METHOD AND APPARATUS FOR ACCUMLATING A JACKPOT AMOUNT

FIELD OF THE INVENTION

The present invention relates to a method and apparatus for accumulating a jackpot amount, which may be used in some embodiments for the award of one or more jackpot prizes. Embodiments of the present invention find application, though not exclusively, in the gaming industry for use with linked networks of electronic gaming machines.

BACKGROUND OF THE INVENTION

Any discussion of documents, acts, materials, devices, articles or the like which has been included in this specification is solely for the purpose of providing a context for the present invention. It is not to be taken as an admission that any or all of these matters form part of the prior art base or were common general knowledge in the field relevant to the present invention as it existed in Australia or elsewhere before the priority date of this application.

It is known to link a number of electronic gaming machines to form a network. Such networks may be linked to a controller, such as a server, to provide a secondary game such as a jackpot game in which each of the linked electronic gaming machines may participate. This secondary game is typically provided in addition to the primary game of the electronic gaming machines, which may for example be slots, poker, blackjack, bingo, keno, or the like. The players of the linked electronic gaming machines each contribute to, and may win, a jackpot prize.

It has been appreciated by the inventors of the present application that variations to the manner in which the jackpot amount is accrued, or at least to the manner in which the jackpot amount is communicated to the players during its accrual, may contribute to increased player anticipation and excitement. This may be particularly so if the variations contribute to greater volatility, randomness and/or unpredictability.

SUMMARY OF THE INVENTION

It is an object of the present invention to overcome, or substantially ameliorate, one or more of the disadvantages of the prior art, or to provide a useful alternative.

In one aspect of the present invention there is provided a method of accumulating a jackpot amount, said method including the steps of:

initialising a variable representing the jackpot amount;

initialising a variable representing a lump sum;

receiving a signal including data indicative of gaming activity;

calculating a first increment in dependence upon said data and incrementing the variable representing the jackpot amount by the first increment;

calculating a second increment in dependence upon said data and incrementing the variable representing the lump sum by the second increment; and

in response to a trigger, incrementing the variable representing the jackpot amount by the lump sum, wherein said trigger is independent of an award of the jackpot amount.

In one embodiment the jackpot amount is displayed to at least some participants of a gaming process having a potential to award some or all of the jackpot amount and the lump sum is not displayed to said participants.

In another embodiment an indication of the lump sum is displayed to said participants, wherein the indication includes at least one of: a bar graph; a gauge; a size-based indication; a colour based indication; an indication based upon a number of symbols; a numeric indication; and/or a non-numeric indication.

The step of incrementing the variable representing the jackpot amount by the lump sum may be accompanied by the provision of an alert to at least some participants of a gaming process having a potential to award some or all of the jackpot amount. The alert may be audible and/or visual.

Preferably the data indicative of gaming activity is indicative of a turnover within a polling period of at least one electronic gaming machine.

Preferably the step of calculating the first increment includes multiplying the turnover by a first multiple and the step of calculating the second increment includes multiplying the turnover by a second multiple. In some embodiments the first multiple is less than the second multiple and in other embodiments the first multiple is greater than the second multiple.

Preferably an average expected value of the lump sum when incremented to the jackpot amount is at least ten times an average expected value of the first increment.

In some embodiments the trigger to increment the jackpot amount by the lump sum is triggered once the lump sum reaches or exceeds a threshold, which may be a predefined constant amount or may be randomly determined from within a predefined range. In other embodiments, the trigger to increment the jackpot amount by the lump sum is provided by a player tracking system.

A second aspect of the present invention provides a method of accumulating a jackpot amount, said method including the steps of:

ascertaining a quantum of gaming activity;

calculating a first increment based on said quantum of gaming activity and incrementing the jackpot amount by the first increment;

calculating a second increment based on said quantum of gaming activity and incrementing a lump sum by the second increment; and

periodically incrementing the jackpot amount by the lump sum independently of an awarding of the jackpot amount.

Another aspect of the invention provides an apparatus for accumulating a jackpot amount, said apparatus being capable of receiving a signal from at least one electronic gaming machine and having:

a memory defining a first memory address for storage of a variable representing the jackpot amount and a second memory address for storage of a variable representing a lump sum; and

a processor being programmed to:

receive a signal including data indicative of gaming activity;

calculate a first increment in dependence upon said data and increment the variable representing the jackpot amount by the first increment;

calculate a second increment in dependence upon said data and increment the variable representing the lump sum by the second increment; and

be responsive to a trigger so as to increment the variable representing the jackpot amount by the lump sum, wherein said trigger is independent of an award of the jackpot amount.

