A wagering game, gaming machine, gaming network, and associated methods are disclosed including scatter symbols, and more specifically a left-to-right scatter feature having variable increasing payouts associated with each symbol. The symbols in the left-to-right scatter may interact visually in a sequential manner according to a theme.
Fig. 2A

2000

2001 Receive wager from player

2002 Receive play input from player

2003 Display matrix of symbols

2004 Display rearranged symbols in matrix locations

2005 Check matrix for left-to-right scatter

N

2006 For each symbol in scatter, display associated visual sequence

2007 For each symbol in scatter, determine and award associated prize

2008 Evaluate matrix for winning patterns

N

2009 Award wager win result

End game
Fig. 2B

1. Start new symbol of left-to-right scatter (2011)
2. Display any interaction with previous symbol in sequence (2012)
3. Display any animation of present symbol (2013)
4. Display any interaction with later symbols in sequence (2014)
5. Determine prize range from among multiple prize ranges (2015)
6. Within prize range, randomly determine prize for present symbol and award prize (2016)
7. Final symbol of left-to-right sequence (N) (2017)
   - Return to game (Y) (2018)
Fig. 3B

- User Interface 220
- Reel Assembly 213
- Auxiliary Display Device 109
- Graphics Processor 216
- Auxiliary Display Device 108
- Graphics Processor 215
- Secondary Video Display Device 107
- Touch Screen Controller 217
- Primary Video Display Device 104
- Serial Interface 211
- Network Controller 210
- Non-Volatile Memory 207
- RAM 206
- CPU 205
- Audio Controller 208
- Game 204
Fig. 4A
WAGERING GAME WITH LEFT-TO-RIGHT VARIABLE PRIZE ARRANGEMENT

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TECHNICAL FIELD

[0002] This invention relates to wagering games that use scatter symbols, and more specifically to wagering game systems that provide left-to-right scatter features.

BACKGROUND

[0003] In the casino gaming industry, reel-based slot machines often have a scatter feature that allows a winning pattern to be formed by a number of symbols that do not appear on the same payline. One type of these scatter patterns is a left-to-right scatter, which requires the symbols be distributed from left to right, across the reels, typically with each reel required to have one or more of the symbols. Scatter patterns are often used to activate bonus features or provide bonus prizes.

[0004] These examples illustrate various approaches to fill a need in the gaming industry. What is needed are exciting new game features that increase player enjoyment and meet the legal requirements in the relevant jurisdictions.

SUMMARY OF THE INVENTION

[0005] A wagering game, gaming machine, gaming network, and associated methods are disclosed including scatter symbols, and more specifically to a left-to-right scatter feature having variable increasing payouts associated with each symbol. The symbols in the left-to-right scatter may interact visually in a sequential manner according to a theme.

[0006] One version of the invention is a method of playing a slot machine game with a special bonus symbol which awards as left-to-right scatter (the other reel symbols in the game typically award on paylines). Rather than a flat paytable prize as is typically found, this award is a random/variable prize for each reel symbol involved in the left-to-right scatter. In a preferred embodiment, the range of values (and the average value) for the symbol on each successive reel is larger than that of the previous reels. For example, if the left-to-right scatter symbol is a Star, and the Star is hit on reel 1 and also on reel 2, a random credit award between 5 and 30 credits is revealed atop the Star on reel 1, and then a random credit award between 50 and 100 credits is revealed on the Star on reel 2. If Stars are hit on reels 1 and 2 and 3, then the Stars on reels 1 and 2 award values in the same respective ranges as when hit only on reels 1 and 2, and then the Star on reel 3 awards a value from a still larger range (e.g. 200 to 400). In a preferred embodiment, the reel symbols are artistically depicted, during an animation phase of the game presentation, as distinct from one reel to another, to go along with their differing prize ranges.

[0007] Another version of the invention is a computer program stored on a non-transitory readable medium. The software version is, of course, typically designed to be executed by a gaming machine or networked gaming system. The software includes multiple portions of computer executable code referred to as program code. Gaming results are provided in response to a wager and displayed by display program code that generates simulated slot reels each including one or more symbol locations. The program also has game controller program code for determining game play results for a designated number of spins of the reels, each spin producing a spin result, each spin result having a chance to include one or more of the left-to-right scatter symbols. Included in the program is scatter symbol prize selection program code that adjusts the range of potential prizes available for each scatter symbol in the pattern, and selects prizes within those ranges. Also part of this program is left-to-right pattern animation display program code, which presents the prizes in the different ranges in an entertaining manner for the player by animating the symbols in the left-to-right scatter pattern.

[0008] Another version of the invention is a gaming system that includes one or more gaming servers, and a group of electronic gaming machines connected to the servers by a network. The various functionality described herein may be distributed between the electronic gaming machines and the gaming servers in any practically functional way. For example, the current preferred architecture is for the servers to determine all aspects of game logic, random number generation, and prize awards. The gaming machines provide functionality of interfacing with the player and animating the game results to present the results received from the server in an entertaining manner. However, other embodiments of course might use a thin client architecture in which the animation is also conducted by the server and electronic gaming machines serve merely as a terminal to receive button or touch screen input from the player and to display graphics received from the server.

