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(54) **METHOD OF PLAYING GAME VARIATION OVER MULTIPLE ROUNDS WITH PLAYER DECISION RULE**

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(57) **ABSTRACT**

A variation on roulette, craps, sic bo, the big wheel or any other casino game of no-skill using randomization without replacement and methods of playing variations on such games as described herein. The variation involves normal play of the underlying game. Additional play is made possible due to the method laid out within this document. Additional bets whose outcomes depend on more than one spin/roll are available, and the player is given the option of doubling up after seeing a number(s) just spun/rolled. Thus an element of skill is added to the otherwise purely "luck-driven" play of the underlying game. Underlying games may be themselves variations of other games.

FIG. 1

10. Game Board

14. Pay Table

Double-Up Pay Table	
Δ	Odds
36	25
35	10
33-34	5
29-32	2
18-28	1

15. Double-Up Initial Wager for Specific Player

16. Double-Up Decision Additional Wagered Amount for Specific Player

11. 1ˢᵗ Game Piece

12. 2ⁿᵈ Game Piece

13. Difference Game Piece
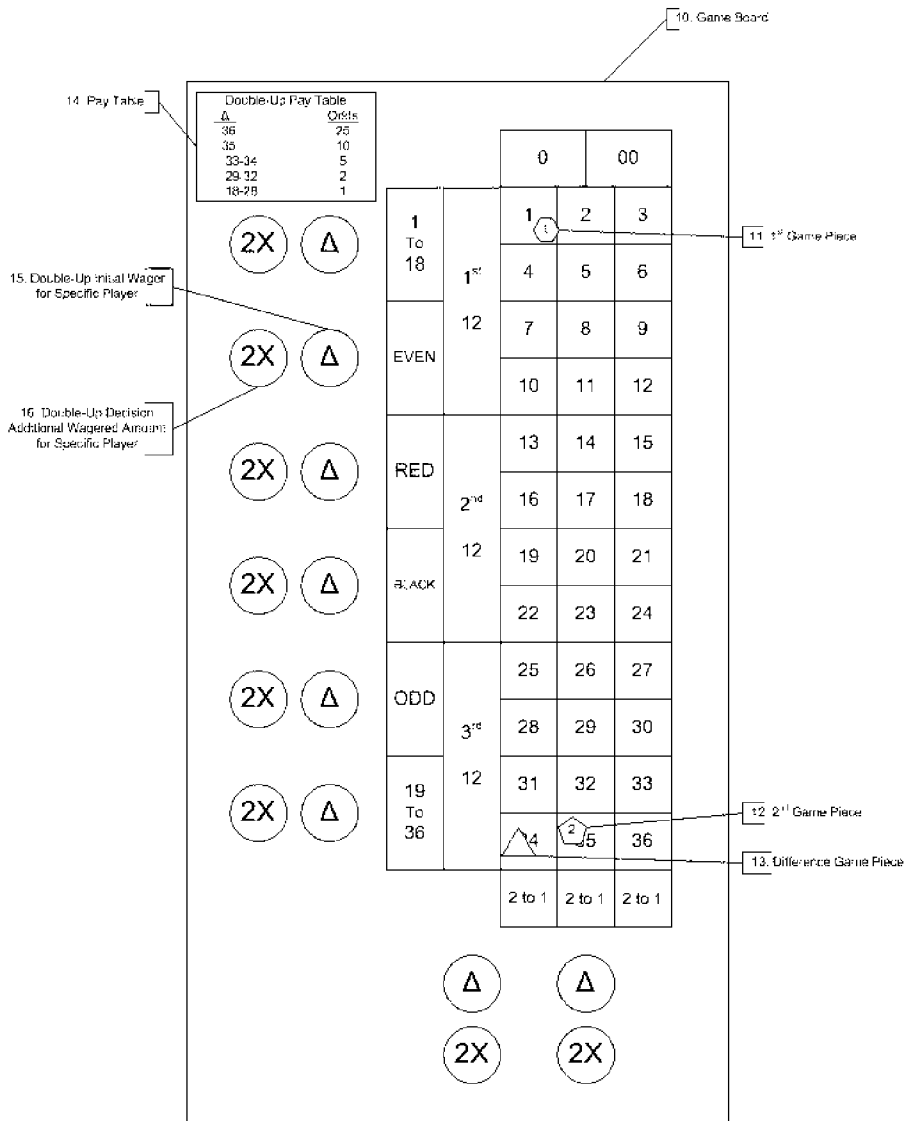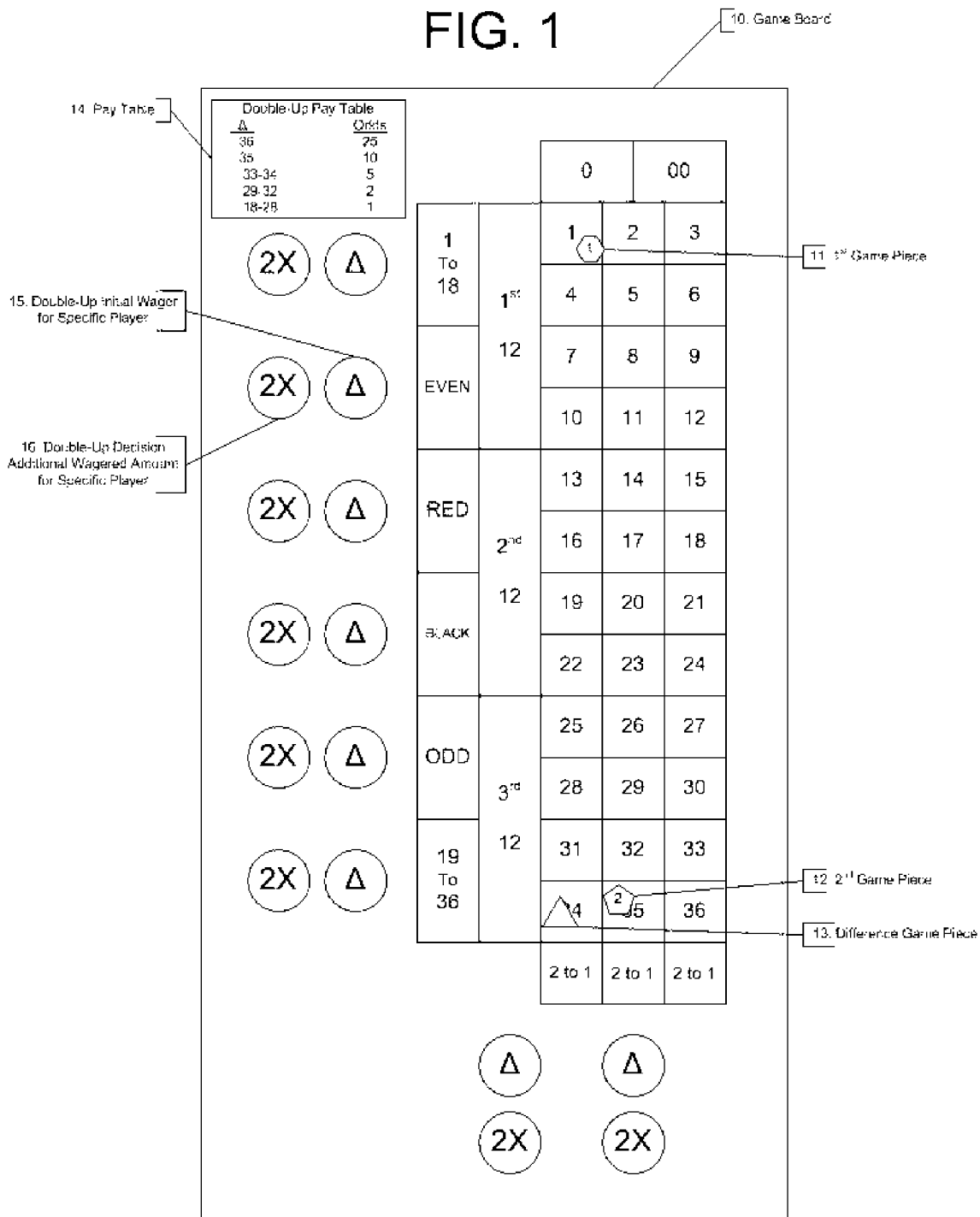
METHOD OF PLAYING GAME VARIATION OVER MULTIPLE ROUNDS WITH PLAYER DECISION RULE

BACKGROUND

[0001] Many casino games are readily available both in casinos and in stores for purchase and home use. These games may have very simple rules, such as slot machines and keno, or may have relatively complicated rules, such as craps. These games also may focus on individual play, such as blackjack and slot machines, or focus on a group participation or look and feel, such as craps and roulette. Furthermore, games may focus on no skill, such as the big wheel, sic bo and roulette, or focus on skill, such as blackjack and poker.

