

such that the graphics do not overlap (that is, the graphics on separate layers are not superimposed). In other instances, the graphics partially overlap.

**[0055]** Separable video graphics suitable for use with gaming machine **10** will now be discussed with respect to FIGS. 2-7. While the present invention will now be shown as graphics for display on a video device, those of skill in the art will appreciate that the following discussion and Figures also refer to methods and systems for providing a game of chance and providing video data on a gaming machine.

**[0056]** The layered video display devices cooperate to provide visual presentation by each displaying their own separable graphics. For 3D visual presentations, the video display devices cooperate to display a 3D visual presentation by separately displaying parts on each display screen. For example, a proximate video display device shows one portion of the 3D presentation, while a distal or underlying video display device shows another portion of the 3D presentation. As result, the gaming machine shows a 3D representation that is formed in three physical or actual dimensions: an x and y of the proximate display screen, an x and y of the distal display screen, and a depth, D, or z dimension that includes the actual distance between the two display devices. A third display device may be used to add another set of x and y dimensions and another depth, D, along the z dimension.

**[0057]** FIGS. 2A and 2B show sample video graphics output on three approximately parallel layered video display devices **18** in accordance with a specific embodiment. The three layered video display devices **18** include: an exterior or frontmost display device **18a**, a middle or intermediate video display device **18b**, and an interior or backmost video display device **18c**. The frontmost video display device **18a** displays a left virtual 3D reel graphic **132** on a portion of its display screen **134**. All other portions **133** of screen **134** are transparent so that a user can see distal screens for video display devices **18b** and **18c**. The intermediate video display device **18b** shows a middle virtual 3D reel graphic **135** in a central portion of its display screen **136**, while all other portions **137** of screen **136** are transparent. The third video display device **18c** displays a right virtual 3D reel graphic **138** on screen **131**. These three display screens **134**, **137** and **131** simultaneously display each respective image to enable a player to see an overall 3D image, as illustrated in the FIG. 2B (illustrated in two dimensions, that is), of all three reels in a 3D format by looking through the first display screen **134**.

**[0058]** The video reels shown in FIGS. 2A and 2B are static and remain on their respective screens during game play. This provides parallax between the video graphics, which is an actual 3D effect. Parallax refers to the change of angular position between two stationary points relative to each other as seen by an observer and caused by motion of the observer. In other words, it is a perceived shift of an object relative to another object caused by a change in observer position. If there is no parallax between the two objects, then a person typically perceives them as side by side at the same depth. This addition of parallax helps the processor-based gaming machine better emulate the three dimensional nature of mechanical counterparts.

**[0059]** FIG. 3 illustrates parallax for a gaming machine with layered displays and separable video graphics. Typically, video graphics provided to the front video display device **18a** include one or more non-transparent (opaque or translucent) portions **17** to establish the parallax. When in position **21a**, a blind spot **77** spot results from a non-trans-

parent portion **17** of video data on the proximate video display device **18a** that blocks a portion of the person's field of view. A change in viewing position to **21b** also changes obstruction based on the relative position between person **21**, the non-transparent portions **17**, and video data on the video distal display device **18b**, thus hiding formerly visible portions of distal display device—and revealing other portions (e.g., part of blind spot **77**) blocked from view in the previous position **21a**.

**[0060]** This parallax stems from the distance between screens in the layered displays. Referring back to FIGS. 1A and 1B, a predetermined spatial distance "D" separates display screens for the layered display devices **18a** and **18c**. The predetermined distance, D, represents the distance from the display surface of display device **18a** to display surface of display device **18b** (FIG. 1B) or display device **18c** (FIG. 1A). In one embodiment, the display screens are positioned adjacent to each other such that only a thickness of the display screens separates the display surfaces. In this case, the distance D depends on the thickness of the exterior display screen. In a specific embodiment, distance "D" is selected to minimize spatial perception of interference patterns between the screens. In one embodiment, D is greater than about 1 millimeter and less than about 10 centimeters. In a specific embodiment, D is less than about 1 centimeter. In another specific embodiment, D is between about 4 millimeters and about 1 centimeter. Other set distances may be used.

**[0061]** Returning to FIGS. 2A and 2B, the video reels on the layered displays add 3D parallax to the visual display of static and separable graphics on a gaming machine. When a person moves relative to the video reels **132**, **135** and **138**, lines of sight though the screens change, which changes the portions of screens **137** and **131** that are visible. This grants true parallax and three-dimensional depth perception. For FIG. 2B, a person may peek behind left video reel **132**, move relative to the reels and peer between them, etc.

**[0062]** The reels in each screen also include 3D graphics within each screen. Virtual 3D graphics on a single screen typically involve shading, highlighting and perspective techniques that selectively position and shape video graphics in an image to create the perception of depth. These virtual 3D image techniques cause the human eye to perceive depth in an image even though there is no real depth (the images are physically displayed on a single display screen, which is relatively thin).

**[0063]** In one embodiment, the 3D separable video graphics include video data with perspective. Perspective, in the context of vision and visual perception, is the way in which objects appear to the eye based on their spatial attributes, or their dimensions and the position of the eye relative to the objects. Perspective states that the position of a person relative to a gaming machine affects what the person sees. Two common examples of perspective include: 1) objects are drawn smaller as their distance from the observer increases; and 2) the distortion of items when viewed at an angle (spatial foreshortening). Other characteristics of perspective are also suitable for use.

**[0064]** In one embodiment, a gaming machine adds perspective by displaying video data that includes perspective. The perspective video data provides an approximate representation, on a flat surface (such as a video screen for display device **18c**), of an image as it is perceived by the eye in three dimensions. The perspective video data may then be augmented by the parallax gained by the layered displays **18**.