[0009] Different features may be included in different versions of the invention. For example, different animation themes may be applied that interrelate the symbols in some manner during the animation. Further, variations in gaming math and logic may be employed to adjust the prize range associated with each symbol in the left-to-right scatter pattern.

[0010] These and other advantages and features of the invention will be apparent from the following description of the preferred embodiments, considered along with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1A is an example screenshot showing a winning pattern according to the left-to-right scatter feature of some embodiments.

[0012] FIG. 1B is an example screenshot showing a visual sequence occurring after the winning pattern of FIG. 1A.

[0013] FIG. 2A is a flow chart of a purchased re-spin game according to some embodiments.

[0014] FIG. 2B is a flow chart of a method for determining winnings.

[0015] FIG. 3A is a front perspective view of a gaming machine which may be used in a gaming system embodying the principles of the present invention.

[0016] FIG. 3B is a block diagram showing various electronic components of the gaming machine shown in FIG. 3A together with additional gaming system components.
FIG. 4A is a system block diagram of a gaming system according to one embodiment of the present invention. FIG. 4B is a system block diagram of a gaming system according to another embodiment.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

FIG. 1A is a screenshot diagram showing the game play area of an example game employing the left-to-right scatter feature of some embodiments. Gaming area is represented as a matrix 1001 of symbol locations arranged in rows and columns to represent simulated slot machine reels that are spun or otherwise scrambled in a random or pseudo-random manner to conduct a game. Of course, use other types of game displays to accumulate symbols according to the methods herein. The depicted columns of symbols labeled 1002 represent the simulated reels, while symbols are designated 1004. In this instance there are five reels, but the game can be played with more and less reels. There are also four symbols per reel.

In this embodiment, the depicted screen is an example base game spin result achieved through ordinary play in the base game. Each spin has a specified chance of including one or more of the scatter symbols. A left-to-right scatter win is shown formed by star symbols 1003, which appear on each reel from left to right. Star symbol 1003 is an arbitrary example of a special symbol used to activate the bonus. In various embodiments, one or more designated symbols arranged in a left-to-right scatter will activate the feature (the other reel symbols in the game preferably award on paylines). Rather than a flat paytable prize or a bonus game for the depicted scatter pattern, the award is preferably a randomly selected variable prize for each reel symbol involved in the left-to-right scatter. Further, while the depicted left-to-right scatter contains a symbol on each reel, other embodiments may include other less valuable awards formed by left-to-right scatter symbols on two, three, or four reels, for example.

On the right in box 1006 are the instructions for playing the game. Underneath the instructions in box 1008, are the prizes that can be won as well as the requirements for winning.

Under box 1008 is box 1010, which displays the current wager. Under box 1010 is box 1012, which displays any credits in the player’s account. Under box 1012 is box 1014, which displays the player’s last awarded winnings. To the left of box 1014 in the touchscreen display button component 1016, is the price of the base game play. In the bottom left-hand corner there is a message line, where the game station can display further instructions to the player.

FIG. 1B is an example screenshot of the game screen of FIG. 1A, illustrating a visual sequence occurring after the winning pattern of FIG. 1A. As can be seen, each of the star symbols 1003 has been replaced by an arrow symbol 1005. Preferably, the replacement is part of a visual sequence associated with determining and presenting the prizes associated with the left-to-right scatter win. An example sequence presents an animation associated with the leftmost symbol 1005, and a presentation of the variable prize determined for that symbol. Then, the sequence moves right to the second reel and presents animation and the prize associated with the symbol 1005 on that reel. This continues until all the prizes have been awarded. In a preferred embodiment, the range of values (and the average value) awarded as a prize for the symbol 1005 on each successive reel is larger than that of the previous reels. For example, if a star 1003 is hit on reel 1 and also on reel 2 (referring to the five reels as numbered from left-to-right), a random credit award in a first range between 5 and 30 credits is revealed in the animation on reel 1, and then a random credit award in a second range between 50 and 100 credits is revealed in the animation on reel 2. If stars 1003 are hit on reels 1 and 2, then the stars on reels 1 and 2 award values in the same respective ranges as when hit only on reels 1 and 2, and then the star on reel 3 awards a value from a still larger range (e.g. 200 to 400).

In some versions, the reel symbols are artistically depicted as distinct from one reel to another, to go along with their differing prize ranges. One example game using the left-to-right scatter herein includes a “Rube Goldberg Machine” feature in which a sequence of mechanical actions is shown to cause other actions to happen. The sequence may include, for example, a crank on reel 1, a boot on reel 2, a catapult on reel 3, etc (these are just example possibilities). When the crank hits as scatter on reel 1 along with the boot on reel 2, there is a “chain reaction” where the crank is shown to award a variable prize in a first range, and then activates the boot which awards its own variable prize (in a larger range). If the catapult on reel 3 is additionally present, it is depicted as activated by the boot and awards a variable prize in a still larger range. This sequence may continue across all reels 1002 if a scatter pattern spans all the reels.