[0002] Roulette has some variations or rules that differ from location to location. For example, in Europe the single zero wheel is the standard, whereas in the United States of America the double zero wheel is the standard. While two tables side-by-side can be of different configuration (i.e., one table is single zero and the other table is double zero), there is until now no way to combine both tables into one, which benefits on reduced resources and increased flexibility.

[0003] While numerous games are widely available today and successful, there remains a need for a game that involves the excitement and energy of a group participation game that is more inviting for the skillful gambler. Furthermore, there needs to be a game that eliminates the multiple configurations of roulette with the benefit of eliminating currently needed resources (i.e., making the single zero wheel obsolete or redundant) and increasing gaming flexibility (i.e., combining two underutilized roulette tables of different configuration into one, thereby, opening up gaming space floor for another game such as blackjack). Finally, there needs to be a game that transforms a pure luck game or brings an additional level of skill, to a game of skill. The method laid out in this patent accomplishes all these tasks.

SUMMARY

[0004] Embodiments disclosed herein are directed to variations of roulette, craps, the big wheel and alike involving no additional changes to the current method of play on the underlying game. All embodiments sit atop or aside the underlying game, which itself may be a variation. Players who are playing the underlying game can act oblivious to all the embodiments laid out herein, or they can participate in any or all of the embodiments laid out herein. Furthermore, players who are playing the embodiments laid out herein can act oblivious to the underlying game, or they can participate in it as well as any or all of the embodiments laid out herein.

[0005] Embodiments disclosed herein that are directed to variations of roulette involve the movement of a roulette ball spun around a roulette wheel generating a random number or array of numbers via the repeated movement of the ball or the single movement of several balls either homogeneous or heterogeneous. According to various embodiments, the random number(s) may be generated by the spin of a roulette wheel, by the roll of a die or dice, the draw of a card(s) from a deck of cards, via a computer generated random number(s), from a vertical spinning wheel with a ping-pong ball coming to rest once the wheel stops spinning, or the like. Similarly, variations upon craps, the big wheel and alike use a parallel paradigm.

[0006] After the random number(s) are generated, a function or set of functions maps the number(s) that aids the player in the making of a decision or series of decisions that can be made by the player as described within each embodiment. According to various embodiments, the decision can be no decision, a decision to increase a wager, decrease a wager, change the characteristics of the mapping function such as on the next spin a red is a black, or the like. Once all the decisions are exhausted, a pay table which corresponds to the mapped function determines if and how much the player wins or loses.

BRIEF DESCRIPTION OF THE DRAWING

[0007] FIG. 1 is a top view of one embodiment of a game board in keeping with the present invention.

DETAILED DESCRIPTION

[0008] The detailed description set forth below in connection with the appended drawings is intended as a description of exemplary embodiments and is not intended to represent the only forms in which these embodiments may be constructed and/or utilized. The description sets forth the functions and the sequence of steps for operating the embodiments. However, it is to be understood that the same or equivalent functions and sequences may be accomplished by different embodiments that are also intended to be encompassed within the spirit and scope of the specification.

[0009] Definitions

[0010] The term "underlying game" as used herein refers to a main game being played.

[0011] The term "tertiary game" as used herein refers to a variation of the underlying game being played.

[0012] The term "elementary outcome" or "elementary event" as used herein refers to a result of the underlying game.

[0013] The term "compound outcome" or "compound event" as used herein refers to a set of elementary outcomes or events.

Underlying Game. Double-Zero Roulette

[0014] The payout table for standard double-zero roulette is as follows:

Outcome	Odds
Individual Number (Straight-up bet)	35
Two Numbers (Split bet)	17
Three Numbers (Street bet)	11
Four Numbers (Corner bet)	8
Five Numbers (Five-number bet: 0, 00, 1, 2, 3)	6
Six Numbers (Six-number bet)	5
Twelve Numbers (Dozens, Columns)	2
Eighteen Numbers (Low, High, Odd, Even, Red, Black)	1
Otherwise	−1