The features and advantages of the present invention will become further apparent from the following detailed description of preferred embodiments, provided by way of example only, together with the accompanying drawings.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

Figure 1 is a schematic representation of an embodiment of the present invention;

Figure 2 is a flowchart showing steps performed in an embodiment of the inventive method;

Figure 3 is a table of amounts as calculated for an example implementation of a preferred embodiment for each of 50 polling periods, the information including: turnover; first increments; second increments; lump sums and jackpot amounts; and

Figure 4 is a graph showing the example accumulated jackpot amounts for each of the 50 polling periods of figure 3.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Some embodiments of the invention make use of certain elements of hardware and software similar to that disclosed in Patent Application No. PCT/AU2004/000964, the disclosure of which is incorporated herein by way of reference.

Referring to fig. 1, the controller 1 has a processor in the form of a central processing unit (CPU) 2 and a communications card 3 that is operatively coupled to the CPU 2 and which communicatively links the controller 1 to a plurality of electronic

gaming machines (EGM's) 4. In some embodiments the communications link 5 is provided by cables, a wireless link, a local area network, a wide area network, or a combination thereof. The EGM's 4 may be located within a single establishment, or may be located in two or more geographically dispersed locations. Also operatively coupled to the CPU 2 is memory 6, which is typically in the form of random access memory or other readable and writable digital storage media such as hard drives, flash drives, and the like. The memory 6 includes a number of memory addresses, one of which is allocated to store a variable representing the current value of the jackpot amount and another of which is allocated to store a variable representing the current value of the lump sum.

In some embodiments the CPU 2 is programmed to perform the inventive method by means of computer executable code stored on a computer readable medium, such as a CD-ROM, for example. In other embodiments the executable code is accessed either by means of downloading a file from a remote location, for example via the internet, or by means of remote execution, such as in a so-called "cloud computing" context.

The CPU 2 has access to display driver software that is executable to cause the display 7 to display various messages to the players of the EGM's 4. In the illustrated embodiment the CPU is programmed to cause the display 7 to display the jackpot amount. Typically, one or more of the displays 7 are positioned such that they are viewable by all, or at least a majority of, the players of the EGM's 4 that are contributing to the linked jackpot for which the jackpot amount is being accumulated.

With reference to figure 2, the method of accumulating a jackpot amount commences with the step 10 of initialising the variable representing the jackpot amount. By way of a non-limiting running example, the steps illustrated in figure 2 will be described with reference to the example amounts shown in figure 3. In this example implementation, the variable representing the jackpot amount is initialised to a start out value of $25.00 at the commencement of the jackpot immediately prior to polling period 1.

At step 11 the variable representing the lump sum is initialised to a start out value, which in the running example is $0.00.

At step 12 the CPU 2 ascertains a quantum of gaming activity. More particularly, the EGM's 4 with which the controller 1 is in communication are each programmed to send a signal to the controller 1 encoding data indicative of gaming activity. One such signal is sent per EGM 4 for each polling period and the data includes the turnover recorded by the EMG within the immediately preceding polling period. Each polling period extends for a predetermined length of time and figure 3 provides example amounts for each of 50 polling periods. As the signals are received by the controller 1, as shown at step 12 of figure 2, the data representing the turnover is extracted from the signal and stored in the memory 6. Once a turnover amount has been received for all of the participating EGM's 4, the CPU 2 of the controller 1 performs an addition of each of the individual turnover amounts to determine a global turnover amount for the relevant polling period and this global turnover figure is stored in memory 6. An example of such a global turnover amount for each of the polling periods is set out in the second column of figure 3. Hence, in the running example, the global turnover for polling period 1 is $125, the global turnover for polling period 2 is $250, and so forth.

At step 13 the CPU 2 calculates the first increment by multiplying the global turnover figure for the applicable polling period by a first multiple, which in the running example is 0.3%. This gives a first increment of $0.38 for the first polling period, a first increment of $0.75 for the second polling period, and so forth as set out in the third column of figure 3. The variable representing the jackpot amount is then incremented by the first increment, which results in a jackpot amount of $25.38 for polling period 1, a jackpot of $26.13 for polling period 2 and so forth as shown in the sixth column of figure 3. From a player's perspective, the jackpot amount is substantially continuously incremented by the first increments and the display 7 may be driven by the CPU 2 so as to display a substantially continuously increasing jackpot amount as the first increments are added to it.