Another embodiment uses a factory theme with a set of gear wheels that turn to animate a particular symbol, but also are connected by smaller gear wheels to show the interconnectedness of the symbols in the left to right scatter pattern. A preferred embodiment uses a left to right scatter pattern with at least one mechanical gear symbol appearing on each reel. In this embodiment, the symbols may be animated simultaneously, or may be animated in a chain reaction left to right manner such as that described above. For example, a gear symbol appearing on the first reel may animate and rotate to accompany the selection of a prize within a first range. Then the animation might detect connecting gears appearing between the first gear and the gear symbol on the second reel or column, and these gears may then be animated to turn the gear wheel on the second reel by showing gear train action. The gear wheel symbol of the second column is then animated and the system selects a prize within a second prize range and displays that prize as visually associated with the second gear wheel symbol. Next, more connecting gears are shown turning to animate the third gear wheel symbol in the left to right scatter pattern, and a third prize selected from a third prize range and displayed visually associated with the third gear wheel symbol. This process of animation using gears continues until all the symbols in the scatter pattern, a preferred embodiment includes five, are animated and provided with a related prize. Please note that the actual timing of the prize selection is not important, the preferred embodiments display the prize values as associated with a particular scatter symbol to provide the impression to the player that the prizes being selected at the time the symbol is being animated. Further, while preferred embodiments include prize ranges for each symbol that increase in value, this is not limiting, and some versions may have ranges that decrease in value or randomly or otherwise increase and then decrease, or decrease and then increase, according to some scheme related to the game. For example, a random determination may be made with respect
to each symbol in the left to right scatter pattern. This random determination might be employed in the game to determine whether the prize ranges are raised or lowered, or may be applied in some manner to set the boundaries of the prize range for each particular symbol.

[0026] FIG. 2A is a flow chart of a left-to-right scatter award process according to some embodiments. The depicted process preferably takes place in the context of the base game, as described above, but may also be employed in the context of a bonus game round. Process 2000 begins with receiving a wager from the game player at step 2001, which typically consists of some input from the player to set the amount to be wagered from their credit amount on the machine. This step may also be carried over from previous game rounds by simply starting the game with the previous wager amount set. Then, in step 2002, the process receives a play input from the player. This typically happens through a 'Play' button on the game cabinet or touchscreen display, and serves to place the wager and start a single round of game play in the base game. Next at step 2003 and 2004, the process begins conducting the activated game by rearranging the symbols in the matrix. In embodiments having reels, reel displays, or simulated reels, this is conducted by spinning the reels. Other embodiments may otherwise rearrange or randomize the symbols on the matrix in any suitable manner.

[0027] At step 2005, the process checks the resulting matrix of symbols for the presence of the left-to-right scatter pattern. In some embodiments, the software executing the process may, of course, already have available some indication that a scatter pattern is present in the game matrix, because some embodiments employ reverse-mapped outcomes generated from randomly selected prizes, or otherwise create outcomes from prizes and not directly based on an array of random symbols. For example, some embodiments reverse-map the outcome from Class II bingo game results which are openable with less regulatory requirements in certain gaming jurisdictions. Other embodiments may select outcomes from a bank of predetermined outcomes such as electronic lottery tickets. The particular method of generating a randomized outcome of the base game is not important; if the base game result matrix includes a left-to-right scatter pattern of the designated kind (other left-to-right scatters may also be present in some versions, and of course the techniques herein can be employed with right-to-left or other scatter patterns), the process goes to step 2006. If not, the process skips to step 2008.

[0028] Referring to step 2006, if the appropriate winning left-to-right scatter pattern was found, the process handles each symbol in the display by showing a visual sequence associated with the symbol. Next at step 2007, for each symbol, the process determines and awards an associated prize specific to that symbol. This determination is further described with respect to FIG. 2B.

[0029] At step 2008, the process evaluates the matrix for other winning patterns, and awards any resulting awards at step 2009. This may, of course, take place before or simultaneously with conferring the awards for the scatter pattern.

[0030] FIG. 2B is a flow chart showing detailed steps for determining variable prize amounts for left-to-right scatter symbols. The depicted process 2020 is a more detailed description of what occurs in certain preferred embodiments during steps 2006 and 2007 of FIG. 2A. Generally, process 2020 goes through a sequence of displaying animations for the symbols in the left-to-right scatter pattern, and selecting variable awards for each symbol. Process 2020 starts at step 2011 where it begins handing a new left-to-right scatter symbol. At step 2012, the process displays animation or other graphics showing any desired interaction with previous symbols in the scatter pattern. For example, in the "Gears" scatter pattern described above, the scatter symbols each transform or morph into a suitable gear, which is turned by intermediate gearing, machinery, or direct gear interaction with the previous gear in the sequence. In some versions, the symbols are processed one at a time sequentially, and are activated and animated after the award for the previous symbol in the pattern has been shown. In other versions, the entire animated sequences (such as, for example, changing to gears and turning, or the 'Rube Goldberg' machine example in which various objects interact with each other in unusual ways) is shown by a graphic sequence after the pattern is detected. In such embodiments, the symbols may be animated again individually when their associated awards are selected in order to increase player excitement and entertainment. It may now be understood that the various steps depicted in process 2020 may occur in a different order, or may happen simultaneously or overlap in some way. A preferred version shows at least some form of animation identifying the basic theme and content of the scatter pattern symbols, for example showing the appearance of the 'gears' or Rube Goldberg machine after determining the presence of the left-to-right scatter at step 2005. At step 2012 the process displays a graphic sequence of interaction with a previous symbol in the pattern. Next at step 2013, the process displays a graphic sequence of animation of the present symbol.