[0015] Turning now to the Figure, FIG. 1 illustrates one embodiment of a game board 10 and is further discussed below in Example 2. The game board 10 includes a game piece 11 which corresponds to the number spun on the roulette wheel, also known as the first elementary event. The game board 10 includes a game piece 12 which corresponds to the next number spun on the roulette wheel directly after the number spun with respect to game piece 11, also known as the second elementary event. The game board 10 includes a difference game piece 13 which corresponds to the compound outcome calculated as the absolute value between the two

elementary events indicated by game piece **11** and **12**. The game board **10** includes a pay table **14** based upon all possible thirty-seven compound outcomes indicated by game piece **13**. The game board **10** includes an initial wager position **15**, which as shown is just one of eight wagering stations for the tertiary game. The game board **10** includes an additional wager position **16**, which as shown is just one of eight additional wagering stations for the tertiary game. Each set of wagering stations are for an individual player, suggesting in FIG. **1** that the game board is for a maximum of eight players. This is not meant to be limiting. Modifications could be made for less or more players, or for group play. Furthermore, the use of three game pieces is not meant to be limiting, but appears in FIG. **1** to facilitate ease of understanding. One game piece only may be employed during the play of tertiary game. Also, when three game pieces are utilized, note that the compound outcome as expressed by game piece **13** can also be calculated as the absolute value between the two elementary events indicated by game piece **12** and **11**. In other words, the game pieces **111** and **12** alternate as the first and second game piece in determining the outcome for game piece **13**. Figures could be included for other underlying games as described below, but are unnecessary for sufficiently explaining the tertiary game.

Underlying Game—Craps

[0016] The payout table for craps is as follows:

Outcome	Odds
Pass Line	1
Don't Pass	1
Hop Bet	15
Hopping Hardway	30
Etc.	

[0017] Underlying Game: Big Wheel

[0018] The payout table for the big wheel is as follows:

Outcome	Odds
20	20
5	5
1	1
Otherwise	−1

[0019] The operation of the game or the game methodology in one embodiment of the present invention is composed of the following formulation:

[0020] 1. Define underlying and tertiary game with pay table for tertiary game defined upon a function (including the identity function) of the elementary outcomes of the underlying game

[0021] 2. Player places wager on tertiary game

[0022] 3. Random number(s) is generated

[0023] 4. Player makes decision if necessary

[0024] 5. Go to step 3 if necessary

[0025] 6. Payment is made

[0026] 7. Game ends

[0027] An equivalent formulation is:

[0028] 1. Define underlying and tertiary game with pay table for tertiary game defined upon a function (including the identity function) of the elementary outcomes of the underlying game

[0029] 2. Player places wager on tertiary game

[0030] 3. Random number(s) is generated within a round of play

[0031] 4. Player makes a decision if necessary

[0032] 5. Determine if sequence of rounds continues, whereby repeating steps 3 and 4

[0033] 6. Payment is made

[0034] 7. Game ends

EXAMPLE 1

ZERO MY HERO Double-Zero Roulette Variation

[0035] 1. Define the tertiary outcome that all standard wagers not including zero have zero result in a tie/push. Thus the pay table is:

Outcome	Odds
Individual Number (Straight-up bet)	35
Two Numbers (Split bet)	17
Three Numbers (Street bet)	11
Four Numbers (Corner bet)	8
Five Numbers (Five-number bet: 0, 00, 1, 2, 3)	6
Six Numbers (Six-number bet)	5
Twelve Numbers (Dozens, Columns)	2
Eighteen Numbers (Low, High, Odd, Even, Red, Black)	1
0	0
Otherwise	−1

[0036] 2. Player places wager, say $10 on black

[0037] 3. Wheel is spun and the result is 0—green.

[0038] 4. No decision by player is necessary (i.e., standard roulette is a game of chance only and no skill)

[0039] 5. No reason to go to step three since standard roulette is a one-round game

[0040] 6. Payment is made to player of $0 (with original wager of $10 returned as well) (i.e., the player in this case was in a tie with the house, also known as a push)

[0041] 7. Game ends

EXAMPLE 2

DOUBLE UP DIFFERENCE Double-Zero Roulette Variation—FIG. **1**

[0042] 1. Define the tertiary outcome as the absolute difference between two subsequent spins of the wheel

Outcome	Odds
36	25
35	10
33–34	5
29–32	2
18–28	1
0–17	−1

[0043]   2. Player places wager, say $10

[0044]   3. Wheel is spun and the result is 1—red

[0045]   4. Player adds an additional $10 to original wager (and keeps payout function the same, which is equivalent to multiplying the payout function by 2 and keeping the original wager unchanged)

