

UNITED STATES PROVISIONAL PATENT APPLICATION
FOR
SYSTEM, DEVICE AND METHOD FOR PROVIDING A MULTI-PROPOSITION
GAMBLING GAME

Inventor

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Field of Invention

[0001] The present invention relates to gaming systems and devices. More particularly, the present invention is a method and system which offers novel wagering opportunities based upon the outcomes of plurality of sub-games within the same play session.

Background

[0002] There have been two major trends in gaming device products over at least the past three decades: (1) ever increasing homogenous propositions per play session and (2) ever increasing volatility.

[0003] The term "proposition" refers to a gambling event for which there is a specific wager or a specific portion of a wager at risk relative to a unique evaluation of game outcome.

[0004] The term "play" as a verb, indicates that a device or gaming system provides complete gaming proposition. The term "play" as a noun, indicates the act of providing a complete gaming proposition.

[0005] The term "play session" means the time and events between the initiation of one or more propositions by the one-time staking of one or more wagers until conclusion of all available play.

[0006] The term "sub-game" indicates a type of proposition that though more commonly offered within its own play session, is one of a plurality of such propositions within the same play session. For example, in a slot machine which allows a player to play four separate sets of video slot reels visible on the same display screen within the same play session, each set of video slot reels is referred to as a "sub-game".

[0007] The term "game" refers to the totality of propositions provided within the same play session.

[0008] The term "volatility" indicates the nature of a payout distribution of a game, especially relative to other games with common features. A low volatility game offers more frequent payouts of smaller awards relative to a high volatility game (that offers larger average awards that happen less frequently). Volatility has also been described as a measure of risk/reward: a low volatility game offers lower risk of losing on any single play of the game with lower overall award expectations relative to a high volatility game which offers much higher risk of losing on any single play of the game but with higher overall award expectations. Though gaming volatility can be mathematically quantified ("mathematical

volatility"), a given player's perception of a game's volatility ("perceived volatility") may be influenced by factors other than said game's mathematical volatility.

[0009] The term "return to player", or "return-to-player payback percentage" (often referred to by the acronym "RTP"), means the mathematically expected long-term player payback percentage of a gaming proposition. Within the present disclosure, RTP does not mean actual payback percentage. Actual payback percentage of a given game is expected to converge to the mathematically expected long-term player payback percentage only after a sufficiently large number of plays.

[0010] A game which offers a plurality of heterogeneous propositions is referred to as a "multi-wager" game. Some casino games, such as Craps and Roulette, have independently available propositions of different types. For example, a given player can play a play session with any of the wager types or any combination of the wager types. Other casino games have one or more alternate proposition types which are dependent upon a primary proposition type. In table games, such alternate proposition types are usually referred to as "sidebets" and require the placement of a main-game bet. For example, the optional "Insurance" sidebet in Blackjack is only available to players who have placed a main-game bet. In some casino games such as Baccarat, certain alternate propositions may or may not be available as an independent bet based on the specific embodiment and/or operating rules.

[0011] A game which offers a plurality of homogenous propositions is referred to as a "multi-proposition" game. There have been several generations of such propositions whose quantities increase over time such as: multi-line 3-reel slots [1,3,5,9,27 paylines], multi-line 5-reel video slots [5,9,15,20,25,30,35,40,50,100 paylines], multi-way 5-reel video slots [243, 720 ways, 1024 ways], multi-hand video poker[1,3,5,10,25,50,100], and multi-sub-game slots [2,3,4 sub-games].

[0012] The casino table game Blackjack is also popularly played in multi-hand formats. One can often find a single player playing more than a single play position at a physical Blackjack table. Many video-based Blackjack games are based on multi-hand only play. Many more video-based Blackjack games offer and encourage players to wager on more than a single hand at a time per round of play.

[0013] For certain games, like Pai Gow Poker, some casinos prohibited players from playing more than a single hand at a time so as to not prevent players from possibly gaining an advantage over the casino by being able to deduce the likelihood of dealer card outcomes based on greater knowledge of which cards cannot be in the dealer's hand.

[0014] The ability to play multiple hands of a given card game within the same round of play can offer several advantages. The player is able to enjoy more gambling action within a given period of time which also means that the casino enjoys higher rate of wagering from that player. The player has a lower chance of losing on all the hands which also means that the casino, which effectively enjoys an indefinitely large bankroll, is exposed to lower volatility.

[0015] For a casino, lower volatility means less chance that the casino will experience a loss for a given game or category of games over some specific time (usually no shorter than a shift). Conversely, higher the volatility, the higher the chance of a given casino experiencing such a loss, and thus the higher the chance that one or more players enjoyed significant gains.

[0016] It is a well-known precept within the gaming industry that players' volatility preference tends to increase with experience. This general trend has been observed both in terms of individual player behaviour as well as collective behaviour. A good example of the latter can be seen within the history of video poker payable availability and popularity which has demonstrated a continual array of propositions with ever increasing volatility. Similarly, the wide-spread adoption of the invention of Telenaes patent (4,448,419) speaks to the interest in increase slot machine volatility back in the early 1980's, which was followed by an ever increasing series of higher and higher volatility titles over the decades.

[0017] Numerous mechanisms have been applied to slot games to increase volatility. Though the advent of 5 (or more) slot reels allowed for wide array of more easily offered hard-to-attain outcomes which could commensurately pay that much more for a given proportion of return-to-player payback percentage, many other volatility-increasing mechanisms have been subsequently employed such as wild multipliers, expanding wilds, stacked wilds, stacked symbols, etc. In the casino table game realm, there are numerous sidebet propositions which can raise overall volatility by offering payout multipliers much higher than that offered by the game to which they are added.

[0018] Understanding how strongly many players desire increased volatility, casinos usually offer lower return-to-player payback percentage on sidebets than are available on the game to which the sidebet is added. The ubiquitous casino table game with the lowest volatility, Baccarat, is often observed to have higher sidebet participation than other table games despite the fact that these sidebets offer especially low return-to-player payback percentage. One can surmise that the especially low base game volatility provides additional incentive to players to raise their volatility via sidebet wagering.

