a computing device, etc), a main memory 910 and a static memory 912, which communicate with each other via a bus 914. The machine 950 may further include a display unit 916 that may comprise a touch-screen, or a liquid crystal display (LCD), or a light emitting diode (LED) display, or a cathode ray tube (CRT). As shown, the computer system 950 also includes a human input/output (I/O) device 918 (e.g. a keyboard, an alphanumeric keypad, etc), a pointing device 920 (e.g. a mouse, a touch screen, etc), a drive unit 922 (e.g. a disk drive unit, a CD/DVD drive, a tangible computer readable removable media drive, an SSD storage device, etc), a signal generation device 928 (e.g. a speaker, an audio output, etc), and a network interface device 930 (e.g. an Ethernet interface, a wired network interface, a wireless network interface, a propagated signal interface, etc).

[0055] The drive unit 922 includes a machine-readable medium 924 on which is stored a set of instructions (i.e. software, firmware, middleware, etc) 926 embodying any one, or all, of the methodologies described above. The set of instructions 926 is also shown to reside, completely or at least partially, within the main memory 910 and/or within the processor 908. The set of instructions 926 may further be transmitted or received via the network interface device 930 over the network bus 914.

[0056] It is to be understood that embodiments of this invention may be used as, or to support, a set of instructions executed upon some form of processing core (such as the CPU of a computer) or otherwise implemented or realized upon or within a machine- or computer-readable medium. A machine-readable medium includes any mechanism for storing or transmitting information in a form readable by a machine (e.g. a computer). For example, a machine-readable medium includes read-only memory (ROM); random access memory (RAM); magnetic disk storage media; optical storage media; flash memory devices; electrical, optical, acoustical or other
form of propagated signals (e.g. carrier waves, infrared signals, digital signals, etc); or any other type of media suitable for storing or transmitting information.

[0057] While the invention has been described with reference to numerous specific details, one of ordinary skill in the art will recognize that the invention can be embodied in other specific forms without departing from the spirit of the invention. Thus, one of ordinary skill in the art would understand that the invention is not to be limited by the foregoing illustrative details, but rather is to be defined by the appended claims.
We claim:

1. A method for personality adoption of online game peripherals interacting with an online game server having multiple online game states comprising:
   - associating a first personality, using a first game peripheral personality component, with a first personality-adopting mobile game peripheral holding a first game state at least partially adopted from the first game peripheral personality component;
   - uploading, from the first personality-adopting mobile game peripheral to the online game server, at least one bit from the first game state; and
   - retrieving from the online game server at least one bit for downloading to the first personality-adopting mobile game peripheral, wherein the at least one bit represents at least a portion of the multiple online game states.

2. The method of claim 1, further comprising:
   - associating a second personality, using a second game peripheral personality component, with a second personality-adopting mobile game peripheral holding a second game state; and
   - retrieving from the second personality-adopting mobile game peripheral at least one bit for downloading to the first game peripheral, wherein the at least one bit represents at least a portion of the second game state.

3. The method of claim 1, wherein the associating includes identification by a locking tab sensor.

4. The method of claim 1, wherein the associating includes identification via an optical pattern.

5. The method of claim 1, wherein the associating includes identification via an RFID tag.

6. The method of claim 1, wherein the associating includes identification via a sequence of inputs.

7. The method of claim 1, wherein the uploading includes a connection to a personal computer.
8. The method of claim 1, wherein the uploading includes a connection to a wireless router.

9. The method of claim 1, wherein the uploading is initiated spontaneously.

10. The method of claim 1, wherein the associating a first personality, using a first game peripheral personality component, with a first game peripheral results in at least one of, a visual alert, an audible alert.

11. The method of claim 1, wherein the uploading results in at least one of, a visual alert, an audible alert.

12. The method of claim 1, wherein the retrieving from the online game server at least one bit results in at least one of, a visual alert, an audible alert.

13. The method of claim 1, wherein the retrieving from the online game server includes at least one bit representing state retrieved from a social networking site.

14. The method of claim 1, wherein the associating a first personality, using a first game peripheral personality component, with a first game peripheral includes actuating at least one of a plurality of movable components.

15. The method of claim 1, wherein the retrieving from the online game server at least one bit includes actuating at least one of a plurality of movable components.

16. The method of claim 1, wherein the associating a first personality, using a first game peripheral personality component, with a first game peripheral includes actuating a mechanical unlocking.

17. The method of claim 1, wherein the retrieving from the online game server at least one bit includes actuating a mechanical unlocking.

18. The method of claim 1, wherein associating a first personality, using a first game peripheral personality component, with a first game peripheral includes actuating at least one light-sensitive component.

19. An apparatus for personality adoption of online game peripherals interacting with an online game server having multiple online game states comprising:
a first game peripheral personality component for associating a first personality with
a first personality-adopting mobile game peripheral holding a first game state at least
partially adopted from the first game peripheral personality component;

a component for uploading at least one bit from the first game state; and

a component for retrieving at least one bit for downloading to the first personality-
adopting mobile game peripheral, wherein the at least one bit represents at least a portion of
the multiple online game states.

20. The apparatus of claim 19, further comprising:

a component for associating a second personality, using a second game peripheral
personality component, with a second personality-adopting mobile game peripheral holding
a second game state; and

a component for retrieving from the second personality-adopting mobile game
peripheral at least one bit for downloading to the first game peripheral, wherein the at least
one bit represents at least a portion of the second game state.
User or parent buys personality-adopting game peripheral and personality-imbuing components

Personality-adopting game peripheral used to visit game website

Peripheral indicates connected state

Game website accepts upload of game state from game peripheral

Game and peripheral personality association established

Play commences (online and offline) with game/peripheral association

Game state downloaded to personality-adopting game peripheral

Peripheral actuates, alerts, masks, or poses

Associate a personality, using a personality component, with a game peripheral holding a game state at least partially adopted from the first personality component

Upload, from the game peripheral to the online game server, at least one bit from the game state of the game peripheral

Retrieve from the online game server at least one bit for downloading to the first game peripheral, wherein the at least one bit represents at least a portion of a plurality of online game states.

Peripheral actuates, alerts, masks or poses

FIG. 8