[0046]   5. Wheel is spun and the result is 35—black

[0047]   6. Payment is made to player of $100 because the difference of 34 has a payout of 5:1 based on a wager of $20 is 5×$20=$100 (with original wager of $20 returned as well)

[0048]   7. Game ends

EXAMPLE 3

LOW SUM Double-Zero Roulette Variation

[0049]   1. Define the tertiary outcome as the sum of two subsequent spins of the wheel

Outcome	Odds
0	40
1	20
2–5	5
6–15	2
16–26	1
27 & More	−1

[0050]   2. Player places wager, say $10

[0051]   3. Wheel is spun and the result is 3—red

[0052]   4. Player is not allowed to augment original wager

[0053]   5. Wheel is spun and the result is 0—green

[0054]   6. Payment is made to player of $50 because the sum of 3 has a payout of 5:1 based on a wager of $10 is 5×$10=$50 (with original wager of $10 returned as well)

[0055]   7. Game ends

EXAMPLE 4

DOUBLE UP SUM Double-Zero Roulette Variation

[0056]   1. Define the tertiary outcome as the sum of two subsequent spins of the wheel

Outcome	Odds
72	50
71 or 0	10
68–70	5
61–67	2
44–60	1
1–43	−1

[0057]   2. Player places wager, say $10

[0058]   3. Wheel is spun and the result is 32—red

[0059]   4. Player adds an additional $10 to original wager (and keeps payout function the same, which is equivalent to multiplying the payout function by 2 and keeping the original wager unchanged)

[0060]   5. Wheel is spun and the result is 35—black

[0061]   6. Payment is made to player of $40 because the sum of 67 has a payout of 2:1 based on a wager of $20 is 2×$20=$40 (with original wager of $20 returned as well)

[0062]   7. Game ends

EXAMPLE 5

THREE SPIN POKER Double-Zero Roulette Variation

[0063]   1. Define the tertiary outcome as the poker-style hand based upon three subsequent spins of the wheel

Outcome	Odds
3-of-a-kind	60
Straight	10
Pair	3
Flush	2
Nothing	−1

[0064]   2. Player places wager, say $10

[0065]   3. Wheel is spun and the result is 1—red

[0066]   4. No decision by player is necessary (i.e., not enough information is presented to player for decision yet)

[0067]   5.1 Wheel is spun and the result is 36—red

[0068]   5.2 Player adds an additional $10 to original wager (and keeps payout function the same, which is equivalent to multiplying the payout function by 2 and keeping the original wager unchanged)

[0069]   5.3 Wheel is spun and the result is 5—red

[0070]   5.4 No decision by player since rules only allow for one decision point

[0071]   6. Payment is made to player of $40 because the resultant triple was a red flush with a payout of 2:1 based on a wager of $20 is 2×$20=$40 (with original wager of $20 returned as well)

[0072]   7. Game ends

EXAMPLE 6

THREE SPIN POKER Big Wheel Variation

[0073]   1. Define the tertiary outcome as the poker-style hand based upon three subsequent spins of the wheel

Outcome	Odds
3-of-a-kind	10
Pair	2
Nothing	−1

[0074]   2. Player places wager, say $10

[0075]   3. Wheel is spun and the result is 1

[0076]   4. No decision by player is necessary (i.e., not enough information is presented to player for decision yet)

[0077]   5.1 Wheel is spun and the result is 1

[0078]   5.2 Player adds an additional $10 to original wager (and keeps payout function the same, which is equivalent to multiplying the payout function by 2 and keeping the original wager unchanged)

[0079] 5.3 Wheel is spun and the result is 1

[0080] 5.4 No decision by player since rules only allow for one decision point

[0081] 6. Payment is made to player of $40 because the resultant pair has a payout of 2:1 based on a wager of $20 is 2×$20=$40 (with original wager of $20 returned as well)

[0082] 7. Game ends

EXAMPLE 7

RED LIGHT, GREEN LIGHT, ONE-TWO-THREE Double-Zero Roulette Variation

[0083] 1. Define the tertiary outcome as the combination of all three colors present (red, green and black) on three subsequent spins of the wheel

Outcome	Odds
Triplet (Red, Green, Black)	12
Nothing	−1

[0084] 2. Player places wager, say $10

[0085] 3. Wheel is spun and the result is red

[0086] 4. No decision by player is necessary (i.e., not enough information is presented to player for decision yet)