[0019] In general, the two general product trends in gaming, ever increasing homogenous propositions per play session and ever increasing volatility, would appear to counteract one another. Once a new game family is introduced to the market, such as the extremely popular adoption of multi-hand video poker in the late 1990's, this is typically followed by a series of modifications and improvements to add volatility. Multi-hand video poker titles such as Super Times Pay™, Double Super Times Pay™, Good Times Pay™, and Ultimate X™ offer players ever larger sidebet wagering which provides commensurately larger award multipliers for dramatic increases in volatility. However, the initial forays into such new game families have typically limited the devolatizing impact of the additional propositions via two mechanisms: (a) outcome interdependencies; and (b) bankroll considerations.

[0020] The most long-lived popular multi-proposition games, multi-hand video poker, multi-payline slots, and multi-hand Blackjack offer considerable correlation between outcomes within the same play session. With multi-hand video poker, all of the hands share the same starting outcome based on player selecting which of five initial cards to hold. Similarly, a given symbol position on a high line-count video slot game can be associated with numerous different paylines or win patterns. In most such games, if for a given outcome, none of the symbols on the second reel match any symbol on the first reel, then none of the paylines will generate a payline win. Alternately, the occurrence of a WILD symbol on the first or second reels of a given outcome greatly increases the chances of a win for all of the paylines which includes the position on which said WILD symbol landed.

[0021] In the case of Blackjack, because all of a given player's plurality of hands are playing against a common set of dealer cards, wins and losses are more likely to occur in clumps as compared to the same number of hands each singly playing against a different dealer. For example, if the dealer's up-card is a high-value card, all player hands with an initial value of 16 or lower are more likely to bust if played with a strategy which optimizes return-to-player payback percentage. If the dealer gets a blackjack, no player hand wins. If the dealer busts, then all hands remaining in the game win. Therefore playing multiple hands of blackjack against the same dealer cards results in many more common wins and more common losses relative to truly independent hands.

[0022] One significant exception to the general pattern of multi-proposition games having interdependent outcome are games whose sub-game are fully independent slot games. The very first such products in the market in the last 1990's simply offered players the chance to spin three independent sets of electro-mechanical reels thus producing the maximum

possible devoluitization. These products had limited popularity and thus did not last long in the US market. Around 2008, the slot manufacturers WMS and IGT both announced slot machines which allowed players to play four separate slot sub-games within the same play session. While a couple of these products feature completely independent sub-games, the more prevalent and popular machines offered significant interdependence between sub-games, often with "roll-over" features wherein the appearance of a certain high-value symbol(s) on one sub-game would cause corresponding symbol(s) to appear on other sub-games during the same play session. Another interdependence feature involves the triggering of awards, especially bonus events, based on symbols which collectively appear across one or more sub-games.

[0023] Therefore, only multi-proposition games with some form of outcome interdependence have proven to be commercially successful in the US casino market.

[0024] The other factor which can and does reduce the perceived volatility of game type when it is offered in a multi-proposition format for the first time is the impact that bankroll management can have on player experience.

[0025] Volatility is a specific mathematical property of expected payout distributions that can be quantified. Within the gaming industry, there are two popular measurements usually provided by slot game manufacturers, standard deviation (SD) and/or volatility index (VI), which are both ways of expressing statistical variance (var). The variance of a given proposition is the sum of the variance of each of the possible outcomes (including losing outcomes). The variance of a single outcome is the probability of occurrence multiplied by the square of the difference between the return-to-player payback percentage of the total game vs. the award for the outcome. The standard deviation for a given proposition is the square root of the variance. The volatility index is the standard deviation times the normal distribution z-score for a 90% confidence interval which is approximately 1.645 and is meant to represent the high and low boundaries for actual RTP of a given game after 10000 plays 90% of the time.

[0026] For example, variance metrics for the BANKER wager in traditional Baccarat can be calculated thusly:

GAME OUTCOME	probability	BANKER bet payouts		Return to Player	Variance
		"to" pay	"for" pay		
BANKER HAND win	45.860%	0.95:1	1.95x	45.860% * 1.95 = 89.426%	45.860% * (98.942% - 1.95)^2 = 0.4232
TIE	9.516%	push	1.00x	9.516% * 1.00 = 9.516%	9.516% * (98.942% - 1.00)^2 = 0.0000
PLAYER HAND win	44.625%	bet lost	0.00x	44.625% * 0.00 = 0.000%	9.516% * (98.942% - 1.00)^2 = 0.4369
				Total RTP: 98.942%	Total Var: 0.8600

Standard Deviation (SD): $0.8600^{1/2} = 0.927$
Volatility Index (VI): $1.645 * 0.927 = 1.526$

[0027] Note that the payouts are expressed in two formats: "to pay" and "for pay" which mean the same thing. Table games payouts are typically expressed as the amount of money to be added to a player's wager. In a table game, placing a wager is like putting funds into an escrow: by the end of the game, if the proposition loses, the casino takes the wager, else the player may take the wager or leave it in place for another play. The number to left of the colon (:) represents the award to be paid relative the value of the number to the right of the colon. In some games, the numbers are always expressed as integers, which would express, for example, a BANKER bet win to be 19:20.

[0028] Slot machine and video poker machine paytables almost always represent payouts using a "for pay" format, where the "for" is the shortened version of "in exchange for". Specifically, a wager placed in a slot machine or video poker machine (usually referred to as an electronic gaming machine or EGM) is immediately forfeited by the player. This is similar to a fee one would pay to initial play on a pinball machine, video arcade game, juke box, etc. If the play session results is a winning outcome, then in exchange for the wager already forfeited by the player, the player receives an award which is typically a multiplier of the original wager or a multiplier of a designated subset of the original wager. Thus a "for pay" represents the entirety of the value with which a given EGM player can walk away whereas the entirety of the value with which a table game player can walk away is the sum of their winning wager plus any "to pay".