At step 14 the CPU 2 calculates the second increment by multiplying the global turnover figure for the applicable polling period by a second multiple, which in the running example is 0.8%. This gives a second increment of $1.00 for the first polling period, a second increment of $2.00 for the second polling period, and so forth as set out in the fourth column of figure 3. The variable representing the lump sum is then incremented by the second increment, which results in a lump sum of $1.00 for polling

period 1, a lump sum of $3.00 for polling period 2 and so forth as shown in the fifth column of figure 3.

It can be seen that the lump sum grows steadily and progressively as each of the second increments of each of the first nine polling periods is added to it, culminating in this running example in a lump sum of $22.22 for polling period 9. During this period the jackpot amount also accumulates steadily and progressively. The first of these "steady and progressive" phases of jackpot accumulation is labelled 30 in the chart of figure 4. During the accumulation of the lump sum, the display 7 displays the jackpot amount to the players, but not the lump sum. Hence, during this period the players are likely to be unaware of the accumulation of the lump sum (other than, perhaps, suspecting that something extra is accruing due to having previously observed the jackpot accumulation method in action, or possibly being generally aware that something extra is accruing due to having read the rules of the linked jackpot game).

Various embodiments of the invention define various triggers for incrementing the lump sum to the jackpot amount. In the illustrated preferred embodiment the trigger is defined to occur whenever the lump sum reaches or exceeds a threshold value of $20.00. This is checked at step 15 by the CPU 2. The first time this threshold is exceeded in the running example is in polling period 9. Hence, it is not triggered for the first 8 polling periods and hence for each of those polling periods the process flow proceeds directly from step 15 to step 18. However, when the CPU performs the comparison at step 15 during polling period 9, it determines that the trigger condition exists (because $22.22 exceeds $20.00) and the process flow proceeds to step 16, at which the variable representing the jackpot amount is incremented by the lump sum. Hence, in contrast to the hitherto steady and progressive accumulation of the jackpot amount, in the running example during polling period 9 the jackpot amount increases suddenly from $32.46 to $55.55. This allows the present method to accumulate the jackpot amount in a manner that has not only the substantially continuous accumulation that is characteristic of the prior art, but which also provides periodic lump sum increases of a quantum that is comparatively larger than the average expected increments during the substantially continuous accumulation phase. This contributes greater volatility, apparent randomness and/or unpredictability to the jackpot accumulation process and gives the players something exciting to look forward to as the jackpot accrues in addition

to the eventual awarding of the jackpot.

The addition of the lump sum to the jackpot amount is intended to increase the excitement and drama of the process of jackpot accumulation. For this reason an alert is provided to the participants of the relevant linked EGM's when the jackpot is incremented by the lump sum. The alert includes an audible component, which is played through speakers (not illustrated) and also includes a visual component whereby suitable graphics are shown on the display 7.

The extent to which an average expected value of the lump sum when incremented to the jackpot amount is greater than an average expected value of the first increment can be varied by the entity implementing the linked jackpot. In the running example discussed above, the average expected value of the lump sum when incremented to the jackpot amount is typically at least a factor of ten greater than an average expected value of the first increment. However, this factor may be changed as required. For example, in other embodiments the factor may be at least 100, 1000 or 10,000. It will be appreciated that a higher factor is suitable for implementations in which the lump sum contributions to the jackpot accumulation are desired to be more heavily weighted as compared to the "steady and progressive" contributions to the jackpot accumulation.

After the jackpot amount has been incremented by the lump sum at step 16, the process flow proceeds to step 17 at which the lump sum variable is reset. In the running example, it is reset to $0.00 and then the process flow proceeds to step 18.

At step 18 the CPU 2 determines if an award of the jackpot has been triggered. This may be due to any triggering circumstance as required by the implementers of the invention, however in the preferred embodiment, an award of the jackpot is triggered when the jackpot amount is equal to, or exceeds a jackpot threshold. The winning player is the player of the EGM that contributed the final contribution that incremented the jackpot amount to at or above the jackpot threshold. If no jackpot award has been triggered, the process flow loops back to step 12; whereas if a jackpot award has been triggered, the process flow proceeds to step 19 at which the jackpot is awarded and then to step 20 at which the jackpot amount is reset. Following step 20 the process flow loops back to step 12.

