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(54) Title: CROSS PLATFORM ELECTRONIC GAMING FUNCTIONALITY

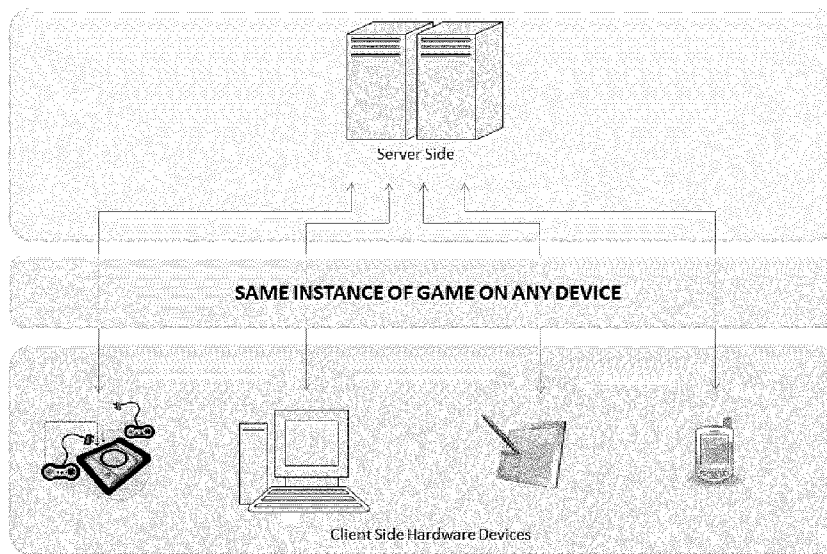


FIGURE 1

(57) Abstract: The present invention provides a system in electronic gaming to provide cross-platform functionality comprising: a server configured to provide functionality to an electronic game allowing connectivity from one or more clients to the server, and a client, comprising a hardware device and corresponding software, configured to connect to the server to facilitate electronic game play, and is also configured to access a same instance of the game for a current gaming session utilizing a compatible hardware platform.

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CROSS PLATFORM ELECTRONIC GAMING FUNCTIONALITY

FIELD OF THE INVENTION

[0001] The present invention pertains to the field of electronic gaming and in particular to cross-platform functionality with respect to continuing the same instance of a game across various devices.

BACKGROUND

[0002] Electronic gaming is an expanding industry with millions of players and global participation. These games are available for multiple hardware platforms from personal computers, to console systems, to tablets and mobile devices among others. Furthermore, mobile platforms now have the ability to allow gamers to play at any location with the utilization of wireless cellular technology.

[0003] Games are designed for multiple platforms however it is incumbent on the purchaser to select with which platform they wish to play the game, as each version of the game is only compatible with the platform for which it was designed. Once the player starts to play the game, all the progression that the player makes whilst playing is stored. This stored progression is only valid for the platform for which the player is playing. If, for example, the player wanted to play on the Sony® PlayStation 3 and Microsoft® Xbox360 platforms, the player progression stored on one of these game consoles could not be redeemed on the other console also having the same game.

[0004] Therefore there is a need for a technology which allows for the same instance of a game to be accessible on multiple capable hardware platforms.

[0005] The hardware device independence is known in the art as can be seen from previous disclosures, namely *Cordero, Angel; et al. US Patent Publication No. 2001/0044339* which discloses the idea of multi-player gaming on multiple hardware devices by implementing common server side architecture elements and allowing for players utilizing multiple gaming consoles to participate on the same server. However, this disclosure fails to disclose a method or system allowing a player to carry on the same instance of a game independent of platform allowing the player to continue their progression.

[0006] This background information is provided to reveal information believed by the applicant to be of possible relevance to the present invention. No admission is necessarily intended, nor should be construed, that any of the preceding information constitutes prior art against the present invention.

SUMMARY OF THE INVENTION

[0007] An object of the present invention is to provide a system for cross platform electronic gaming functionality. In accordance with an aspect of the present invention, there is provided a system in electronic gaming to provide cross-platform functionality comprising: a server configured to provide functionality to an electronic game allowing connectivity from one or more clients to the server, and a client, comprising a hardware device and corresponding software, configured to connect to the server to facilitate electronic game play, and is also configured to access a same instance of the game for a current gaming session utilizing a compatible hardware platform.