[0029] Looking at the "Tie" outcome in Baccarat, the "to pay" for this outcome is listed as a "push" which means that the player is able to retrieve his or her bet. This produces the same result as a 1.00x "for pay" which awards the player with a value exactly equal to the original bet. In the present disclosure, all "to pay" values are expressed using the "<number> : <number> " format and all "for pay" values are expressed using a "<number> x" format.

[0030] Though mathematically quantified volatility as just described can have a tremendous impact on a given player's play experiences, there is at least one other factor that can skew a player's perception of the volatility of a given game: bankroll sensitivity.

[0031] Many multi-proposition game types tend to receive higher total average wagers than their single proposition counterpart. Player who significantly increase their average wager often do not increase their bankroll proportionally. Such underfunding can greatly reduce the number of rounds of play a given player will experience before the bankroll is depleted.

[0032] For example, let's say a given player typically gets say 45 to 75 games at \$1 per game for a \$30 buy-in. Thus such a player will typically enjoy approximately 1.5x to 2.5x

the player's initial number of available bet units. If said player now moved to a higher proposition version of the game whose typical play yielded longer typical play sessions, such as 2x to 4x the player's initial number of available bet units, the player may not feel the higher hit frequency if their bankroll does not increase relative to the unit bet size. Continuing with the example, if the multi-proposition version of the game required a \$1.50 wager, then a \$30 would only fund 15 initial plays, not 20 as with the \$1 game. Such a player would then be experiencing typical play session in the range of 30 games to 60 games which would be noticeably shorter than the 45 to 75 games mentioned above. Therefore the player's wager size relative to their bankroll may become a salient part of their overall volatility experience which can more than counteract the higher hit frequency offered by additional propositions per play. In practice though, many players will quickly adapt their wager size, bankroll size and/or expectation if they continue playing such higher proposition games.

[0033] Though Baccarat is an extremely popular game that generates significant revenue for casinos worldwide, it seems less amenable for a multi-proposition format because each of the propositions (i.e. comparison between a PLAYER hand and a BANKER hand) is completely independent. Thus each additional Baccarat sub-game in a multi-proposition format proportionally decreases volatility. The lack of interdependency between Baccarat propositions means no clumping of wins or of losses so the addition of extra propositions within the same round of play causes the maximal possible decrease in volatility in what is already an extremely low volatility game.

[0034] For example, the volatility of game which allows a player to place equal wagers on each of three independent Baccarat sub-games can be calculated in a similar manner as shown earlier.

GAME OUTCOME	probability	BANKER bet awards "for" pay	RTP	RTP var
3Wins	9.645%	$(3*1.95x) = 5.85x$	18.807%	0.08899
2Wins,1Tie	6.004%	$(2*1.95x) + (1*1x) = 4.90x$	9.806%	0.02489
1Win,2Ties	1.246%	$(1*1.95x) + (2*1x) = 3.95x$	1.640%	0.00133
2Wins	28.155%	$(2*1.95x) = 3.90x$	36.602%	0.02716
3Ties	0.086%	$(3*1x) = 3.00x$	0.086%	0.00000
1Win,1Tie	11.684%	$(1*1.95x) + (1*1x) = 2.95x$	11.489%	0.00000
2Ties	1.212%	$(2*1x) = 2.00x$	0.808%	0.00126
1Wins	27.397%	$(1*1.95x) = 1.95x$	17.808%	0.03156
1Tie	5.685%	$(1*1x) = 1.00x$	1.895%	0.02447
no pay	8.886%	0.00x	0.000%	0.08699

Total Variance (var): 0.287
Standard Deviation (SD): 0.535
Volatility Index (VI): 0.881

Total RTP
98.942%
Total Var
0.28667

[0035] The overall standard deviation dropped from an already very low 0.927 in the single-hand game down to an even lower 0.798. In terms of play experience, players should quickly perceive that the probability of getting no pay has significantly dropped. In single-hand Baccarat, a losing outcome occurs about 44.625% of the time or about once every 2.2 games. In the three-sub-game version, a losing outcome only occurs about 8.886% of the time or about once every 11.2 games.

[0036] Baccarat is offered under numerous other titles such as Baccarat Banque, Mini-Baccarat, *Punto Banco*, *Chemin de Fer*, Super-6 Baccarat, etc. with slightly different game rules and/or game play mechanics. In the most general terms, Baccarat involves the comparison of two specially designated hands whose cards are dealt based on asymmetric rules. The first of these two hands is referred to as the "PLAYER" or "PLAYER Hand" while the second of the two hands is referred to as the "BANKER" or "BANKER Hand". (To avoid possible confusion between a "player" who is the individual who places wagers versus the name of one of the hands, "PLAYER", the latter will be shown in all capital letters throughout the present disclosure.) In Baccarat, it is generally the case that a given player may place a wager on either the PLAYER Hand to win or the BANKER Hand to win. Unlike Blackjack, where a given gambler decides whether or not to receive additional cards, Baccarat is dealt using fixed rules. In other words, the hand is not "owned" by any specific gambler whose decision can affect the final outcome. Therefore any number of gamblers can, and do, simultaneously wager on the same game outcome.

[0037] Therefore, there is a need to provide novel and compelling multi-proposition games without adversely decreasing volatility, especially with sub-games such as Baccarat and purely stand-alone slots whose outcomes have no significant interdependence.

Summary of the Invention

[0038] The present invention introduces a novel wagering opportunity based upon a plurality of sub-game outcomes. The method and system of the present invention includes the ability to play $N_s \geq 2$ number of sub-games within the same play session for the chance to win at least one award based on plurality of sub-game outcomes.

[0039] In some embodiments, the novel wagering opportunity is the only available wagering opportunity. In some other embodiments, the novel wagering opportunity is an independent proposition which may be played in addition to, or instead of, a second wagering opportunity. In some other embodiments, the novel wagering opportunity is a sidebet which

requires that a second wagering opportunity be wagered on before the novel wagering opportunity sidebet can be wagered on.