In the embodiment described above no indication of the lump sum is displayed to the participants of gaming machines that contribute to the linked jackpot (that is, aside from the sudden increase of the jackpot amount when it is incremented by the lump sum). However, other embodiments provide the participants with an indication of the lump sum via the display 7. This may take the form of a gauge, such as a bar graph for example, that starts out empty and grows in proportion to the lump sum and which is shown as full when the lump sum has been incremented to the threshold. Numeric indications of the amount of the lump sum may be provided along the length of the bar graph, if desired, or the bar graph may be configured so as not to display any scale. Other embodiments provide the players with a non-numeric indication. For example, another embodiment provides the players with a size-based indication of the lump sum consisting of an image of a bag of money, which is displayed at a comparatively small size at the commencement of each accumulation of the lump sum, and which grows in size as the lump sum increases. Another embodiment provides a colour based indication, in which a portion of the display 7 shifts progressively from a first colour, blue, which indicates a low lump sum, to a second colour, red, which is indicative of a higher lump sum. Yet another embodiment provides an indication that is based upon a number of symbols, with the number of symbols increasing as the lump sum increases.

In some embodiments the trigger to increment the jackpot amount by the lump sum varies to that described above. For example, in one embodiment the trigger at step 15 is provided in a signal sent from a player tracking system (not illustrated) to the controller 2. As is well known to those skilled in the art, the player tracking system monitors the gaming activity of a subset of players that have chosen to participate in the tracking scheme. Such players typically identify themselves to the player tracking system via an identification means, such as a card that is inserted into the EGM 4 by the player and which is encoded with an identification number. In one embodiment, the trigger to increment the jackpot amount by the lump sum can only be triggered by the gaming activity of a player that is participating in the player tracking system. When the tracked player's gaming activity fulfils the necessary requirements, such as when the player's contribution to the EGM's turnover equals or exceeds a threshold, for example, the player tracking system sends a signal to the controller 2, which triggers the incrementing of the jackpot amount by the lump sum.

In the above described example, the first multiple of 0.3% was less than the second multiple of 0.8%. This is suitable for implementations wishing to favour the lump sum accumulation of the jackpot amount over the "steady and progressive" accumulation of the jackpot amount. However, it will be appreciated that in other embodiments the first multiple may be greater than the second multiple so as to skew accumulation towards the "steady and progressive" phase at the expense of the lump sum accumulations.

In the embodiment described above the threshold used to trigger incrementing of the jackpot amount by the lump sum is a predefined constant amount of $20.00. However, in other embodiments the threshold is an amount that is randomly determined from within a predefined range (for example, between a minimum of $5 and a maximum of $30). In such an embodiment, a first random determination of the threshold takes place at step 11. Further random determinations of the threshold take place each time the lump sum variable is reset at step 17. This allows the amount of the lump sum that is added to the jackpot amount to vary over successive increments of the lump sum to the jackpot amount, which advantageously provides additional volatility, unpredictability and excitement to the jackpot accumulation process.

Advantageously, some embodiments of the invention may be implemented in a manner that makes effective use of existing linked jackpot systems and processes. Typically only minimal changes are required to reconfigure such existing systems to perform in accordance with the embodiment of the invention. Additionally, many embodiments of the invention require only minimal changes to existing reconciliation and reporting functions that may already be in place in the venues that provide existing linked jackpot systems.

In the embodiment described above the controller 1 is a unit that is physically separate from the linked EGM's and which is dedicated to the running of the linked jackpot. However, in other embodiments the hardware that performs this functionality is disposed within at least one of the EGM's.

As used in this patent specification, including within the claims, the term "jackpot amount" is to be construed broadly so as to include, by way of non-limiting

example, a monetary amount and/or an amount of some other instrument of value, such as promotional points, or the like. Additionally, as used in this document, including within the claims, the terms “random”, “randomly”, and the like, are to be construed as connoting either a purely random process or a “pseudo-random” process. An example of a pseudo-random process includes the determination by a computer processor of a pseudo-random number in response to an output of a digital clock.