[0031] In preferred embodiments, during an animated sequence of the present symbol at step 2013, the process determines a prize range for the current symbol. This determination preferably uses the ordinal position of the symbol in the pattern, for example first symbol, second symbol, or third symbol in the left-to-right or other ordered arrangement used. A preferred embodiment selects the lowest range of potential awards for the first symbol, a higher range for the second symbol, and a higher range for the third symbol and so on through the scatter pattern until each symbol has been awarded a variable prize. In some embodiments, the ranges may overlap. In other embodiments, the ranges may be contiguous, but not overlap. In still other embodiments, the ranges may not be contiguous, and may be selected using other methods such as randomly selecting the prize ranges, or randomly determining the beginning and ending values of the ranges. The preferred method shown in FIG. 2B employs contiguous ranges for each symbol in the pattern. Each symbol is processed individually, so that the player can see that a prize is awarded that is associated with the current symbol being animated on the screen. The process at step 2014 continues in determining the prize range for each symbol by selecting an appropriate pre-designed prize table to go with each range selected for the pattern. The prize tables may be pre-designed, or may be generated on-the-fly. This step preferably loads into memory the appropriate prize table for the current symbol, making the process ready to award the variable prize. Other versions may not use a prize table or pay table, and may instead determine an award value using a random process. The range selected at step 2015 is preferably used even when a random award value is generated, which serves to bound the award within a designated range for each symbol in the scatter pattern.

[0032] Next, at step 2016, the process determines the variable prize amount for the current symbol and awards the
prize. In versions employing a pay table or prize table design, this step usually involves generating a random or pseudorandom number, and using that number to look up the value in the pay table in a manner well understood in the art. When the award is displayed, it is preferably done with an animated sequence unique to the particular ordinal symbol in the scatter pattern. That is, the first symbol may have a unique prize display such as a gear turning in machinery to produce a particular result. The prize amount is preferably displayed in the symbol location, as depicted in these screenshots discussed above. Next, at step 2016, the process displays any interaction that the current symbol has with later symbols in the sequence. The last symbol in the sequence, and the example game shown above the fifth symbol, will of course have no interaction with a subsequent symbol. The animated sequence shown at step 2016 may be part of an overall animation involving steps 2012, 2013, and 2016. In some versions, after a symbol is processed using the depicted scheme, the machine may prompt the player for some form of input such as choosing among a number of selections, or directing an animated character along a certain path. Some versions may use this type of input to make it appear that player skill is involved in achieving a certain game outcome. The preferred versions discussed above do not include player interaction. Next, at step 2017, the process determines if the current symbol is the final symbol in the scanner sequence. In the preferred left-to-right version, this means the process determines if the symbol is the rightmost symbol of the scatter pattern. If so, at step 2018 the process returns to the base game. If not, the process returns to step 2011, where it begins to process the next ordinal symbol in the scatter pattern.

[0033] FIG. 3A shows a gaming machine 100 that may be used to implement a variable left-to-right scatter game according to the present invention. The block diagram of FIG. 3B shows further details of gaming machine 100. Referring to FIG. 3A, gaming machine 100 includes a cabinet 101 having a front side generally shown at reference numeral 102. A primary video display device 104 is mounted in a central portion of the front surface 102, with a ledge 106 positioned below the primary video display device and projecting forwardly from the plane of the primary video display device. In addition to primary video display device 104, the illustrated gaming machine 100 includes a secondary video display device 107 positioned above the primary video display device. Gaming machine 100 also includes two additional smaller auxiliary display devices, an upper auxiliary display device 108 and a lower auxiliary display device 109. It should also be noted that each display device referenced herein may include any suitable display device including a cathode ray tube, liquid crystal display, plasma display, LED display, or any other type of display device currently known or that may be developed in the future.

[0034] In preferred versions, the gaming machine 100 illustrated in FIG. 3A also includes a number of mechanical control buttons 110 mounted on ledge 106. These control buttons 110 may allow a player to select a bet level, select pay lines, select a type of game or game feature, and actually start a play in a primary game. Other forms of gaming machines according to the invention may include switches, joysticks, or other mechanical input devices, and/or virtual buttons and other controls implemented on a suitable touch screen video display. For example, primary video display device 104 in gaming machine 100 provides a convenient display device for implementing touch screen controls.

[0035] It will be appreciated that gaming machines may also include a number of other player interface devices in addition to devices that are considered player controls for use in playing a particular game. Gaming machine 100 also includes a currency/voucher acceptor having an input ramp 112, a player card reader having a player card input 114, and a voucher/receipt printer having a voucher/receipt output 115. Audio speakers 116 generate an audio output to enhance the user’s playing experience. Numerous other types of devices may be included in gaming machines that may be used according to the present invention.