[0040] In some embodiments, the sub-games are Baccarat propositions. In some variations the wagering opportunity is based on attaining specific counts of outcomes from the set of outcomes which includes PLAYER hand win, BANKER hand win, TIE hand, Natural win, BANKER Natural, Player Natural, Tie Natural, BANKER Pair, PLAYER Pair, specific hand values, difference in hand values, the numbers of cards dealt, or suit matching, or color matching, or any other type of suitable outcome. In some variations, the order of occurrence does not matter in terms of the wagering opportunity payouts. In some other variations, at least one of the wagering opportunity awards is based on the order of outcomes. For example, a game which includes three sub-games of Baccarat wherein a particular prize is awarded if the first sub-game results in a Banker Win, and the second sub-game results in a Player Win, and the third sub-game results in a Tie, where said prize is not awarded if said outcomes do not occur in the specified order.

[0041] In some embodiments, the sub-games are slot games. In some variations, all slot sub-game outcomes are independent. In some other variations, there is at least one dependency between at least a first sub-game and at least a second subgame, such as a roll-over feature, or a cumulative trigger, or any kind of suitable interdependence. In some embodiments, the sub-games are slot games with a "Tumbling Reel" or "Cascading Reels" feature. In some variations, the wagering opportunity is based on attaining specific counts of tumble or cascade events within the same play session.

Some Detailed Examples

[0042] Some embodiments of the present disclosure includes game system which incorporates $N_s=3$ sub-games of Baccarat with at least one unique wagering opportunity based on specific outcome combinations from the set of outcome combinations which includes all winning outcomes, mixed winning and tie outcomes, all tie outcomes, all adverse outcomes.

[0043] Some example paytables for such embodiments could include:

[0044] *Clean Sweep*TM Paytable #1

PLAYER					BANKER				
	bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var	
(all ties)	Tie-Sweep	33.33x	0.09%	2.87%	0.90	33.33x	0.09%	2.87%	0.90
(all wins)	Win-Sweep	8.00x	8.89%	71.09%	4.42	7.38x	9.64%	71.18%	3.99
(wins & ties)	Semi-Sweep	3.00x	6.90%	20.69%	0.29	3.00x	6.90%	20.69%	0.29
				0.75				0.75	
Total:				94.65%	6.37	Total:			
				SD: 2.52					
				VI: 4.15					

[0045] *Clean Sweep*TM Paytable #2

PLAYER					BANKER				
	bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var	
(all ties or all wins)	Pay-Sweep	8.00x	8.97%	71.78%	4.47	7.38x	9.73%	71.81%	4.03
(wins & ties)	Semi-Sweep	3.30x	6.90%	22.76%	0.38	3.30x	6.90%	22.76%	0.38
				0.75				0.75	
Total:				94.54%	5.60	Total:			
				SD: 2.37					
				VI: 3.89					

[0046] *Clean Sweep*TM Paytable #3

PLAYER					BANKER				
	bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var	
(all ties)	Tie-Sweep	33.33x	0.09%	2.87%	0.90	33.33x	0.09%	2.87%	0.90
(all wins)	Win-Sweep	8.00x	8.89%	71.09%	4.42	7.33x	9.64%	70.73%	3.93
(wins & ties)	Semi-Sweep	1.67x	6.90%	11.49%	0.04	1.67x	6.90%	11.49%	0.04
(all adverse)	Clean-Skunk	1.00x	9.64%	9.64%	0.00	1.11x	8.89%	9.86%	0.00
				0.76				0.75	
Total:				95.10%	6.12	Total:			
				SD: 2.47					
				VI: 4.07					

[0047] *Clean Sweep*TM Paytable #4

		PLAYER				BANKER			
		bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var
(all wins)	Win-Sweep	8.00x	8.89%	71.09%	4.42	7.33x	9.64%	70.73%	3.93
(all ties)	Tie-Sweep	6.67x	0.09%	0.57%	0.03	6.67x	0.09%	0.57%	0.03
(wins & ties)	Semi-Sweep	2.00x	6.90%	13.79%	0.08	2.00x	6.90%	13.79%	0.08
(all adverse)	Clean-Skunk	1.00x	9.64%	9.64%	0.00	1.11x	8.89%	9.86%	0.00
					0.67				0.67
		Total:		95.10%	5.19	Total:		94.96%	4.71
				SD: 2.28				SD: 2.17	
				VI: 3.75				VI: 3.57	

[0048] *Clean Sweep*TM Paytable #5

		PLAYER				BANKER			
		bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var
(all ties or all wins)	Win-Sweep	6.67x	8.97%	59.82%	2.93	6.38x	9.73%	62.08%	2.87
(wins & ties)	Semi-Sweep	2.00x	6.90%	13.79%	0.08	1.80x	6.90%	12.41%	0.05
(tie, win & adverse)	One-of-Each	1.00x	11.68%	11.68%	0.00	1.00x	11.68%	11.68%	0.00
(all adverse)	Clean-Skunk	1.00x	9.64%	9.64%	0.00	1.00x	8.89%	8.89%	0.00
					0.65				0.75
		Total:		94.94%	3.66	Total:		95.07%	3.67
				SD: 1.91				SD: 1.92	
				VI: 3.15				VI: 3.15	

[0049] Though the last paytable, *Clean Sweep*TM Paytable #5, has the lowest volatility of the five example paytables, the volatility metrics are significantly higher than not only a straight version of 3 sub-games of Baccarat, but is also significantly more volatile than even a single hand of Baccarat.