BRIEF DESCRIPTION OF THE FIGURES

[0008] Figure 1 illustrates the relationship between Server Side and Client Side devices;

[0009] Figure 2 illustrates the steps undertaken to facilitate the cross-platform functionality regime;

DETAILED DESCRIPTION OF THE INVENTION

Definitions

[0010] As used herein, the term "game" includes single player, multiplayer, massively multiplayer, simulation, turn based, educational, and interactive variety of games. By way of illustrative example and not limitation, types of games may include: a sports simulation game such as basketball, baseball, football, hockey, motor-cross, wrestling, car racing, skiing, and virtually any competition between at least two players, a fast twitch type game such as, for example, first-person shooter games, a turn-based game in which two players take turns playing the game (i.e., chess, card games, checkers), a massively

multi-player game in which hundreds or thousands of players simultaneously play the game, role playing games which player assumes role of character to progress and complete objectives, or real-time strategy games where player assumes control of resources or units to complete objectives.

[0011] As used herein, the term "player" may refer to a human player or a computer controller player (i.e. bot).

[0012] As used herein, the terms "computers", "computing devices", and "computing hardware" (and variations thereof) are used interchangeably herein and are intended to be broadly construed. Those terms are not intended to define or otherwise limit the scope or content of the present invention. A computer (either client or server) may include some or all of the following components: a processor (i.e., central processing unit (CPU)); memory (i.e., RAM, ROM); a harddrive unit; communications interface (i.e., modem, ROM BIOS); data input device (i.e., keyboard, mouse); and a display. The computer may also include additional known hardware components and devices (i.e., joystick); where the configuration of the server and client computers not being a limitation of the present invention. They also includes general purpose software that provides for overall operation of the client or server computer, and may include the operating system, commercially available software (i.e., database), communications software, etc. A computer may be, by way of illustration only, a personal computer (i.e. desktop variants, laptop variants), computer game consoles (i.e., Sony®PlayStation 3, Microsoft® Xbox 360, Nintendo® Wii), mobile cellular devices (i.e., Apple® iPhone, Android® OS devices, Microsoft® Windows Phone, Blackberry® devices), tablets (i.e., Apple®iPad, Android® OS devices, Microsoft® Windows devices), hand-held computing devices (i.e., Palm® PDAs), and any other known or hereafter developed computing device suitable for multi-player game play.

[0013] Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs.

[0014] The present invention provides a system in electronic gaming to provide cross-platform functionality comprising: a server configured to provide functionality to an electronic game allowing connectivity from one or more clients to the server, and a client, comprising a hardware device and corresponding software, configured to connect to the server to facilitate electronic game play, and is also configured to access a same instance of the game for a current gaming session utilizing a compatible hardware platform.

Game Instance Functionality

[0015] The server and client interact and share resources (including processing responsibilities) in order to run the game effectively. The ratio of server and client processing is inherent in the programming of the game which allocates specific tasks for both the server and the client. The ratios typically manifest in a variety of configurations including:

- 1) Server Side (heavy processing) Client Side (light processing)
- 2) Server Side (light processing) Client Side (heavy processing)
- 3) Server Side (heavy processing) Client Side (heavy processing)
- 4) Server Side (light processing) Client Side (light processing)

[0016] The “Client Side” is referring to the device used by the player of a game. This may comprise any computing device having a processor in connection with special purpose software in accordance with the present invention. Such computing devices include, by way of non-limiting example, a personal computer (i.e. desktop variants, laptop variants), computer game consoles (i.e., Sony®PlayStation 3, Microsoft® Xbox 360, Nintendo® Wii), mobile cellular devices (i.e., Apple® iPhone, Android® OS devices, Microsoft® Windows Phone, Blackberry® devices), tablets (i.e., Apple®iPad, Android® OS devices, Microsoft® Windows devices), hand-held computing devices (i.e., Palm® PDAs), and any other known or hereafter developed computing device suitable for game play.

[0017] The “Server Side” is referring to the host side of operations which facilitates the operations of the computer game play over a network such as the Internet. This may include, but is not limited to, game developer servers, game console maintenance servers, third party servers used to facilitate data, and third party cloud servers. A server or a plurality of servers connectable to each other and to a network each include requisite software operable in connection with a respective processor thereof for facilitating game play over that network among a plurality of client computers. A single server, a plurality of servers in a single location, or a plurality of geographically displaced servers may be provided, in accordance with various embodiments of the present invention. The server(s) provide various functionality to the client computers to facilitate multi-player game play. For example, the server(s) may maintain client registration information, a logical map of the names and locations of all servers in the multi-player game system, resources which may be provided or made available to players

during game play (but which may not be provided on the client computers for security or efficiency reasons), and various other functionality and information.

[0018] Game progression data is stored on the Server Side for all cases. This data may include, but is not limited to, milestone status, rewards status, level status (for both player and environment), and objectives completed or objectives outstanding or both. **Figure 1** illustrates the relationship between Server Side and Client Side hardware devices. When a player logs in to play, adds to their gaming progression by playing, and signs out of the game, this entire process is referred to as a “gaming session”.