[0036] FIG. 3B shows a logical and hardware block diagram 200 of gaming machine 100 which includes a central processing unit (CPU) 205 along with random access memory 206 and nonvolatile memory or storage device 207. All of these devices are connected on a system bus 208 with an audio controller or interface device 209, a network controller or interface 210, and a serial controller or interface 211. A graphics processor 215 is also connected on bus 208 and is connected to drive primary video display device 104 and secondary video display device 107 (both mounted on cabinet 101 as shown in FIG. 3A). A second graphics processor 216 is also connected on bus 208 in this example to drive the auxiliary display devices 108 and 109 also shown in FIG. 3A. As shown in FIG. 3B, gaming machine 100 also includes a touch screen controller 217 connected to system bus 208. Touch screen controller 217 is also connected via signal path 218 to receive signals from a touch screen element associated with primary video display device 104. It will be appreciated that the touch screen element itself typically comprises a thin film that is secured over the display surface of primary video display device 104. The touch screen element itself is not illustrated or referenced separately in the figures.

[0037] Those familiar with data processing devices and systems will appreciate that other basic electronic components will be included in gaming machine 100 such as a power supply, cooling systems for the various system components, audio amplifiers, and other devices that are common in gaming machines. These additional devices are omitted from the drawings so as not to obscure the present invention in unnecessary detail.

[0038] All of the elements 205, 206, 207, 208, 209, 210, and 211 shown in FIG. 3B are elements commonly associated with a personal computer. These elements are preferably mounted on a standard personal computer chassis and housed in a standard personal computer housing which is itself mounted in cabinet 101 shown in FIG. 3A. Alternatively, the various electronic components may be mounted on one or more circuit boards housed within cabinet 101 without a separate enclosure such as those found in personal computers. Those familiar with data processing systems and the various data processing elements shown in FIG. 3B will appreciate that many variations on this illustrated structure may be used within the scope of the present invention. For example, since serial communications are commonly employed to communicate with a touch screen controller such as touch screen controller 217, the touch screen controller may not be connected on system bus 208, but instead include a serial communications line to serial interface 211, which may be a USB controller or a IEEE 1394 controller for example. It will also be appreciated that some of the devices shown in FIG. 3B as being connected directly on system bus 208 may in fact communicate with the other system components through a suitable expansion bus. Audio interface 209, for example,
may be connected to the system via a PCI bus. System bus 208 is shown in FIG. 3B merely to indicate that the various components are connected in some fashion for communication with CPU 205 and is not intended to limit the invention to any particular bus architecture. Numerous other variations in the gaming machine internal structure and system may be used without departing from the principles of the present invention.

[0039] It will also be appreciated that graphics processors are also commonly a part of modern computer systems. Although separate graphics processor 215 is shown for controlling primary video display device 104 and secondary video display device 107, and graphics processor 216 is shown for controlling both auxiliary display devices 108 and 109, it will be appreciated that CPU 205 may control all of the display devices directly without any intermediate graphics processor. The invention is not limited to any particular arrangement of processing devices for controlling the video display devices included with gaming machine 100. Also, a gaming machine implementing the present invention is not limited to any particular number of video display device or other types of display devices.

[0040] In the illustrated gaming machine 100, CPU 205 executes software which ultimately controls the entire gaming machine including the receipt of player inputs and the presentation of the graphic symbols displayed according to the invention through the display devices 104, 107, 108, and 109 associated with the gaming machine. As will be discussed further below, CPU 205 either alone or in combination with graphics processor 215 may implement a presentation controller for performing functions associated with a primary game that may be available through the gaming machine and may also implement a game client for directing one or more display devices at the gaming machine to display portions of a variable left-to-right scatter game according to the present invention. CPU 205 also executes software related to communications handled through network interface 210, and software related to various peripheral devices such as those connected to the system through audio interface 209, serial interface 211, and touch screen controller 217. CPU 205 may also execute software to perform accounting functions associated with the machine. Random access memory 206 provides memory for use by CPU 205 in executing its various software programs while the nonvolatile memory or storage device 207 may comprise a hard drive or other mass storage device providing storage for programs not in use or for other data generated or used in the course of gaming machine operation.

Network interface 210 provides an interface to other components of a gaming system in which gaming machine 100 is included. In particular, network interface 210 provides an interface to a game controller which controls certain aspects of the multiplayer, variable left-to-right scatter game as will be discussed below in connection with FIG. 3.

[0041] It should be noted that the invention is not limited to gaming machines employing the personal computer-type arrangement of processing devices and interfaces shown in example gaming machine 100. Other gaming machines through which a variable left-to-right scatter game is implemented may include one or more special purpose processing devices to perform the various processing steps for implementing the present invention. Unlike general purpose processing devices such as CPU 205, these special purpose processing devices may not employ operational program code to direct the various processing steps.

[0042] It should also be noted that the invention is not limited to gaming machines including only video display devices for conveying results. It is possible to implement a variable left-to-right scatter game within the scope of the present invention using an electro mechanical arrangement or even a purely mechanical arrangement for displaying the symbols needed to complete a variable left-to-right scatter game as described herein. However, the most preferred forms of the invention utilize one or more video display devices for displaying the spinning reels, the accumulated symbols, and the variable left-to-right scatter offer. For example, a gaming machine suitable for providing a variable left-to-right scatter game may include a mechanical reel-type display rather than a video-type display device for displaying results in a primary game, and include a video display device for presenting the variable left-to-right scatter game as a bonus game.

