

undertaking of engineering for those of ordinary skill in the art having the benefit of this disclosure.

[0020] In accordance with the present invention, the components, process steps, and/or data structures may be implemented using various types of operating systems, computing platforms, computer programs, and/or general purpose machines. In addition, those of ordinary skill in the art will recognize that devices of a less general purpose nature, such as hardwired devices, field programmable gate arrays (FPGAs), application specific integrated circuits (ASICs), or the like, may also be used without departing from the scope and spirit of the inventive concepts disclosed herein.

[0021] The present invention provides for a game of chance having at least one reel stop for each object on each virtual video reel. FIGS. 1A-1C illustrate example embodiments of a 3-D game of chance. Although illustrated with specific object designs (e.g. a bottle illustrated in FIG. 1A, pencil illustrated in FIG. 1C), the object designs are not intended to be limiting as any designs may be used for the game of chance such as astronomical objects (e.g. the moon and planets). Furthermore, object designs with animation is contemplated to enhance a player's gaming experience. Referring to FIGS. 1A and 1B, although not necessary, the game of chance 100 may have a background object 102, illustrated as a barrel in FIG. 1A or a ship in a bottle in FIG. 1B. The background object 102 may have a central axis, illustrated by line A, which the 3-D virtual video reels 104 rotate about as illustrated by arrow B. Although illustrated with 3 reels, any number of reels may be used as illustrated in FIGS. 1B and 1C.

[0022] Referring also to FIG. 1C, each reel 104 may have a first object 106. The first object 106 is illustrated as a sphere in FIGS. 1A-1C, but may be any 3-D shape, such as a cube, pyramid, polyhedron, and the like as illustrated in FIG. 2. As stated above, the first object 106 may rotate about the central axis of background object 102. The first object 106 may rotate in a clockwise, counter clockwise, or a combination of both directions. Each first object 106 may move or rotate about the central axis so that each object maintains an equal distance between each other. Additionally, the first objects 106 may rotate to give an appearance that the objects 106 are rolling around the background object 102. For example, the first object 106 may have a stripe(s) (e.g. like a beach ball) indicia thereon. The first object 106 may roll in a direction parallel to the stripe(s) to indicate the rolling motion. Thus, the first object 106 may have indicia thereon to indicate motion and/or appear to be in motion to the player.

[0023] Each first object 106 may have a second object 108 appearing substantially within the first object 106. The second object 108 may rotate about a center point 110 of the first object 106 along the x, y, or z axis.

[0024] Due to the various positions the first object 106 and the second object 108 may move about, each object 106, 108 may have its own reel stop or sphere stop. For example, as illustrated in FIGS. 1A and 1B, each sphere 106 may have a sphere stop at any location along the virtual video reel 104. Additionally, the bottle of FIG. 1B and/or the pencil of FIG. 1C may stop at any orientation on the x, y, or z axis within the sphere 106. Each reel stop may be associated with a payout value. Thus, the reel stop location of the first object 106 may be associated with a certain payout value and the reel stop of the second object 108 may be associated with another payout value.

[0025] In one embodiment, the payout values may be a pre-determined variable. For example, a player may obtain 5

credits for the alignment or orientation of all the spheres 106 on a certain payline(s). The player may obtain an additional 3 credits if at least two of the bottles on the payline(s) are oriented upright. In another embodiment, the pre-determined variable may be based upon other factors, such as the player's status in a casino loyalty program, how much credit the player wagered, and the like. Thus, the payout value of the first object 106 and the second object 108 may determine a total payout value for a player. In another embodiment, the payout values may be associated with a promotional program such as bonuses, progressives, customer service promotions, awards, side bets, or any other type of promotional program offered.

[0026] The 3-D effects may make the spheres, illustrated in FIGS. 1A-1C, appear to grow in diameter and/or size as the spheres approach the player's view along the virtual reel path and shrink as the spheres recede away from the player's view. The second object 108 may be animated to enhance the 3-D effect of the game of chance 100. For example, liquid may be illustrated spilling out of the bottle of FIG. 1A, depending on the orientation of the bottle. In another example, the water may be illustrated as being splashed when the sphere enters the water in the bottle of FIG. 1B. Moreover, audio effects may also be added to further enhance the player's experience. For example, the sound of liquid splashing may represent the liquid emptying from the bottle of FIG. 1A or the sphere entering or exiting the water in FIG. 1B.

[0027] FIGS. 2A-2C illustrate yet another embodiment and method for displaying a 3-D game of chance. Referring to FIG. 2A, the first object may be a cube 202, pyramid 204, cylinder 206, or any other design. As illustrated, the second object may simply be different numbers on each face of the first object 202, 204, 206. For example, the cube 202 may have 6 different numbers on each of its faces 212, the pyramid 204 may have 5 different numbers on each of its faces 214, and the cylinder 206 may have 4 different numbers—one on each opposing face 216 of the cylinder 206. However, the second object may be any other type of image such as the bottles or pencils as illustrated in FIGS. 1A and 1C.

[0028] The first object 202, 204, 206 may rotate about a central axis of the virtual reel 104 around line A and may thus have a first reel stop on the virtual reel 104. Each of the first objects 202, 204, 206 may also move about its own individual center point 210 about the x, y, and/or z-axis and thus have a second reel stop which stops the first objects 202, 204, 206 at different orientations. As illustrated in FIG. 2, the first object 204a may have a reel stop that results in an inverted pyramid whereas first object 204b may have a reel stop that results in an upright pyramid. Thus, first object 202, 204, 206 may have multiple reels stops.

[0029] Additionally, since the second objects are positioned on the surfaces of first objects 202, 204, 206, this allows for the use of more than one second object, which in turn allows for additional opportunities to win the game of chance. In one embodiment, the second object may be animated to move about the surface of each face of the first object 202, 204, 206 such that it appears that the objects are hopping from one face to another. In another embodiment, the second object may rotate about the center point of the face. Stopping of the second object from rotating about its individual center point 210 results in a third reel stop. The image and/or number that is substantially viewed by the player will be the image and/or number used to determine a payout value. For example, cube 202a has a reel stop that illustrates both the