GAMING MACHINE WITH PROXIMITY-SENSITIVE INPUT DEVICE

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FIELD

[0002] This patent application pertains generally to gaming devices, and more particularly to a gaming device including a proximity sensitive screen.

BACKGROUND

[0003] Modern gaming devices such as slot machines typically include a user interface that allows a game patron to interact with a computer. Some gaming machines include a touch screen interface. Typically, a touch screen interface is placed in front of a display device. The touch screen is generally transparent, so that a gaming patron can see through the touch screen to an image presented on the display device. The touch screen is typically coupled to a computer system that controls the display device, so that user input through the touch screen can be coordinated with information presented on the display device.

SUMMARY

[0004] One embodiment of a gaming machine includes a processor circuit to administer a wagering game, a layer of dielectric material having an outer surface, and a proximity-sensitive input device including a proximity sensor to detect through the layer of dielectric material an object proximate the outer surface of the layer, the proximity-sensitive input device communicatively coupled to the processor circuit, wherein the proximity-sensitive input device is configured to receive an input relating to the wagering game.

[0005] Another example of a gaming machine includes a means for displaying information relating to a wagering game, a layer of dielectric material having an inner surface and an outer surface, the inner surface facing the means for displaying information, means for sensing an object proximate the outer surface of the layer of dielectric material to receive an input relating to the wagering game, and means for administering a wagering game in response to the input relating to the wagering game, the means for administering the wagering game communicatively coupled to the means for displaying information relating to the wagering game.

[0006] An example of a method of making a gaming device includes mounting a slot machine display device in an interior of a cabinet, coupling a projected capacitance sensor system to an inner surface of a layer of dielectric material, and coupling the layer of dielectric material to the cabinet, the inner surface of the layer of dielectric material facing the slot machine display device, wherein the projected capacitance sensor system is configured to receive an input through the layer of dielectric material.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] **FIG. 1A** is a perspective view of an embodiment of a video gaming machine including a proximity-sensitive input device.

[0008] **FIG. 1B** is a front view of a video display and a proximity sensitive input device.

[0009] **FIG. 1C** is a front view of an embodiment of another video gaming machine including a proximity-sensitive input device.

[0010] **FIG. 1D** is a perspective view of an embodiment of a video gaming machine that has two electronic displays and at least one proximity-sensitive input device.

[0011] **FIG. 1E** is a perspective view of an embodiment of a gaming machine that includes mechanical reels and a proximity-sensitive input device.

[0012] **FIGS. 2A and 2B** are side views of an embodiment of a gaming machine that includes mechanical reels and a video display.

[0013] **FIG. 3** is a schematic representation of an exemplary gaming device.

[0014] **FIG. 4A** is a schematic illustration of one embodiment of a projected-capacitance sensor system.

[0015] **FIG. 4B** is a schematic illustration of a bottom view of the illustration of **4**A.

[0016] **FIG. 5A** is a side-view of a proximity-sensitive film and a layer of dielectric material.

[0017] **FIG. 5B** is a side-view of a projected-capacitance sensor grid and a layer of dielectric material.

[0018] **FIG. 6** is a schematic illustration of proximity-sensitive input device and an exemplary volumetric display.

[0019] **FIG. 7** is a schematic illustration of a method of making a gaming device.

[0020] **FIG. 8** is a schematic illustration of a method of receiving input from a projected-capacitance sensor grid.

[0021] **FIG. 9** is a cut-away partial perspective view a proximity-sensitive input device between a glass plate and a flat-screen display.

[0022] **FIG. 10** is a cross-sectional view of a light tower and a proximity-sensitive device.

DETAILED DESCRIPTION

[0023] Methods and apparatus for providing gaming machines incorporating a proximity-sensitive input device are described in this application. In the following description, numerous specific details are set forth. However, it is understood that embodiments of the invention may be practiced without these specific details. In other instances, well-known circuits, structures, and techniques have not been shown in detail in order to avoid obscuring the understanding of this description. Note that in the description, references to "one embodiment" or "an embodiment" mean that the feature being referred to is included in at least one embodiment of the invention. Further, separate references to