[0043] Still referring to the hardware and logical block diagram 200 showing an example design for a gaming machine 100, the depicted machine in operation is controlled generally by CPU 205 which stores operating programs and data in memory 207 with wagering game 204, user interface 220, network controller 210, audio/visual controllers, and reel assembly 213 (if mechanical reel configuration.) CPU or game processor 205 may comprise a conventional microprocessor, such as an Intel Pentium microprocessor, mounted on a printed circuit board with supporting ports, drivers, memory, and software and firmware to communicate with and control gaming machine operations, such as through the execution of coding stored in memory 207 including one or more wagering games 204. Game processor 205 connects to user interface 220 such that a player may enter input information and game processor 205 may respond according to its programming, such as to apply a wager and initiate execution of a game.

[0044] Game processor 205 also may connect through network controller 210 to a gaming network, such as example casino server network 400 shown in FIG. 4B. Referring now to FIG. 4B, the casino server network 400 may be implemented over one or more site locations and include host server 401, remote game play server 403 (which may be configured to provide game processor functionality including determining game outcomes and providing audio/visual instructions to a remote gaming device), central determination server 405 (which may be configured to determine lottery, bingo, or other centrally determined game outcomes and provide the information to networked gaming machines 100 providing lottery and bingo-based wagering games to patrons), progressive server 407 (which may be configured to accumulate a progressive pool from a portion of wagering proceeds or operator marketing funds and to award progressive awards upon the occurrence of a progressive award winning event to one or more networked gaming machines 100), player account server 409 (which may be configured to collect and store player information and/or awards and to provide player information to gaming machines 100 after receiving player identification information such as from a player card), and accounting server 411 (which may be configured to receive and store data from networked gaming machines 100 and to use the data to provide reports and analyses to an operator). Through its network connection, gaming machine 100 may be monitored by an operator through one or more servers such as to assure proper operation, and, data and information may be shared between gaming machine 100 and respective of the
servers in the network such as to accumulate or provide player promotional value, to provide server-based games, or to pay server-based awards.

[0045] Referring now to FIG. 4A, a gaming system 300 according to another embodiment of the present invention is shown again in a network and system diagram format. System 300 includes a number of gaming machines, each comprising a gaming machine 100 in this example implementation. For purposes of describing system 300, each gaming machine 100 in FIG. 4A is shown as including a video display device 107 and a player interface that may include buttons, switches, or other physical controls and/or touch screen controls as discussed above in connection with FIG. 4A. This player interface is labeled 301 in FIG. 4A. System 300 further includes a game server 302 and a respective gaming client 303 (abbreviated “GC” in FIG. 4A) included with each respective gaming machine 100. In the form of the invention shown in FIG. 4A, these two components, game server 302 and the game client components 303 combine to implement a game control arrangement which will be described in detail below. System 300 also includes an award controller 305, which is shown in FIG. 4A as being associated with game server 302 to indicate that the two components may be implemented through a common data processing device/computer system. Gaming machines 100, game server 302, and award controller 305 are connected in a network communication arrangement including first and second network switches 306 and 307, connected together through various wired or wireless signal paths, all shown as communications links 308 in FIG. 4A.

[0046] Each gaming machine 100, and particularly player interface 301 associated with each gaming machine, allows a player to make any inputs that may be required to make the respective gaming machine eligible for a variable left-to-right scatter game, and make selection of selectable objects displayed at the respective gaming machine in the course of a variable left-to-right scatter game. Player interface 301 also allows a player at the gaming machine to initiate plays in a primary game available through the gaming machine in some implementations. The respective video display device 107 associated with each respective gaming machine 100 is used according to the invention to generate the graphic displays to show the various elements of a variable left-to-right scatter game at the respective gaming machine.

[0047] The game control arrangement made up of game server 302 and the respective gaming client 303 at a given gaming machine functions to control the respective video display device 107 for that gaming machine to display a variable left-to-right scatter graphic and a number of selectable objects. Award controller 305 is responsible for awarding prizes for a player’s participation in a variable left-to-right scatter game, and maintaining progressive prize information where the variable left-to-right scatter game offers one or more progressive prizes. The network arrangement made up of network switches 306 and 307, and the various communications links 308 shown in FIG. 4A is illustrated merely as an example of a suitable communications arrangement. It should be noted that the game control arrangement, or as it is referred to generally the “game controller,” may be implemented in some embodiments entirely on the gaming machine. This is especially true in jurisdictions that allow Class III gaming conducted with random number generators at each gaming machine. The present invention is not limited to any particular communications arrangement for facilitating communications between game server 302 and various gaming machines 100. Any wired or wireless communication arrangement employing any suitable communications protocols (such as TCP/IP for example) may be used in an apparatus according to the invention.

[0048] FIG. 4A shows other server(s) 310 included in the network. This illustrated “other server(s)” element 310 may include one or more data processing devices for performing various functions related to games conducted through system 300 and any other games that may be available to players through gaming machines 100. For example, apparatus 300 may be incorporating servers providing support for cashless gaming or various forms of mixed cash/cashless gaming through the various gaming machines 100. In this example, an additional one of the other servers 310 will be included in apparatus 300 for supporting these types of wagering and payout systems. As another example, the various gaming machines 100 included in system 300 may allow players to participate in a game (primary game) other than a variable left-to-right scatter game, and this other game may rely on a result identified at or in cooperation with a device that is remote from the gaming machines. In this example, another server 310 may be included in the system for identifying results for the primary game and communicating those results to the various gaming machines 100 as necessary. Generally, the other server(s) 310 shown in FIG. 4A are shown only to indicate that numerous other components may be included along with the elements that participate in providing variable left-to-right scatter games according to the present invention. Other server(s) 310 may provide record keeping, player tracking, accounting, or result identifying services, or any other services that may be useful or necessary in a gaming system.