[0019] When a game is initiated by the player, the same “instance” of the game is loaded as was previously played. This entails previously updated game progression data and current environmental conditions are fully accounted for when game is engaged. This is completely independent of Server Side/Client Side architecture, or game simulation architecture, as the “instance” of the game must be preserved when the user disconnects and reconnects.

Cross-Platform Functionality

[0020] In the present invention, the game is available on a number of hardware platforms. The instance of the game is saved and stored on the Server Side. This information is either directly stored to the Server Side or communicated from Client Side to Server Side and stored. The same instance of the game can be played on any other compatible hardware platform.

[0021] The system engages in a number of steps to facilitate the cross-platform functionality regime which can be seen in **Figure 2**. Initially the player selects the preferred compatible hardware platform and launches the electronic game (100). The players must login (200) to a gaming service which facilitates the chosen game. Given the game is cross-platform, the Client Side (player) hardware engages the Server Side hardware to authenticate the identity and profile of said player. Authentication may be done by a variety of means including, but not limited to, user name/password, CAPTCHA, PIN number, and email/password. In one embodiment, the authentication is performed in conjunction with a third party.

[0022] Upon authentication process completion, the player profile is loaded (300). The player profile is a unique account of the player which is accessible on any compatible hardware device which carries the relevant game progression information. Player profile may carry other player specific information which may include, but is not limited to, biographical information, registration information, and game analytics. The loading of the player profile includes authorization of the player ascribing the correct permissions and control to each player upon login. The gaming environment is executed allowing the player to play the game and progress (400). All adjustments are made with respect to the selected hardware from the Service Side; this information is communicated to the Client Side. All game progression data tied to the player profile is saved to the Server Side (500). All Depending on the game type, the game simulation may be continuous, and once the profile loads, the player continues in the exact same instance of the game including all relevant changes to simulation environment.

[0023] When the player stops playing and wishes to end the current gaming session, the game automatically stores the relevant player progression data to the Server Side storage for updating the gaming profile (600). Dependent upon game selected, the simulation world may continue to run without player connectivity. This implies environmental changes which take place in the absence of the player are accounted for and saved to the player profile.

[0024] The player can use a different hardware platform to continue the game utilizing the player progression data stored on the Server Side and continue to play and progress on another compatible hardware platform (i.e. In **Figure 2**, moving from step (600) to step (100)). In one embodiment, the system is configured such that only one gaming session on one hardware platform can run at any one time using the same game player progression information. This is done to prevent potentially cheating; for example, the same player on multiple platforms may accrue multiple scores simultaneously on multiple devices to unfairly increase player progression.

[0025] In one embodiment, the Server Side retains the saved information and continues to run the gaming environment simulation even when player is not connected to Server Side. In this embodiment the player connects to the Server Side using their preferred selected game compatible hardware; and data is transferred from the Server Side to the Client Side device allowing the player to continue instantly as the gaming environment simulation is constantly active. The game progression data, unique to the player, is sent from Server Side storage to Client Side on the selected game compatible hardware.

The rendering of graphics and other facets of the game may be done by the Client Side or may be done by the Server Side.

[0026] Rendering of graphics on Client Side may vary depending on Client Side chosen hardware platform. For example, a Sony®PlayStation 3 is able to render far more advanced graphics than a mobile Android® OS device. The game therefore, may have graphics scaled relative to hardware devices without comprising gameplay functionality. This preserves the universality of the game across multiple hardware devices while accentuating the hardware capability of the multitude of compatible hardware devices.

[0027] In one embodiment, the Server Side will retain the saved information and halt the gaming environment simulation when the player is not connected. In this embodiment the player connects to the Server Side using their preferred selected game compatible hardware; and data is transferred from the server to the Client Side device allowing the player to continue after loading of the gaming environment simulation, as the simulation is run by the Server Side. The game progression data unique to the player is sent from Server Side storage to Client Side on the selected game compatible hardware. The rendering of graphics and other facets of the game may be done by the Client Side or may be done by the Server Side.

[0028] In one embodiment, the Server Side will retain the saved information and halt the gaming environment simulation when the player is not connected. In this embodiment the player connects to the Server Side using their preferred selected game compatible hardware; and data is transferred from the server to the Client Side device allowing the player to continue after loading of the gaming environment simulation, as the simulation is run by the Client Side. The game progression data unique to the player is sent from Server Side storage to Client Side on the selected game compatible hardware. The rendering of graphics and other facets of the game may be done by the Client Side or may be done by the Server Side.

