machine and included screen printing or printed decals attached to the glass. The printing indicated rules for the game, pay tables, and various game graphics. In this multiple video display embodiment, a proximate display device, such as an LCD, includes video data that mimics the glass layer and information typically printed on the glass layer. To increase realism, the video information may also include glare lines and other depictions of interaction of the stickers with an environment around a gaming machine. Video data for stickers may also include video fraying and video discoloration (e.g., dirt that simulates age) to add the realistic simulation of aged and actual stickers. A second display device, behind the first, which may also be an LCD, then includes video data that simulates the mechanical reels. Physical separation of the two video displays mimics the same separation seen between the glass and reels in a tradition mechanical gaming machines, and significantly adds to the illusion of a real mechanical system. FIGS. **4-5** describe the use of layered video displays to simulate this mechanical arrangement. Other physical adaptations may be used.

[0035] Individually, each of these audio, video and physical adaptations may not create a full illusion of a mechanical reel machine. Cumulatively, however, when multiple of these adaptations are provided in a processor-based gaming machine, senses for a person near the gaming machine process numerous indications of a real mechanical reel machine, and the person may be at least partially or temporarily fooled into perceiving a real mechanical reel machine.

[0036] While digital simulation as described herein is not an exact replacement for a truly mechanical machine, it is believed to be a reasonable match that preserves some or most of the "look and feel" of mechanical reel-based machines. These digital machines may satisfy many players looking for a mechanical reel-based machine, while avoiding the associated costs and complexities of old mechanical machines, and permitting the benefits of digital machines. For example, processor-based display devices permit easy reconfiguration of video output, including remote reconfiguration. The digital nature of the video display devices permits the reel game on a gaming machine to be changed using digital techniques. This allows symbols on the video reels to be changed to present a different reel game, if desired. Or this also allows the number of reels output by the video display devices to change. Wireless or wired connection to the gaming machine also permits remote changes to games by downloading instructions for the changes to the gaming machine.

[0037] As the term is used herein, a visible mechanical imperfection of a mechanical reel refers to visible actions, attributes or behavior of a mechanical reel or one or more parts in a mechanical reel or gaming machine. In one embodiment, the visible mechanical imperfection is dynamic, meaning that the mechanical reel is moving when it displays the visible imperfection. Genesis of visible imperfections often stems from peculiarities, realities or imperfections in the mechanical device or system, such as loose machining tolerances, random variation of real systems, etc. Causes and consequences of some of these visible mechanical imperfections are described in further detail below for each embodiment before the corresponding video simulation is shown and described. In a specific embodiment, a gaming machine uses as many of the mechanical imperfections provided below as possible. This improves the perception of realism for a user.

[0038] For example, while manufacturers over the years attempted to perfect the rotational motion of the reels, limitations of the mechanical apparatus always resulted in some degree of visual imperfection. Spinning reels would "wobble" or "jitter" slightly due to minute variations in the circularity of the reels, non-perfect alignment of the reel strips around the entire circumference of adjacent reels, uneven distribution of mass about the axis of rotation, or combinations of these and other imperfections. Slightly uneven application of the symbol strip to the reel framework often caused edges of a strip and the symbols printed thereon to appear to oscillate from side to side as the reel spun.

[0039] FIG. **1** shows a simulated visible mechanical imperfection in accordance with one embodiment. Specifically, FIG. **1** shows jitter **120** of a video reel **125**. 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.

[0040] Simulated jitter **120**, or wobble, of reel **125** refers to the simulation of shaking and other small movements a real mechanical reel as it spins. As described above, in a real mechanical reel, jitter is attributable to mechanical imperfections in the reel-based mechanism or slightly uneven application of the symbol strip to the reel framework. Realistic reel jitter typically moves a reel apart from the direction of rotation, e.g., horizontally if the direction is vertical. Simulated jitter **120** may be produced in video by slightly displacing an image of a simulated video symbol-laden reel **125**, or a portion thereof. As shown, simulated video reel **125** rotates slightly clockwise to simulate this effect, as shown by the outline **120**. In general, the displacement may include a translation, rotation, or combinations thereof. Arrows **127** in FIG. **1** show permissible translations of simulated jitter. In a specific embodiment, the jitter includes a lateral translation of the entire reel **125**. In another specific embodiment, a portion of reel **125** jitters. The portion may include a reel strip **124** and its symbols **126**, for example, when the video simulation does not include video simulation of the mechanical wheel **128** and other parts such as the internal bore **129** (or in a direction substantially normal to its spinning direction).

[0041] The degree of simulated jitter **120** approximates that of a real reel. As one with skill in the art will appreciate, the amount of jitter **120** may vary with size and resolution of the video device displaying the video, size of reel **125**, the degree to which a designer wants to show it, etc. In a specific embodiment, simulated jitter **120** includes pixel displacements of pixels in reel **125**, or a portion thereof, from 1 pixel to about 10 pixels on a display device with medium to high resolution (e.g., above 1024 by 768 resolution). In a specific embodiment, the lateral displacement is about 2 pixels or less. In another specific embodiment, the simulated video reel **125** shakes horizontally in a video display by one pixel left and right.

[0042] A variety of features may be used in modeling and simulating visible mechanical imperfections of a mechanical reel. One noteworthy mechanical dynamic that often affects the mechanical imperfections and corresponding simulation is the speed of reel rotation. In many old mechanical reel gaming machines, the energy to spin the reels came entirely from a player pull on a handle. This energy, usually stored in a spring of some design as potential energy, was then imparted to the reels, causing them to spin. In general, the larger the reel, the slower it would spin for a given input energy. Large reel simulations spinning too quickly or small