[0049] Referring to FIG. 4B, a block diagram of another example networked gaming system 400 associated with one or more gaming facilities is shown including one or more networked gaming machines 100 in accordance with one or more embodiments. With reference to FIG. 4B, while a few servers have been shown separately, they may be combined or split into additional servers having additional capabilities.

[0050] As shown, networked gaming machines 100 (EGM1-EGM4) and one or more overhead displays 513 may be network connected and enable the content of one or more displays of gaming machines 100 to be mirrored or replayed on overhead display. For example, the primary display content may be stored by the display controller or game processor 205 and transmitted through network controller 210 to the overhead display controller either substantially simultaneously or at a subsequent time according to either periodic programming executed by game processor 205 or a triggering event, such as a jackpot or large win, at a respective gaming machine 100. In the event that gaming machines 100 have cameras installed, the respective players’ video images may be displayed on overhead display 413 along with the content of the player’s display 104 and any associated audio feed.

[0051] In one or more embodiments, game server 403 may provide server-based games and/or game services to network connected gaming devices, such as gaming machines 100 (which may be connected by network cable or wirelessly). Progressive server 407 may accumulate progressive awards by receiving defined amounts (such as a percentage of the wagers from eligible gaming devices or by receiving funding from marketing or casino funds) and provide progressive awards to winning gaming devices upon a progressive event, such as a progressive jackpot game outcome or other trigger-
ing event such as a random or pseudo-random win determination at a networked gaming device or server (such as to provide a large potential award to players playing the community feature game). Accounting server 411 may receive gaming data from each of the networked gaming devices, perform audit functions, and provide data for analysis programs, such as the IGT Mariposa program bundle.

0052 Player account server 409 may maintain player account records, and store persistent player data such as accumulated player points and/or player preferences (e.g., game personalizing selections or options). For example, the player tracking display may be programmed to display a player menu that may include a choice of personalized gaming selections that may be applied to a gaming machine 100 being played by the player.

0053 In one or more embodiments, the player menu may be programmed to display after a player inserts a player card into the card reader. When the card reader is inserted, an identification may be read from the card and transmitted to player account server 409. Player account server 409 transmits player information through network controller 210 to user interface 109 for display on the player tracking display. The player tracking display may provide a personalized welcome to the player, the player's current player points, and any additional personalized data. If the player has not previously made a selection, then this information may or may not be displayed. Once the player makes a personalizing selection, the information may be transmitted to game processor 205 for storing and use during the player's game play. Also, the player's selection may be transmitted to player account server 409 where it may be stored in association with the player's account for transmission to the player in future gaming sessions. The player may change selections at any time using the player tracking display (which may be touch sensitive or have player-selectable buttons associated with the various display selections).

0054 In one or more embodiments, a gaming website may be accessible by players, e.g., gaming website 421, wherein one or more games may be displayed as described herein and played by a player such as through the use of personal computer 423 or handheld wireless device 425 (e.g., Blackberry cell phone, Apple iPhone, personal data assistant (PDA), iPad, etc.). To enter the website, a player may log in with a user name (that may be associated with the player's account information stored on player account server 409 or be accessible by a casino operator to obtain player data and provide promotional offers), play various games on the website, make various personalizing selections and save the information, so that during a next gaming session at a casino establishment, the player's playing data and personalized information may be associated with the player's account and accessible at the player's selected gaming machine 100.

0055 Referring now to the disclosure in general, as used herein, the terms “comprising,” “including,” “carrying,” “having,” “containing,” “involving,” and the like are to be understood to be open-ended, that is, to mean including but not limited to.

0056 Any use of ordinal terms such as “first,” “second,” “third,” etc., to refer to an element does not by itself connote any priority, precedence, or order of one element over another, or the temporal order in which acts of a method are performed. Rather, unless specifically stated otherwise, such ordinal terms are used merely as labels to distinguish one element having a certain name from another element having a same name (but for use of the ordinal term).

0057 The features herein may be used in any functional sub-combination. The description should be interpreted as providing support for each functional sub-combination of features. For example, this application supports all sub-combinations of features as if all of the claims were written in multiple dependent form as is common in European practice.

0058 The above described preferred embodiments are intended to illustrate the principles of the invention, but not to limit the scope of the invention. Various other embodiments and modifications to these preferred embodiments may be made by those skilled in the art without departing from the scope of the present invention.

1. A method of providing a wagering game, the method comprising:
   (a) receiving a game play request with an associated wager, at a gaming machine;
   (b) displaying a matrix of symbol locations on a display device at the gaming machine;
   (c) rearranging the symbol locations;
   (d) after rearranging the symbol locations, determining the presence of a left-to-right scatter pattern comprising multiple occurrences of a designated symbol or symbols;
   (e) in response to determining the presence in paragraph (d), determining a first symbol of the scatter pattern and determining a first prize range in which to provide a prize associated with the symbol;
   (f) after (e), selecting a variable prize out of the first prize range and awarding it to a player;
   (g) in response to determining the presence in paragraph (d), determining a second symbol of the scatter pattern and determining a second prize range in which to provide a prize associated with the symbol;
   (h) after (g), selecting a variable prize out of the second prize range and awarding it to the player.