[0050] *Clean Sweep*TM Paytable #5 also features the useful property of keeping the player in the game until the very last outcome. Unlike the other paytables, the unique wagering opportunity cannot be lost after only one outcome or only after two outcomes. For example, there is no way to win on *Clean Sweep*TM Paytable #1 or on *Clean Sweep*TM Paytable #2 with an adverse event on the first or second sub-game. With *Clean Sweep*TM Paytable #3 and *Clean Sweep*TM Paytable #4, the player is in the game until at least past the first sub-game, however any combination of one adverse outcome and either one tie or with one win after the second sub-game means there is no way the player can win on the unique wagering opportunity no matter what happens on the third sub-game.

[0051] The following paytable demonstrates an alternate way of assuring that the unique wagering opportunity can still award a payout irrespective of the outcomes of the first two sub-games. Specifically, *Clean Sweep*TM Paytable #6 features a special payout applicable only to the last hand. In this specific example, if the player's selected hand (i.e.

PLAYER hand for a PLAYER bet, or BANKER hand for a BANKER bet) is initially dealt a two-card value of 9, the player wins a payout. In an alternate embodiment not show, this payout for a 9 only occurs if the player hasn't otherwise earned an award.

[0052] *Clean Sweep™* Paytable #6

		PLAYER				BANKER			
		bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var
(hand = 9 on last sub-game)	Natural Finish	1.00x	9.49%	9.49%	0.00	1.00x	9.49%	9.49%	0.00
(all ties or all wins)	Pay-Sweep	8.00x	8.97%	71.78%	4.46	7.38x	9.73%	71.81%	4.02
(wins & ties)	Semi-Sweep	2.00x	6.90%	13.79%	0.08	2.00x	6.90%	13.79%	0.08
					0.67				0.67
		Total:		95.06%	5.21	Total:		95.10%	4.77
				SD: 2.28				SD: 2.18	
				VI: 3.75				VI: 3.59	

[0053] Some embodiments of the present disclosure includes game system which incorporates Ns=5 sub-games of Baccarat with at least one unique wagering opportunity based on specific outcome combinations from the set of outcome combinations which includes all winning outcomes, mixed winning and tie outcomes, all tie outcomes, all adverse outcomes.

[0054] Some example paytables for such embodiments could include:

[0055] *5-Hand Clean Sweep™* Paytable #1

		PLAYER				BANKER			
		bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var
(wins or ties)	5-Pays	10.00x	5.21%	52.07%	4.27	8.00x	4.65%	37.21%	2.32
(wins or ties)	4-Pays	2.00x	20.98%	41.96%	0.24	1.70x	33.38%	56.74%	0.19
					0.65				0.55
		Total:		94.03%	5.16	Total:		93.95%	3.06
				SD: 2.27				SD: 1.75	
				VI: 3.74				VI: 2.88	

[0056] *5-Hand Clean Sweep™* Paytable #2

		PLAYER				BANKER			
		bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var
(5W)	5.0 Wins	16.00x	1.77%	28.31%	4.01	13.90x	2.03%	28.19%	3.40
(4W+1T)	4.5 Wins	5.00x	1.89%	9.43%	0.31	3.90x	2.10%	8.21%	0.18
(4W or 3W+2T)	4.0 Wins	2.50x	9.90%	24.74%	0.24	2.30x	10.74%	24.71%	0.19
(3W+1T or 2W+3T)	3.5 Wins	1.50x	7.93%	11.89%	0.02	1.50x	8.37%	12.56%	0.02
(3W or 2W+2T or 1W+4T)	3.0 Wins	1.00x	21.19%	21.19%	0.00	1.00x	21.77%	21.77%	0.00
					0.52				0.50
		Total:		95.57%	5.10	Total:		95.44%	4.30
				SD: 2.26				SD: 2.07	
				VI: 3.71				VI: 3.41	

Each TIE hand counts as 1/2 a win

[0057] In the last payable example, **5-Hand Clean Sweep™ Paytable #2**, an alternate way of defining winning outcomes is shown. Specifically, Tie hand outcomes are treated as 1/2 of a win, and outcomes that match the player's prediction (i.e. BANKER win on a BANKER bet or PLAYER hand on a PLAYER bet) is counted as a full win. Thus the "4.0 Wins" award can be earned with an result of 4 win outcomes and 1 adverse outcome, or with a result of 3 win outcomes and 2 tie outcomes

[0058] Some embodiments of the present disclosure includes game system which incorporates Ns=3 sub-games of Baccarat with at least one unique wagering opportunity based on specific outcome combinations from the set of outcome combinations often associated with Baccarat side bets which includes BANKER Pair outcomes, PLAYER Pair Outcomes, Tie hand outcomes, Natural outcomes.

[0059] Some example paytables for such embodiments could include:

[0060] **SUPER PAIRS™ Sidebet Paytable #1** (separate bet for PLAYER pairs and for BANKER pairs though both payout the same)

	PLAYER PAIRS	p(hit)	RTP	Var	BANKER PAIRS	p(hit)	RTP	Var
3 Pairs	88x	0.05%	4.01%	3.45	88x	0.05%	4.01%	3.45
2 Pairs	18x	1.64%	29.49%	4.78	18x	1.64%	29.49%	4.78
1 Pairs	3x	19.66%	58.99%	0.85	3x	19.66%	58.99%	0.85
				0.67				0.67
Total:		92.49%	9.75		Total:		92.49%	9.75
SD: 3.12				SD: 3.12				
VI: 5.14				VI: 5.14				

[0061] **DOUBLE SUPER PAIRS™ Sidebet Paytable #1** (single payable based on totality of PLAYER Pairs and/or BANKER Pairs)

	ANY PAIR	p(hit)	RTP	Var
6 Pairs	18,888x	0.00%	0.39%	73.90
5 Pairs	1,888x	0.00%	2.82%	53.12
4 Pairs	188x	0.04%	8.41%	15.66
3 Pairs	38x	0.72%	27.21%	9.83
2 Pairs	3.80x	6.44%	24.49%	0.53
1 Pairs	1.00x	30.93%	30.93%	0.00
				0.55
Total:		94.25%	153.59	
SD: 12.39				
VI: 20.39				