[0087] 5.1 Wheel is spun and the result is black

[0088] 5.2 Player adds an additional $10 to original wager (and keeps payout function the same, which is equivalent to multiplying the payout function by 2 and keeping the original wager unchanged)

[0089] 5.3 Wheel is spun and the result is green

[0090] 5.4 No decision by player since rules only allow for one decision point

[0091] 6. Payment is made to player of $240 because the resultant triplet of red, black and green occurred with a payout of 12:1 based on a wager of $20 is 12×$20=$240 (with original wager of $20 returned as well)

[0092] 7. Game ends

EXAMPLE 8

DOUBLE UP DIFFERENCE Craps Variation

[0093] 1. Define the tertiary outcome as the absolute difference between two subsequent rolls of the dice

Outcome	Odds
10	10
9	5
8	4
6–7	2
4–5	1
0–3	−1

[0094] 2. Player places wager, say $10

[0095] 3. Dice are rolled and the result is 12

[0096] 4. Player adds an additional $10 to original wager (and keeps payout function the same, which is equivalent to multiplying the payout function by 2 and keeping the original wager unchanged)

[0097] 5. Dice are rolled and the result is 3

[0098] 6. Payment is made to player of $100 because the difference of 9 has a payout of 5:1 based on a wager of $20 is 5×$20=$100 (with original wager of $20 returned as well)

[0099] 7. Game ends

EXAMPLE 9

VARIABLE ADDITIONAL TERTIARY WAGER IDENTITY Craps Variation

[0100] 1. Define the tertiary outcome as identical to the underlying game

Outcome	Odds
Pass Line	1

[0101] 2. Player places wager, say $10 on Pass Line

[0102] 3. Dice are rolled and the result is 8

[0103] 4. Player makes no decision

[0104] 5. Round continues since point of 8 established, hence repeat steps 3 and 4:

[0105] 3'. Dice are rolled and the result is 10

[0106] 4'. Player makes no decision

[0107] 5'. Round continues since neither the point of 8 or a 7 was rolled, hence repeat steps 3 and 4:

[0108] 3". Dice are rolled and the result is 9

[0109] 4". Player adds an additional $3 to tertiary wager

[0110] 5". Round continues since neither the point of 8 or a 7 was rolled, hence repeat steps 3 and 4:

[0111] 3'". Dice are rolled and the result is 8 (point is made and player will collect on tertiary game)

[0112] 4". Player makes no decision (only one variable additional tertiary wager allowed)

[0113] 5'". No more rounds since the point of 8 was rolled

[0114] 6. Payment is made to player of $13 because the point was made prior to a seven thrown with a payout of 1:1 based on a wager of $13 is 1×$13=$13 (with original wager of $13 returned as well)

[0115] 7. Game ends

EXAMPLE 10

VARIABLE ADDITIONAL TERTIARY WAGER HALVING PAY TABLE Craps Variation

[0116] 1. Define the tertiary outcome as identical to the underlying game

Outcome	Odds
Pass Line	.5

[0117] 2. Player places wager, say $10 on Pass Line

[0118] 3. Dice are rolled and the result is 8

[0119] 4. Player makes no decision

[0120] 5. Round continues since point of 8 established, hence repeat steps 3 and 4:

[0121] 3'. Dice are rolled and the result is 10

[0122] 4'. Player makes no decision

[0123] 5'. Round continues since neither the point of 8 or a 7 was rolled, hence repeat steps 3 and 4:

[0124] 3". Dice are rolled and the result is 9

[0125] 4". Player adds an additional $3 to tertiary wager

[0126] 5". Round continues since neither the point of 8 or a 7 was rolled, hence repeat steps 3 and 4:

[0127] 3'". Dice are rolled and the result is 8 (point is made and player will collect on tertiary game)

[0128] 4". Player makes no decision (only one variable additional tertiary wager allowed)

[0129] 5'". No more rounds since the point of 8 was rolled

[0130] 6. Payment is made to player of $6.50 because the point was made prior to a seven thrown with a payout of 1:2 based on a wager of $13 is 0.5×$13=$6.50 (with original wager of $13 returned as well)

[0131] 7. Game ends

EXAMPLE 11

MULTI-SPIN POKER Double-Zero Roulette Variation

[0132] 1. Define the tertiary outcome as the poker-style hand based upon three subsequent spins of the wheel

