

42 may correspond to a virtual camera view in a 3-D virtual gaming environment stored in a memory device on gaming machine 2.

[0118] One or more video frames of the sequence of frames used in the game presentation may be captured and stored in a memory device located on the gaming machine. The one or more frames may be used to provide a game history of activities that have occurred on the gaming machine 2. Details of frame capture for game history applications are provided co-pending U.S. application Ser. No. 09/689,498, filed on Oct. 11, 2000 by LeMay, et al., entitled, "Frame Buffer Capture of Actual Game Play," which is incorporated herein in its entirety and for all purposes.

[0119] Returning to the gaming machine in FIG. 5, the information panel 36 may be a back-lit, silk screened glass panel with lettering to indicate general game information including, for example, the denomination of bills accepted by the gaming machine (e.g. \$1, \$20, and \$100). The bill validator 30, player-input switches 32, video display monitor 34, and information panel are devices used to play a game on the game machine 2. The devices are controlled by the master gaming controller, which is located inside the main cabinet 4 of the machine 2.

[0120] In the example, shown in FIG.5, the top box 6 houses a number of devices, which may be used to input player tracking information or other player identification information into the gaming machine 2, including the bill validator 30 which may read bar-coded tickets 20, a key pad 22, a florescent display 16, and a camera 44, and a card reader 24 for entering a magnetic striped cards or smart cards. The camera 44 may be used to generate player images that are integrated into a virtual gaming environment implemented on the gaming machine. The key pad 22, the florescent display 16 and the card reader 24 may be used to enter and display player tracking information. In addition, other input devices besides those described above may be used to enter player identification information including a finger print recording device or a retina scanner. Methods and apparatus for capturing a player's image to a video frame is described in co-pending U.S. patent application Ser. No. 09/689,498, by LeMay et al. filed on Oct. 11, 2000 and titled "Frame Buffer Capture of Actual Game Play" is incorporated herein in its entirety and for all purposes.

[0121] In addition to the devices described above, the top box 6 may contain different or additional devices than those shown in the FIG. 5. For example, the top box may contain a bonus wheel or a back-lit silk screened panel which may be used to add bonus features to the game being played on the gaming machine. During a game, these devices are controlled and powered, in part, by the master gaming controller circuitry (not shown) housed within the main cabinet 4 of the machine 2.

[0122] Understand that gaming machine 2 is but one example from a wide range of gaming machine designs on which the present invention may be implemented. For example, not all suitable gaming machines have top boxes or player tracking features. Further, some gaming machines have only a single game display—mechanical or video, while others are designed for bar tables and have displays that face upwards. As another example, a game may be generated in on a host computer and may be displayed on a remote terminal or a remote gaming device. The remote

gaming device may be connected to the host computer via a network of some type such as a local area network, a wide area network, an intranet or the Internet. The remote gaming device may be a portable gaming device such as but not limited to a cell phone, a personal digital assistant, and a wireless game player. Images rendered from 3-D gaming environments may be displayed on portable gaming devices that are used to play a game of chance. Further a gaming machine or server may include gaming logic for commanding a remote gaming device to render an image from a virtual camera in a 3-D gaming environments stored on the remote gaming device and to display the rendered image on a display located on the remote gaming device. Thus, those of skill in the art will understand that the present invention, as described below, can be deployed on most any gaming machine now available or hereafter developed.

[0123] Returning to the example of FIG. 5, when a user selects a gaming machine 2, he or she inserts cash through the coin acceptor 28 or bill validator 30. Additionally, the bill validator may accept a printed ticket voucher, which may be accepted by the bill validator 30 as an indicia of credit. Once cash or credit has been accepted by the gaming machine, it may be used to play a game on the gaming machine. Typically, the player may use all or part of the cash entered or credit into the gaming machine to make a wager on a game play. During the course of a game, a player may be required to make a number of decisions which affect the outcome of the game. For example, a player may vary his or her wager, select a prize, or make game-time decisions which affect the game play. These choices may be selected using the player-input switches 32, the main video display screen 34 or using some other device which enables a player to input information into the gaming machine including a key pad, a touch screen, a mouse, a joy stick, a microphone and a track ball.

[0124] In some embodiments, to change the format of a game outcome presentation on the gaming machine or to utilize different gaming machine functions, the player may use an input device on the gaming machine to control a virtual camera in a virtual gaming environment implemented on the gaming machine. For instance, a player may use the virtual camera to "zoom in" or "expand on demand" a portion of the virtual gaming environment such as one poker hand of a hundred poker hands displayed on display screen 34. In another example, the game player may alter the game outcome presentation, such as the view or perspective of the game outcome presentation, by controlling the virtual camera. In yet another example, the player may be able to select a type of game for game play on the gaming machine, select a gaming environment in which a game is played, receive casino information or obtain various casino services, such as dinner reservations and entertainment reservations, by navigating through a virtual casino implemented on the gaming machine. The virtual casino may correspond to the actual casino where the gaming machine is located. Thus, the virtual casino may be used to give the player directions to other portions of the casino.

[0125] In other embodiments of the present invention, CAD/CAM models of the gaming machine 2 may be used to generate a virtual 3-D model of the gaming machine. The virtual 3-D model may be used to visually demonstrate various operating features of the gaming machine 2. For instance, when a player tracking card is inserted incorrectly