2. The method of claim 1, further including repeating steps (g)-(h) for a third symbol of the scatter pattern.

3. The method of claim 1, wherein (f) and (h) both include randomly or pseudo-randomly selecting a prize from a payable associated with the respective prize range.

4. The method of claim 1, wherein (f) and (h) both include selecting a prize from the payable associated with a respective prize range at least in part based on a target prize value associated with a prize amount previously selected for the game play request.

5. The method of claim 1, further comprising, for each symbol in the left-to-right scatter pattern, displaying an animated visual sequence associated with selecting and awarding the respective variable prize to the player.

6. The method of claim 5, wherein the animated visual sequence for at least one of the symbols in the left-to-right scatter pattern includes displaying an interaction with a previous symbol in the left-to-right scatter pattern.

7. The method of claim 5, wherein the animated visual sequence for at least one of the symbols in the left-to-right scatter pattern includes displaying an interaction with a subsequent symbol in the left-to-right scatter pattern.

8. The method of claim 1, wherein each time a prize range is determined, it is determined according to an ordinal level of the respective symbol in the scatter pattern.

9. A system for providing a wagering game, the system comprising:
(a) a player interface adapted for receiving a game play request with an associated wager at a gaming machine;
(b) a video display device adapted for, at some point after the game play request and in response to the game play request, displaying a matrix of symbol locations comprised of multiple reels each including one or more symbol locations;
(c) a game controller adapted for determining game play results in a random or pseudo-random manner and displaying the game results by updating the symbol locations;
(d) the game controller further adapted for, after rearranging the symbol locations, determining the presence of a left-to-right scatter pattern comprising multiple occurrences of a designated symbol or symbols;
(e) the game controller further adapted for, in response to determining the presence in paragraph (d), determining a first symbol of the scatter pattern and determining a first prize range in which to provide a prize associated with the symbol;
(f) after (e), selecting a variable prize out of the first prize range and awarding it to a player;
(g) the game controller further adapted for, in response to determining the presence in paragraph (d), determining a second symbol of the scatter pattern and determining a second prize range in which to provide a prize associated with the symbol;
(h) the game controller further adapted for, after (g), selecting a variable prize out of the second prize range and awarding it to the player.

10. The system of claim 9, wherein the game controller is further adapted for repeating steps (g)-(h) for a third symbol of the scatter pattern.

11. The system of claim 9, wherein (f) and (h) both include randomly or pseudo-randomly selecting a prize from a payable associated with the respective prize range.

12. The system of claim 9, wherein (f) and (h) both include selecting a prize from the payable associated with a respective prize range at least in part based on a target prize value associated with a prize amount previously selected for the game play request.

13. The system of claim 9, wherein the game controller is further adapted to, for each symbol in the left-to-right scatter pattern, display an animated visual sequence associated with selecting and awarding the respective variable prize to the player.

14. The system of claim 13, wherein the animated visual sequence for at least one of the symbols in the left-to-right scatter pattern includes displaying an interaction with another symbol in the left-to-right scatter pattern.

15. A program product stored on at least one non-transitory computer readable medium, the program product including:
(a) player interface program code adapted for receiving a game play request with an associated wager at a gaming machine;
(b) video display program code adapted for, at some point after the game play request and in response to the game play request, displaying a matrix of symbol locations comprised of multiple reels each including one or more symbol locations;
(c) a game controller program code adapted for determining game play results in a random or pseudo-random manner and displaying the game results by updating the symbol locations;
(d) the game controller program code further adapted for, after rearranging the symbol locations, determining the presence of a left-to-right scatter pattern comprising multiple occurrences of a designated symbol or symbols;
(e) the game controller program code further adapted for, in response to determining the presence in paragraph (d), determining a first symbol of the scatter pattern and determining a first prize range in which to provide a prize associated with the symbol;
(f) after (e), selecting a variable prize out of the first prize range and awarding it to a player;
(g) the game controller program code further adapted for, in response to determining the presence in paragraph (d), determining a second symbol of the scatter pattern and determining a second prize range in which to provide a prize associated with the symbol;
(h) the game controller program code further adapted for, after (g), selecting a variable prize out of the second prize range and awarding it to the player.

16. The program product of claim 15, wherein the game controller program code is further adapted for repeating steps (g)-(h) for a third symbol of the scatter pattern.

17. The program product of claim 15, wherein (f) and (h) both include randomly or pseudo-randomly selecting a prize from a payable associated with the respective prize range.

18. The program product of claim 15, wherein (f) and (h) both include selecting a prize from the payable associated with a respective prize range at least in part based on a target prize value associated with a prize amount previously selected for the game play request.

19. The program product of claim 15, wherein the game controller program code is further adapted to, for each symbol in the left-to-right scatter pattern, display an animated visual sequence associated with selecting and awarding the respective variable prize to the player.

20. The program product of claim 19, wherein the animated visual sequence for at least one of the symbols in the left-to-right scatter pattern includes displaying an interaction with another symbol in the left-to-right scatter pattern.