Outcome	Odds
3-of-a-kind	60
Straight	10
Pair	3
Flush	2
Nothing	−1

[0133] 2. Player places wager, say $10

[0134] 3. Wheel is spun and the result is 1—red

[0135] 4. No decision by player is necessary (i.e., not enough information is presented to player for decision yet)

[0136] 5.1 Wheel is spun and the result is 36—red

[0137] 5.2 Player adds an additional $10 to original wager (and keeps payout function the same, which is equivalent to multiplying the payout function by 2 and keeping the original wager unchanged)

[0138] 5.3 Wheel is spun and the result is 5—red

[0139] 5.4 No decision by player since rules only allow for one decision point

[0140] 6. Payment is made to player of $40 because the resultant triple was a red flush with a payout of 2:1 based on a wager of $20 is 2×$20=$40 (with original wager of $20 returned as well)

[0141] 7. Game ends

[0142] By perturbing the various parameters of the game and utilizing the rules as described in either of the 7-point methods above various games of similar embodiments can be created.

[0143] While the present invention has been described with regards to particular embodiments, it is recognized that additional variations of the present invention may be devised without departing from the inventive concept.

What is claimed is:

1. A method of playing a game, comprising: a) an underlying game with equally likely repeated random rounds, and one or more random number and event generators; b) a tertiary game; c) a pay table for the tertiary game defined on a function of the elementary outcomes over a specified set of rounds of the underlying game; d) placing one or more wagers on the tertiary game; e) generating one or more random numbers or events corresponding to the underlying game; f) a decision the player can invoke between rounds of the underlying game; and g) resolving wagers accordingly to game rules.

2. The method of claim 1 wherein step (f) further comprises the decision that modifies one or more tertiary game wagers by doubling, tripling, quadrupling, halving, fractionizing or following any other mathematical function, whereby varying the tertiary game wager up or down by some amount.

3. The method of claim 1 wherein step (f) further comprises the decision that modifies one or more tertiary game wagers by forfeiting any of the wagers.

4. The method of claim 1 wherein step (f) further comprises the decision that modifies one or more tertiary game wagers by multiplying by one.

5. The method of claim 1 wherein step (f) further comprises the decision that is vacuous.

6. The method of claim 1 wherein step (f) further comprises the decision that modifies the pay table for the tertiary game by varying the tertiary game pay table odds up or down.

7. The method of claim 1 wherein the random number and event generator is one or more decks of cards repeatedly shuffled, one or more dice, one or more coins, one or more tiles, a roulette wheel, a sporting event, a horse race, a meteorological event, or a computer.

8. The method of claim 1 wherein step (c) further comprises the function to follow a mathematical function.

9. The method of claim 8 wherein the mathematical function is addition, subtraction, multiplication, division, absolute value, or modulo arithmetic.

10. The method of claim 1 wherein step (c) further comprises the function to be a mapping into a set of poker-style hands.

11. The method of claim 1 wherein step (c) further comprises the function to be a mapping onto itself or the identity function.

12. The method of claim 1 wherein step (a) further comprises the underlying game to be roulette, the big wheel, craps, sic bo or any other game of no-skill with equally likely repeated random rounds.

13. A method of playing a game, comprising:
a) beginning the game with equally repeated rounds;
b) combining events from either a predetermined or arbitrary number of sequential rounds;
c) forming a compound outcome from elementary events;
d) placing at least one wager that the compound outcome is an element contained within one of a multitude of subsets of a group of predetermined compound outcomes;
e) deciding within some or none of the rounds sandwiched between the first and last round to modify the at least one wager utilizing any mathematical function;
f) awarding the player the modified at least one wager if the compound outcome is one element contained within the subset of the group of predetermined compound outcomes; and
g) denying the player the modified at least one wager if the compound outcome is contained outside the subset of the group of predetermined compound outcomes.

14. The method of claim 13 wherein step (e) further comprises the function being the product of the at least one wager and of any real number greater than or equal to zero.

15. The method of claim **13** wherein step (c) further comprises the compound outcome being a mathematical function.

16. The method of claim **15** wherein the mathematical function is addition, subtraction, multiplication, division, absolute value, or modulo arithmetic.

17. The method of claim **13** wherein step (c) further comprises the compound outcome to be a poker-style hand.

18. The method of claim **13** wherein step (c) further comprises the compound outcome to be vacuous.

19. The method of claim **13** wherein step (c) further comprises the compound outcome to be identical to its elementary events.

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