[0029] The invention will now be described with reference to specific examples. It will be understood that the following examples are intended to describe embodiments of the invention and are not intended to limit the invention in any way.

EXAMPLES

EXAMPLE 1:

[0030] This example provides for a player switching hardware and continuing to play the same instance of the same game allowing for continued gaming progression independent of game compatible hardware.

[0031] The player initiates the game on their personal computer. The game requires a login and authentication to verify the identity of the player. This is done by username and encrypted password. The Server Side recognizes that the game is being played on a personal computer and engages the necessary operations on the Server Side (i.e. authentication). The Server Side sends the saved game progression for player profile (if any) to the Client Side.

[0032] The game is rendered on the Client Side using Client Side hardware while the gaming simulation runs continuously on the Server Side. In this example, gaming simulation is a modeling of a fantasy world which requires discovery. This world has dynamic elements such as time of day, phase of sun/moon, other environmental cycles and events. Irrespective of player connectivity the world still exists and goes through the environmental cycles at a predetermined time increment (i.e. real-time). These environmental cycles and changes in environment are maintained by the Server Side which runs the simulation continuously.

[0033] Information with regards to player game progression is initially recorded by the Client Side and sent to the Server Side instantaneously to keep an updated record of player progression including statistics, status, level, etc.

[0034] Once the player finishes the current gaming session they exit the game and all progression is saved to Server Side. In this example, the simulation of the game continues on the Server Side after the player has disconnected.

[0035] The player shortly resumes play from a mobile device as they are now in transit to a specific location and can use conventional cellular/wireless technology in smartphones to access the internet.

[0036] The game is packaged as an application for the mobile smart phone and is downloaded and accessed. The player is required to login and authenticate to verify the identity of the player using the same credentials as they used on the previous device. This is done by username and encrypted password for the player's unique player profile. The game retrieves all information from Server Side and implements the required information on the smart phone application version of the same game such that the player can start from the exact same point in the game as they were in on the previous compatible hardware platform (in this scenario the personal computer).

[0037] The player ends the session on the smart phone and a large time interval elapses before the player resumes play on a tablet device which also has the game application specifically designed for the tablet downloaded. The player can use this hardware compatible platform to continue playing the game by again authenticating with the Server Side and logging in with their player profile. The game retrieves the player game progression from the Server Side and allows the player to continue from the last saved data from the smartphone session which occurred prior to the switch to tablet. Furthermore, because the environment continues to run without requirement of player connectivity, the environment will have lapsed to same amount of time as the player was inactive from the fantasy world environment.

[0038] It is obvious that the foregoing embodiments of the invention are examples and can be varied in many ways. Such present or future variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.

WE CLAIM:

1. A system in electronic gaming to provide cross-platform functionality comprising:
 - a server configured to provide functionality to an electronic game allowing connectivity from one or more clients to the server, and
 - a client, comprising a hardware device and corresponding software, configured to connect to the server to facilitate electronic game play, and is also configured to access a same instance of the game for a current gaming session utilizing a compatible hardware platform.
2. A system of claim 1 wherein the server is configured to save game progression data from the one or more clients.