[0062] **DOUBLE SUPER PAIRS™ Sidebet Paytable #2**

	ANY PAIR	p(hit)	RTP	Var
6 Pairs	10,000x	0.00%	0.21%	20.71
5 Pairs	1,000x	0.00%	1.49%	14.89
4 Pairs	100x	0.04%	4.48%	4.39
3 Pairs	10x	0.72%	7.16%	0.59
2 Pairs	3x	6.44%	19.33%	0.27
1 Pairs	2x	30.93%	61.86%	0.34
				0.55
Total:		94.53%	41.75	
		SD: 6.46		
		VI: 10.63		

[0063] **SUPER TIES™ Sidebet Paytable #1**

	TIES	p(hit)	RTP	Var
3 Ties	100x	0.09%	8.62%	8.46
2 Ties	15x	2.46%	36.87%	4.87
1 Ties	2x	23.37%	46.74%	0.27
				0.63
Total:		92.23%	14.23	
		SD: 3.77		
		VI: 6.21		

[0064] **SUPER 9s™ Sidebet Paytable #1** (separate bet for PLAYER pairs and for BANKER pairs though both payout the same)

	PLAYER 9s	p(hit)	RTP	Var
3 Nines	120x	0.09%	10.26%	12.12
2 Nines	15x	2.45%	36.68%	4.84
1 Nine	2x	23.32%	46.65%	0.26
				0.65
Total:		93.58%	17.87	
		SD: 4.23		
		VI: 6.95		

	BANKER 9s	p(hit)	RTP	Var
3 Nines	120x	0.09%	10.26%	12.12
2 Nines	15x	2.45%	36.68%	4.84
1 Nine	2x	23.32%	46.65%	0.26
				0.65
Total:		93.58%	17.87	
		SD: 4.23		
		VI: 6.95		

PAYS INITIAL TWO-CARD HANDS WHOSE VALUE IS 9

[0065] **DOUBLE SUPER 9s™ Sidebet Paytable #1** (single payable based on totality of PLAYER Nines and/or BANKER Nines)

	ANY 9s	p(hit)	RTP	Var
6 Nines	25,000x	0.00%	1.83%	456.50
5 Nines	1,000x	0.00%	4.18%	41.72
4 Nines	100x	0.10%	9.97%	9.78
3 Nines	20x	1.27%	25.35%	4.60
2 Nines	2x	9.07%	18.13%	0.10
1 Nine	1x	34.59%	34.59%	0.00
				0.49
Total:		94.04%	513.20	
		SD: 22.65		
		VI: 37.27		

PAYS INITIAL TWO-CARD HANDS WHOSE VALUE IS 9

[0066] **SUPER NATURALS™ Sidebet Paytable #1** (separate bet for PLAYER naturals and for BANKER naturals though both payout the same)

	PLAYER Naturals	p(hit)	RTP	Var	BANKER Naturals	p(hit)	RTP	Var
3 Naturals	20x	0.68%	13.59%	2.47	20x	0.68%	13.59%	2.47
2 Naturals	5x	8.73%	43.63%	1.43	5x	8.73%	43.63%	1.43
1 Natural	1x	37.34%	37.34%	0.00	1x	37.34%	37.34%	0.00
				0.48				0.48
Total:		94.56%	4.38		Total:		94.56%	4.39
		SD: 2.09					SD: 2.09	
		VI: 3.44					VI: 3.44	

PAYS INITIAL TWO-CARD HANDS WHOSE VALUE IS 8 OR 9

DOUBLE SUPER NATURALS™ Sidebet Paytable #1 (single payable based on totality of PLAYER naturals and/or BANKER naturals)

	ANY Naturals	p(hit)	RTP	Var
6 Naturals	250x	0.00%	1.16%	2.87
5 Naturals	50x	0.12%	5.93%	2.86
4 Naturals	8x	1.27%	10.15%	0.63
3 Naturals	3x	7.24%	21.72%	0.31
2 Naturals	1.5x	23.24%	34.85%	0.07
1 Natural	0.5x	39.77%	19.88%	0.08
				0.25
Total:		93.70%	7.06	
		SD: 2.66		
		VI: 4.37		

PAYS INITIAL TWO-CARD HANDS WHOSE VALUE IS 8 OR 9

[0067] Some embodiments of the present disclosure includes game system which incorporates $N_s=3$ sub-games of Baccarat with at least one unique wagering opportunity based on specific outcome combinations from the set of outcome combinations based upon hand values which includes total BANKER hand values, total PLAYER hand values, total PLAYER hand values in excess of BANKER hand values, total BANKER hand values in excess of PLAYER hand values, difference of total BANKER hand values minus total PLAYER hand values, difference of total PLAYER hand values minus total BANKER hand values.

[0068] Some example paytables for such embodiments could include:

[0069] ***SUPER TOTALS™ Sidebet Paytable #1*** (based on the sum of the values of the selected hand from each sub-game)

HAND VALUE TOTALS				
PLAYER				
	bet pays	p(hit)	RTP	Var
27	50x	0.24%	11.95%	5.75
26	18x	0.71%	12.86%	2.07
25	10x	1.43%	14.29%	1.17
24	8x	2.38%	19.04%	1.18
23	5x	3.25%	16.26%	0.53
22	3x	4.05%	12.14%	0.17
21	2x	4.76%	9.53%	0.05
				0.77
Total:		96.05%	11.68	
		SD: 3.42		
		VI: 5.62		

BANKER				
	bet pays	p(hit)	RTP	Var
	50x	0.21%	10.59%	5.10
	18x	0.63%	11.41%	1.84
	10x	1.27%	12.67%	1.04
	8x	2.08%	16.61%	1.03
	6x	2.96%	17.76%	0.75
	5x	3.88%	19.42%	0.64
	1.5x	4.75%	7.12%	0.01
				0.77
Total:		95.58%	11.18	
		SD: 3.34		
		VI: 5.50		

[0070] *SUPER WIN TOTALS™* Sidebet Paytable #1 (based on the sum of the values of the selected hand from each sub-game when said hand was the winning hand)

