

reference point zero or at a home flagged position. After recognition of the home flagged position, the application program instructs each reel wheel to its randomly selected stop position via process controller means 34 communicatively coupled to the motor driver 132 and stepper motor. The manner in which each reel wheel stops at its final position is principally established by the communicative interaction of process controller means and a random number generator 148 integrally included as part of the application program. In FIG. 9, the random number generator is shown apart from the application program in resident memory 120 to illustrate its relationship and capability to function with process controller means 34. In its operative capacity, the random number generator generates a random number through utilization of a random number generation algorithm and a numeric seed value, which may be substantially based on a numeric value taken from the real time clock 128 as suggested above. In the instance of the present invention, a random number is generated for each of the reel wheels in the manner noted above, particularly within a predetermined time period after the spin lever 24 or spin or max bet switches 30, 32 has been activated by the operator or consumer. The random number is then evaluated in accord with the instruction set provided in the application program, with the resultant figure serving as a basis for conducting and completing a reel spin cycle. The application program in particular assigns a case outcome based on the selected random number to command process controller means 34 to deliver to each stepper motor via the motor driver 132 a predetermined number of pulses or steps beyond the home flagged position to display accordingly a pre-select image or symbol in the divided display window 16. In illustrating the preferred embodiment of the present invention in terms of its above-noted functionality, the random number generator 148 may compute a random number from a numeric seed value based on a time reference that is algorithmically reduced to a numeric value falling within a predetermined range of numerical values for the total number of stop positions, such as in an exemplified case of a reduced numeric value of 185 falling within a predetermined range of numerical values extending from zero to 2199. The application program then evaluates this reduced numeric value in terms of its absolute value falling within a sub-numeric range pre-selected for each of the reel wheel stop positions operatively associated with an image or symbol. TABLE 1 illustrates a typical mapping scheme for 22 images or symbols appearing on a reel strip 138 affixed to a reel wheel 18 and coinciding with 22 reel wheel stop positions.

TABLE 1

Case Outcome	Reel Wheel Stop Position	Image Displayed	Sub-numeric Range	Number of Steps or Pulses
1	0	Image A	0-99	0
2	1	Image B	100-199	18
3	2	Image C	200-299	36
4	3	Image D	300-399	54 + 1
5	4	Image E	400-499	73
6	5	Image F	500-599	91
7	6	Image G	600-699	109
8	7	Image H	700-799	127 + 1
9	8	Image I	800-899	146
10	9	Image J	900-999	164
11	10	Image K	1000-1099	182

TABLE 1-continued

Case Outcome	Reel Wheel Stop Position	Image Displayed	Sub-numeric Range	Number of Steps or Pulses
12	11	Image L	1100-1199	200 + 1
13	12	Image M	1200-1299	219
14	13	Image N	1300-1399	237
15	14	Image O	1400-1499	255
16	15	Image P	1500-1599	273 + 1
17	16	Image Q	1600-1699	292
18	17	Image R	1700-1799	310
19	18	Image S	1800-1899	328
20	19	Image T	1900-1999	346 + 1
21	20	Image U	2000-2099	365
22	21	Image V	2100-2199	383

[0051] Using the mapping data provided in TABLE 1, the reduced numeric value of 185, for example, falls within the sub-numeric range of 100-199, which equates to a case outcome of two. Accordingly, in this example, process controller means 34 commands the stepper motor 136 via the motor driver 132 to rotate the reel wheel 18 steps beyond the home flagged position, particularly after the optic sensor 144 has referenced its location, to the extent that the reel wheel is situated at position one for display of Image B through the divided display window 16.

[0052] As the reel wheels collectively spin for a timed interval, the memento dispensing device 10 selects random numbers that will be used to stop each of the reel wheels at a particular position in the manner described above. Typically, the collection of reel wheels is stopped in sequence from left to right from the perspective of the operator. For example, conventionally, the first reel wheel would be stopped first, followed by the middle reel wheel and the last reel wheel positioned on the far right side. As the reel wheels 18 are stopped, symbols representative of the case outcome, which are disposed on the circumferential periphery of the reel wheel, are displayed to the operator or consumer through the divided display windows. Regardless of the image or symbol arrangement displayed in the divided display windows 16, notably after the steps or pulses have been delivered to each stepper motor and each of the reel wheels has stopped as commanded by process controller means, the memento dispensing device dispenses the commemorative memento.

[0053] In lieu of the case outcome methodology set forth above for the preferred embodiment of the present invention, an alternative second embodiment utilizes a two dimensional array suitably serving as means for setting each of the reel wheels 18 at a stopped position. In this alternative embodiment, the application program derives a numeric value representative of a case outcome from the two dimensional array in a predetermined manner and communicates the resultant value to process controller means 34 to deliver to each stepper motor via the motor driver 132 a predetermined number of pulses or steps for rotation of the reel wheel beyond the home position after it has been appropriately flagged by the optic sensor 144. The number of steps for each case outcome is derived substantially from the size of each reel wheel position, computed accordingly from the number of steps each stepper motor operates to complete full rotation (e.g., a 400 stepped motor) divided by a circumferential field of 22 stop positions (0-21). The methodology of reel wheel rotation and stoppage occurs in similar manner as