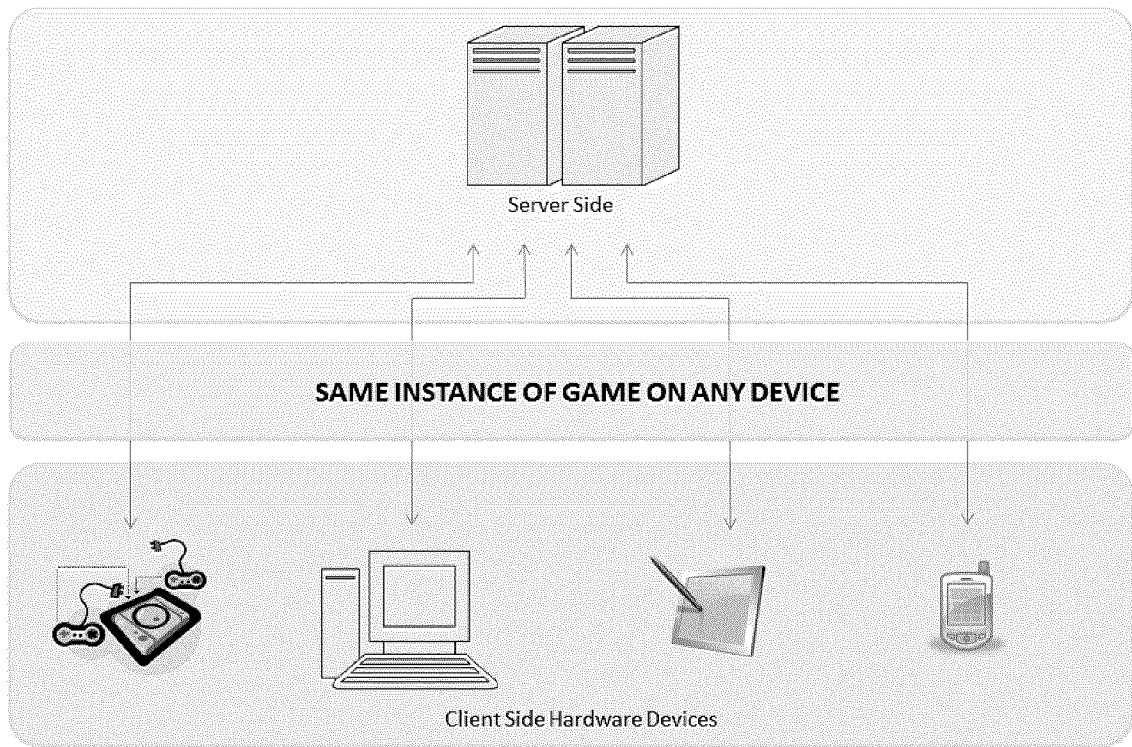


FIGURE 1

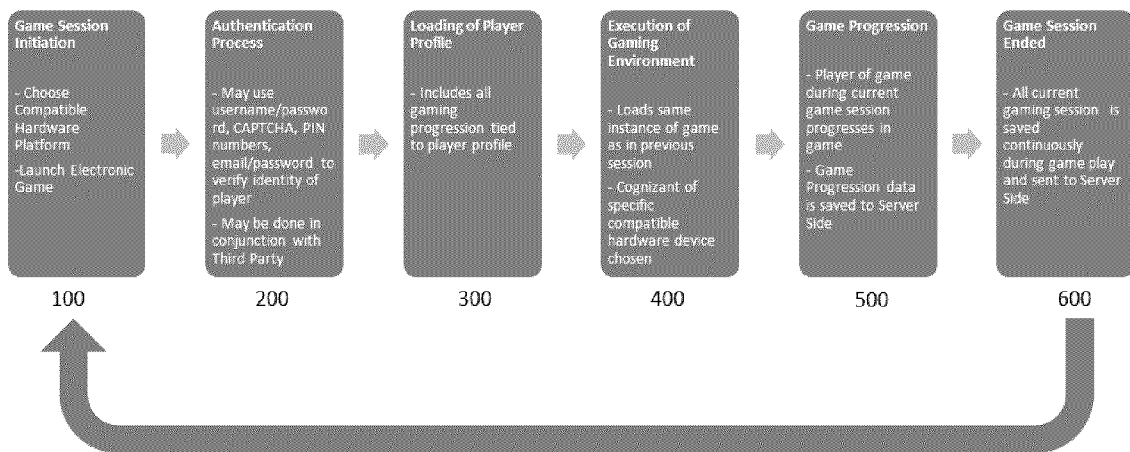


FIGURE 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2013/050560

A. CLASSIFICATION OF SUBJECT MATTER
IPC: A63F 13/12 (2006.01)
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A63F (2006.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)
 EPOQUE, Google, Canadian Patent Database: multi_platform, game, system, online, store, database

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US2003177187A1, 18 September 2003 (18-09-2003) *fig. 1, par. [0115]-[0157], [0187], [0189], [0190], [0211], [0287], [0694]*	1,2
A	WO0242921A1, 30 May 2002 (30-05-2002) *whole document*	1,2
A	US2009264202A1, 22 October 2009 (22-10-2009) *whole document*	1,2
A	EP2360651A1, 24 August 2011 (24-08-2011) *whole document*	1,2
A	GB2477019A, 20 July 2011 (20-07-2011) *whole document*	1,2

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 22 October 2013 (22-10-2013)	Date of mailing of the international search report 30 October 2013 (30-10-2013)
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Name and mailing address of the ISA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 001-819-953-2476	Authorized officer Adrian Chitiu (819) 934-7885
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CA2013/050560

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US2003177187A1	18 September 2003 (18-09-2003)	AU1985702A AU2003215295A1 CA2483459A1 WO0242921A1 WO03081447A1	03 June 2002 (03-06-2002) 08 October 2003 (08-10-2003) 02 October 2003 (02-10-2003) 30 May 2002 (30-05-2002) 02 October 2003 (02-10-2003)
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