It will be appreciated by those skilled in the art that the EGM’s 4 with which the controller 2 communicates may be any one or combination of: dedicated electronic gaming machines, such as slot machines for example; other electronic devices capable of being programmed to provide the necessary functionality, including computers connected via a communications network such as the internet; hand held devices such as mobile phones, personal digital assistants; and the like.

While a number of preferred embodiments have been described, it will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention without departing from the spirit or scope of the invention as broadly described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A method of accumulating a jackpot amount, said method including the steps of:

initialising a variable representing the jackpot amount;

initialising a variable representing a lump sum;

receiving a signal including data indicative of gaming activity;

calculating a first increment in dependence upon said data and incrementing the variable representing the jackpot amount by the first increment;

calculating a second increment in dependence upon said data and incrementing the variable representing the lump sum by the second increment; and

in response to a trigger, incrementing the variable representing the jackpot amount by the lump sum, wherein said trigger is independent of an award of the jackpot amount.

2. A method according to claim 1 wherein the jackpot amount is displayed to at least some participants of a gaming process having a potential to award some or all of the jackpot amount.

3. A method according to claim 2 wherein the lump sum is not displayed to said participants.

4. A method according to claim 2 wherein an indication of the lump sum is displayed to said participants.

5. A method according to claim 4 wherein the indication includes at least one of:

a bar graph; a gauge; a size-based indication; a colour based indication; an indication based upon a number of symbols; a numeric indication; and/or a non-numeric indication.

6. A method according to any one of the preceding claims wherein the step of incrementing the variable representing the jackpot amount by the lump sum is accompanied by the provision of an alert to at least some participants of a gaming process

having a potential to award some or all of the jackpot amount.

7. A method according to claim 6 wherein said alert is audible and/or visual.

8. A method according to any one of the preceding claims wherein the data indicative of gaming activity is indicative of a turnover within a polling period of at least one electronic gaming machine.

9. A method according to claim 8 wherein the step of calculating the first increment includes multiplying the turnover by a first multiple.

10. A method according to claim 9 wherein the step of calculating the second increment includes multiplying the turnover by a second multiple.

11. A method according to claim 10 wherein the first multiple is less than the second multiple.

12. A method according to claim 10 wherein the first multiple is greater than the second multiple.

13. A method according to any one of the preceding claims wherein an average expected value of the lump sum when incremented to the jackpot amount is at least ten times an average expected value of the first increment.

14. A method according to any one of claims 1 to 12 wherein an average expected value of the lump sum when incremented to the jackpot amount is at least one hundred times an average expected value of the first increment.

15. A method according to any one of claims 1 to 12 wherein an average expected value of the lump sum when incremented to the jackpot amount is at least one thousand times an average expected value of the first increment.

16. A method according to any one of claims 1 to 12 wherein an average expected value of the lump sum when incremented to the jackpot amount is at least ten thousand times an average expected value of the first increment.

17. A method according to any one of the preceding claims wherein the trigger is triggered once the lump sum reaches or exceeds a threshold.

18. A method according to claim 17 wherein the threshold is a predefined constant amount.

19. A method according to claim 17 wherein the threshold is randomly determined from within a predefined range.

20. A method according to any one of the preceding claims wherein the trigger is provided by a player tracking system.

21. A method of accumulating a jackpot amount, said method including the steps of:

ascertaining a quantum of gaming activity;

calculating a first increment based on said quantum of gaming activity and incrementing the jackpot amount by the first increment;

calculating a second increment based on said quantum of gaming activity and incrementing a lump sum by the second increment; and

periodically incrementing the jackpot amount by the lump sum independently of an awarding of the jackpot amount.

22. A method according to claim 21 wherein the jackpot amount is substantially continuously incremented by first increments.

23. An apparatus for accumulating a jackpot amount, said apparatus being capable of receiving a signal from at least one electronic gaming machine and having:

a memory defining a first memory address for storage of a variable representing the jackpot amount and a second memory address for storage of a variable representing a

lump sum; and

a processor being programmed to:

receive a signal including data indicative of gaming activity;

calculate a first increment in dependence upon said data and increment the variable representing the jackpot amount by the first increment;

calculate a second increment in dependence upon said data and increment the variable representing the lump sum by the second increment; and

be responsive to a trigger so as to increment the variable representing the jackpot amount by the lump sum, wherein said trigger is independent of an award of the jackpot amount.