WINNING HAND TOTALS					BANKER					
PLAYER					bet pays					
	bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var		
27	50x	0.18%	9.23%	4.44	50x	0.16%	8.09%	3.89		
26	20x	0.50%	10.04%	1.82	20x	0.44%	8.77%	1.59		
25	17x	0.82%	14.00%	2.12	18x	0.71%	12.85%	2.08		
24	15x	1.09%	16.32%	2.15	15x	0.92%	13.74%	1.81		
23	12x	1.17%	14.05%	1.43	12x	1.05%	12.59%	1.28		
22	10x	1.11%	11.09%	0.91	10x	1.12%	11.20%	0.92		
21	8x	0.98%	7.81%	0.49	9x	1.10%	9.87%	0.71		
20	5x	0.81%	4.07%	0.13	8x	1.00%	7.98%	0.50		
19	3x	0.66%	1.98%	0.03	6x	0.86%	5.14%	0.22		
18	2x	3.01%	6.02%	0.03	1.5x	2.93%	4.40%	0.01		
				0.80				0.80		
Total:			94.59%	14.36	Total:			94.63%	13.81	
SD: 3.79					SD: 3.72					
VI: 6.23					VI: 6.11					

[0071] *SUPER SUMS™* Sidebet Paytable #1 (single payable based on totality of PLAYER hand values and BANKER hand values)

ALL HAND TOTALS				
		p(hit)	RTP	Var
48 to 54	100.00x	0.19%	19.37%	19.01
44 to 47	12.00x	1.71%	20.48%	2.09
40 to 43	3.50x	6.65%	23.27%	0.44
36 to 39	2.00x	15.12%	30.24%	0.17
				0.67
Total:			93.35%	22.37
SD: 4.73				
VI: 7.78				

[0072] **SUPER OVERKILL™ Sidebet Paytable #1** (for each sub-game in which the selected hand wins, the difference between the winning hand value and the losing hand value is accumulated)

PLAYER					BANKER					
	bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var		
22+	50.0x	0.11%	5.55%	2.67	50.0x	0.13%	6.41%	3.09		
21	20.0x	0.09%	1.79%	0.32	20.0x	0.10%	2.04%	0.37		
20	18.0x	0.14%	2.52%	0.41	17.0x	0.16%	2.66%	0.40		
19	15.0x	0.21%	3.17%	0.42	15.0x	0.23%	3.45%	0.46		
18	12.0x	0.35%	4.17%	0.43	12.0x	0.37%	4.46%	0.46		
17	10.0x	0.56%	5.59%	0.46	10.0x	0.59%	5.94%	0.49		
16	8.0x	0.83%	6.64%	0.41	7.0x	0.88%	6.17%	0.32		
15	6.0x	1.17%	7.01%	0.30	6.0x	1.25%	7.50%	0.32		
14	5.0x	1.58%	7.90%	0.26	5.0x	1.68%	8.41%	0.28		
13	4.0x	2.07%	8.26%	0.19	4.0x	2.16%	8.64%	0.20		
12	3.5x	2.63%	9.21%	0.17	3.5x	2.69%	9.41%	0.18		
11	3.0x	3.27%	9.82%	0.14	3.0x	3.27%	9.82%	0.14		
10	2.5x	3.99%	9.97%	0.10	2.5x	3.93%	9.83%	0.10		
9	2.0x	5.78%	11.57%	0.07	1.5x	5.80%	8.70%	0.02		
				0.67				0.67		
Total:				93.18%	Total:				93.44%	7.03
				SD: 2.65					SD: 2.74	
				VI: 4.36					VI: 4.50	

[0073] **SUPER OVERKILL™ Sidebet Paytable #2** (for each sub-game in which the selected hand wins, the difference between the winning hand value and the losing hand value is accumulated)

PLAYER					BANKER					
	bet pays	p(hit)	RTP	Var	bet pays	p(hit)	RTP	Var		
20+	80x	0.34%	27.25%	21.30	80x	0.39%	30.90%	24.15		
16 to 19	12x	1.95%	23.38%	2.39	11x	2.08%	22.85%	2.11		
12 to 15	3x	7.45%	22.34%	0.32	2.5x	7.78%	19.46%	0.19		
8 to 11	1x	19.87%	19.87%	0.00	1x	19.88%	19.88%	0.00		
				0.61				0.61		
Total:				92.84%	Total:				93.08%	24.61
				SD: 4.96					SD: 5.20	
				VI: 8.16					VI: 8.56	

[0074] Some embodiments of the present disclosure includes game system which incorporates Ns=3 sub-games of Baccarat with at least one unique wagering opportunity

based on specific outcome combinations from the set of outcome combinations based upon the number of cards dealt which includes the number of BANKER cards dealt, the number of PLAYER cards dealt, the number of BANKER and PLAYER cards dealt, the number of sub-games in which the PLAYER hand and the BANKER hand are dealt the same number of cards.

[0075] Some example paytables for such embodiments could include:

[0076] **Extra Cards Bonus Sidebet Paytable #1** (one wager pays if fewer than three extra cards are dealt across all three sub-games, the other ways pays if more than three extra cards are dealt across all three sub-games)

Few Extra Cards				
		p(hit)	RTP	Var
0	8.00x	5.44%	43.51%	2.71
1	2.00x	13.07%	26.13%	0.15
2	1.00x	24.15%	24.15%	0.00
				0.50
Total:		93.79%		3.37
		SD: 1.83		
		VI: 3.02		

Many Extra Cards				
		p(hit)	RTP	Var
6	11.00x	3.21%	35.27%	3.25
5	3.00x	9.19%	27.56%	0.39
4	1.50x	20.25%	30.37%	0.07
				0.59
Total:		93.20%		4.29
		SD: 2.07		
		VI: 3.41		

[0077] **Extra Cards Proposition Bets** (each of the following payouts is its own stand-alone wager which players can place as few or as many as they wish – based on the specific embodiment, any subset of these propositions could be offered at the same time)

