

tical visual presentation of “moving reels” can be cartoonish and unrealistic for players who have seen the same presentation more than a few times.

[0009] The second general category of moving reel simulations on a video screen involves the rapid generation and regeneration of the actual reel symbols in clear and fine detail as they are intended to rush across the video display in real time. The ability to generate such rapid drawing and redrawing of graphical components that are moving at a high rate of speed has been aided greatly in recent times via significant advances in computing and graphical arts technologies. Unfortunately, the basic nature of the human eye has not advanced at the same pace as computing and display technologies. While a clear and accurate image, such as a reel symbol, can be drawn and redrawn again many times over in a fraction of a second, so as to emulate actual movement in a fairly accurate manner, the naked eye typically processes new images comfortably at a rate of about twenty to thirty frames per second, regardless of what speed is actually used. Such general knowledge regarding the limitations of the human eye tends to dictate how television transmissions are made and presented, among other examples of visual presentations.

[0010] In addition, the frame by frame presentation of an emulated analog event is by definition a “jumpy” presentation of simulated images that are never as fluid moving or natural as they would be in real life. For example, the movement of numerous graphical reel symbols against a white reel strip background results in a frame by frame “flashing” or flickering of colored symbol, to white, to colored symbol, back to white, and so forth for any given spot on which an eye might be focused. Such flickering is comparable to a strobe light or rapid on and off switching of an overhead light as far as a typical human eye is concerned. Even with modern technology, the rapid changes in luminescence that an eye experiences when viewing such a simulated animation on a video screen is simply unlike the experience that is had while viewing a real analog rotating reel in real time.

[0011] As such, the reasonably accurate, yet rapid, drawing and redrawing of clear and fast moving visual images can put undue strain and/or fatigue on the eyes of many viewers. Further, since it can be reflexive for the human eye to attempt to move with a rapidly moving object, the eye may perceive and attempt to move with a reel symbol that appears to be moving rapidly across the screen, such as by drawing and redrawing the reel symbol at a rate of sixty frames per second or more. This, in addition to the rapid changes in luminescence for numerous points of focus on a video simulated rotating reel can fatigue the eyes and concentration of viewers much more quickly than an ordinary analog spinning reel would. Such issues can be exacerbated during gaming sessions that last an extended period of time for a player at a particular gaming machine or machines that are so affected. While such video presentations of emulated spinning reels can thus be fairly realistic to some degree, the resultant eye strain, eye fatigue, possible headaches and/or related general displeasure of some viewers can cause problems with the perceptions of some players and potential players that simulated rotating reels are for at least some reasons less than desirable in comparison with the real thing.

[0012] While existing designs and systems for providing realistic reel games on processor-based gaming machines, and particularly the presentation of spinning reels on the video displays thereof, have been adequate in the past, improvements are usually welcomed and encouraged. In light

of the foregoing, it is thus desirable to develop improved processor-based gaming machines that provide even better emulation of reel-based games, particularly with respect to reels that are in motion.

SUMMARY

[0013] It is an advantage of the present invention to provide processor-based gaming machines that are adapted to present realistic emulations of reel-based games, particularly with respect to simulated rotating reels that are in motion, such that these gaming reels are more appealing to players. This can be accomplished at least in part through the use of simulated or “virtual” gaming reels having substitute reel symbols that are deliberately blurred and used in place of various static reel symbols when the virtual gaming reels are depicted in motion. It is an additional advantage of the present invention to provide a reel blur generator that is adapted to generate or otherwise provide substitute blurred reel symbols in place of various corresponding static reel symbols for this purpose.

[0014] In various embodiments of the present invention, a processor-based gaming machine adapted for accepting a wager, playing a game based on the wager and granting a payout based on the result of the game is provided. Such a gaming machine can include an exterior housing arranged to contain various internal gaming machine components therein, a master gaming controller in communication with various internal gaming machine components and adapted to execute or control one or more aspects of the wager based game, a display device in communication with the master gaming controller and adapted to present a plurality of simulated rotating reels, a reel blur generator in communication with at least one of said master gaming controller and said display device, or both. The plurality of simulated rotating reels can have a plurality of reel symbols distributed on a plurality of reel stops thereupon, and the reel blur generator can be adapted to facilitate the display of the simulated rotating reels upon the display device, such as by reconfiguring at least one of the simulated rotating reels such that one or more reel symbols are replaced by one or more corresponding substitute blurred reel symbols when the simulated rotating reels are depicted in motion on the display device.

[0015] In various embodiments, a virtual gaming reel adapted for use in a processor-based, wager-based gaming environment is provided. Such a virtual gaming reel can include a display region having a plurality of reel stops distributed about an outer circumference thereof, a plurality of static reel symbols for display thereon, and also a plurality of substitute blurred reel symbols for display thereon. Both static and blurred reel symbols can be located at various reel stops on the virtual gaming reel. The static reel symbols can be adapted for display when the virtual gaming reel is at rest, and at least some of these static reel symbols can be replaced by corresponding blurred reel symbols when the virtual gaming reel is in motion. Such a virtual gaming reel can be associated with other similar virtual gaming reels, and can be present on a gaming machine, gaming terminal, or elsewhere within a process-based, wager-based gaming system.

[0016] In various embodiments, a wager-based gaming system having a plurality of processor-based gaming machines is provided. Such processor-based gaming machines can include any of those recited above having virtual or simulated rotating reels with static reel symbols that have corresponding substitute blurred reel symbols, and such gaming machines may or may not have an internal reel blur