# Extra Cards	Award	p(hit)	RTP	Var	SD	VI
0	17.0x	5.44%	92.45%	14.86	3.86	6.34
1	7.0x	13.07%	91.47%	5.57	2.36	3.88
2	3.5x	24.15%	84.51%	2.24	1.50	2.46
3	3.5x	24.71%	86.48%	2.28	1.51	2.48
4	4.5x	20.25%	91.11%	3.27	1.81	2.97
5	10.0x	9.19%	91.88%	8.34	2.89	4.75
6	28.0x	3.21%	89.78%	24.33	4.93	8.11
0 or 1	5.0x	18.51%	92.53%	3.77	1.94	3.19
5 or 6	7.5x	12.39%	92.95%	6.11	2.47	4.07
0 or 6	10.0x	8.64%	86.45%	7.90	2.81	4.62
0, 1, or 2	2.0x	42.65%	85.30%	0.98	0.99	1.63
4, 5, or 6	2.5x	32.64%	81.60%	1.37	1.17	1.93
1, 3, or 5	2.0x	46.96%	93.92%	1.00	1.00	1.64
2, 4, or 6	2.0x	47.60%	95.20%	1.00	1.00	1.64

[0078] Some embodiments of the present disclosure includes game system which incorporates $N_s > 2$ sub-games of Baccarat with at least one unique wagering opportunity based on specific outcome combinations from the set of outcome combinations based upon specific BANKER hand values, specific PLAYER hand values, the number of matching BANKER hand values, number of matching PLAYER hand values, number of unique BANKER hand and PLAYER hand values.

[0079] In some such embodiments, a means for tracking which hand values have occurred is provided such as for the values 0 through 8 or 1 through 9 in a 3x3 grid display, or the values 0 through 9 in a 2x5 or 5x2 grid, or a circular display or any suitable display.

[0080] In some embodiments, the information displayed within or upon the portion of a tracking display associated with a particular hand value indicates occurrence of one or more specific events since the last display reset, said one or more events from the set of state events which can include occurrence in PLAYER hand, occurrence in BANKER hand, occurrence in a PLAYER hand and/or BANKER hand, occurrence in a winning PLAYER hand, occurrence in winning BANKER hand, occurrence in a winning PLAYER hand and/or

winning BANKER hand, occurrence in a TIE hand, occurrence in a 2-card PLAYER hand, occurrence in a 2-card BANKER hand, occurrence in a 2-card PLAYER hand and/or a 2-card BANKER hand, occurrence in a 3-card PLAYER hand, occurrence in a 3-card BANKER hand, occurrence in a 3-card PLAYER hand and/or a 3-card BANKER hand, occurrence of a PLAYER hand value beating a BANKER hand value by the designated difference, occurrence of a BANKER hand value beating a PLAYER hand value by the designated difference.

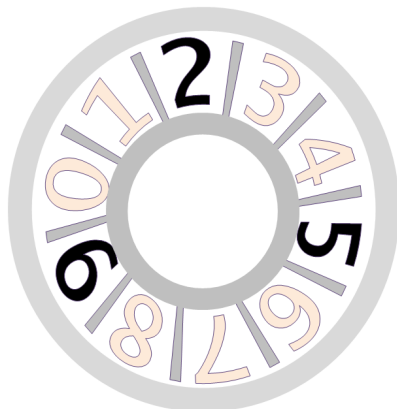
[0081] 3x3 Hand Value Tracking Display

1	2	3
4	5	6
7	8	9

[0082] 5(wide) x 2(high) Hand Value Tracking Display

0	1	2	3	4
5	6	7	8	9

[0083] Circular Hand Value Tracking Display



[0084] In some variation, each display tracks the outcomes of both PLAYER hand values and BANKER hand values. In some variation, there is a display tracker specifically for PLAYER hand values. In some variation, there is a display tracker specifically for BANKER hand values. . In some variation, there is a display tracker specifically for TIE hand outcomes. In some embodiments, a given display tracker is updated with a hand value only if the player placed a wager on the corresponding hand type. In some embodiments, a given display tracker is updated with a hand value only for winning hands.

[0085] In some embodiments, the unique wagering opportunity pays an award if a certain number of unique values have occurred. In some embodiments, the unique wagering opportunity pays an award if the hand values tracked by a given display tracker corresponds to a specific pattern such as a row, a column, a diagonal, four corners, a "X" shape, a "+" shape, or any type of suitable pattern.

[0086] In some embodiments, the state of at least one display tracker can persist from a first play session to a second play session. In some variations, said persistence ends upon some defined terminating condition such as, but not limited to (a) at least one specific outcome evaluation result; (b) at least one display tracker state condition; or (c) the awarding of a specific primary award amount (which could be defined as a 0 award amount); or (d) the awarding of a specific secondary award amount (which could be defined as a 0 award amount); or (e) after a specific number of game play sessions; or (f) based on a secondary random determination; or (g) after a change in wager type and/or amount; or (h) and suitable condition; or (i) any combination thereof.

Initial Claims

1. System and method for providing a novel proposition based on plurality of multi-proposition outcomes.
2. The system and method Of Claim 1 wherein player makes a prediction regarding the outcome.
3. The system and method Of Claim 1 wherein plurality of proposition includes Baccarat outcomes
4. The system and method Of Claim 1 wherein plurality of proposition includes Slot outcomes
5. The system and method Of Claim 4 wherein Slot outcomes include number tumbling or cascading events
6. The system and method Of Claim 4 wherein Slot outcomes include number of wild roll-over events
7. The system and method Of Claim 4 wherein Slot sub-game outcomes are fully independent of one another.

Abstract

The present invention introduces a novel wagering opportunity based upon a plurality of sub-game outcomes. The method and system of the present invention includes the ability to play a plurality of sub-games within the same play session for the chance to win at least one award based on plurality of sub-game outcomes.