[0005]

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[Summary of Invention]

[Technical Problem]

[0006]

The present disclosure generally relates to the background described above and seeks, in one aspect, to provide a system that uses a card shoe used in a table game to measure, as periods in the course of a game handled by a dealer, particularly, a game play period from the time when a card is drawn from a card accommodating section to the time when a result of the game is displayed, and periods other than the play period including periods spent for bet placement and bet settlement.

[0007]

Further, in addition to the measurement of the detailed periods in a single game, measurement of the detailed periods over a plurality of games allows grasp of the sum and average of the detailed periods and dispersion and progress tendencies thereof, whereby countermeasures can be examined.

[0008]

The present disclosure further seeks, in another aspect, to provide a system that measures a period required to stop

using cards accommodated in the card shoe and replace the cards with a new set or package of cards.

[Solution to Problem]

[0009]

In accordance with an aspect of the disclosure, there is provided

a table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

a management control section that measures, based on points of time when specific items in a card game occur, a period between points of time when at least two of the specific items occur,

wherein the card shoe includes

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output start control section that controls start of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to start of the output,

the management control section is configured to be capable of receiving, from the card sensor, a signal representing that a card has been drawn and sensed and further measuring how many cards have been drawn in each game, and

capable of receiving a signal from the result output start control section and memorizing time when the win/loss evaluation result output starts,

the table game system further comprises a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at

a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered on, and

the period ending at

a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered off, and

measurement of an in-shoe package exchange period

with the in-shoe package exchange operation starting at

the point of time when the signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered off, and

the in-shoe package exchange operation ending at

the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered on.

In accordance with another aspect of the disclosure, there is provided

a table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

a management control section that measures, based on points of time when specific items in a card game occur, a period between points of time when at least two of the specific items occur,

wherein the card shoe includes

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output start control section that controls start of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to start of the output,

the management control section is configured to be

capable of receiving, from the card sensor, a signal representing that a card has been drawn and sensed and further measuring how many cards have been drawn in each game, and

capable of receiving a signal from the result output start control section and memorizing time when the win/loss evaluation result output starts,

the table game system further comprises a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at

a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered on, and

the period ending at

a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered off.

In accordance with yet another aspect of the disclosure, there is provided

a table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

a management control section that measures, based on points of time when specific items in a card game occur,

a period between points of time when at least two of the specific items occur,

wherein the card shoe includes

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output stop control section that controls stop of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to stop of the output,

the management control section is configured to be capable of receiving a signal from the result output stop control section and memorizing time when the win/loss evaluation result output stops,

the table game system further comprises a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

[1] measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at

a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered on, and

the period ending at

a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered off,

[2] measurement of an in-shoe package exchange period,

the period starting at

the point of time when the signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered off, and

the period ending at

the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered on,

[3] measurement of a game period that starts at a point of time when the win/loss evaluation result output in a preceding game stops and ends at a point of time when the win/loss evaluation result output in a current game stops, and

[4] calculation of a sum, an average, or dispersion of the game periods in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

In accordance with yet a further aspect of the disclosure, there is provided

a card shoe comprising:

a card accommodating section that accommodates shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set; and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table,

wherein the card shoe further includes

a management control section that measures, based on points of time when specific items in a card game occur,

a period between points of time when at least two of the specific items occur,

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output stop control section that controls stop of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to stop of the output,

the management control section is configured to be capable of receiving a signal from the result output stop control section and memorizing time when the win/loss evaluation result output stops,

the card shoe further includes a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section or a point of time when the card shoe is powered on, and

the period ending at a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section or a point of time when the card shoe is powered off, and

measurement of an in-shoe package exchange period,

the period starting at the point of time when the signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section or the point of time when the card shoe is powered off, and

the period ending at the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section or the point of time when the card shoe is powered on.

In yet another further aspect of the disclosure, there is provided

a table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

a management control section that measures, based on points of time when specific items in a card game occur, a period between points of time when at least two of the specific items occur,

wherein the card shoe includes

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output start control section that controls start of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to start of the output,

the management control section is configured to be

capable of receiving, from the card sensor, a signal representing that a card has been drawn and sensed and further measuring how many cards have been drawn in each game, and

capable of receiving a signal from the result output start control section and memorizing time when the win/loss evaluation result output starts, and

as an item of the measurement of the period between the points of time when the at least two specific items occur, a period from time when a first card is drawn to time when the win/loss evaluation result output starts is measured as a play period.

[0010]

In yet another further aspect of the disclosure, there is provided

a table game system comprising:

operation is received from the package exchange detecting section or a point of time when the card shoe is powered off, and

measurement of an in-shoe package exchange period

with the in-shoe package exchange operation starting at the point of time when the signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section or the point of time when the card shoe is powered off, and

the in-shoe package exchange operation ending at the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section or the point of time when the card shoe is powered on.

[0011]

In yet another further aspect of the disclosure, there is provided

a table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

the table game system further comprises a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section or a point of time when the card shoe is powered on, and

the period ending at a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section or a point of time when the card shoe is powered off.

[0012]

In yet another further aspect of the disclosure, there is provided

a table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

detecting section or the point of time when the card shoe is powered off, and

the period ending at the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section or the point of time when the card shoe is powered on,

[3] measurement of a game period that starts at a point of time when the win/loss evaluation result output in a preceding game stops and ends at a point of time when the win/loss evaluation result output in a current game stops, and

[4] calculation of a sum, an average, or dispersion of the game periods in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[0013]

In yet another further aspect of the disclosure, there is provided

a card shoe comprising:

a card accommodating section that accommodates shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set; and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table,

wherein the card shoe further includes

[Advantageous Effects of Invention]

[0014]

According to the table game system, in accordance with an aspect of the present disclosure, the card shoe used in a table game can be used to perform detailed analysis of a period particularly from the time when a card is drawn from a card accommodating section to the time when a result of the game is displayed, as periods associated with the progress of the game handled by a dealer, and grasp of the sum and average of the periods and dispersion and progress tendencies thereof, whereby countermeasures can be examined.

[Brief Description of Drawings]

[0015]

[Figure 1] Figure 1 is a side view of a card shoe and a management control section connected to the card shoe in an embodiment of the present invention.

[Figure 2] Figure 2 shows an overview of an entire casino in the embodiment of the present invention.

[Figure 3] Figure 3 shows an overview of a game of baccarat on a game table in the embodiment of the present invention.

[Figure 4] Figure 4 is a block diagram showing the progress of baccarat in the embodiment of the present invention.

Claims

[Claim 1]

A table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

a management control section that measures, based on points of time when specific items in a card game occur, a period between points of time when at least two of the specific items occur,

wherein the card shoe includes

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output start control section that controls start of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to start of the output,

the management control section is configured to be capable of receiving, from the card sensor, a signal representing that a

card has been drawn and sensed and further measuring how many cards have been drawn in each game, and

capable of receiving a signal from the result output start control section and memorizing time when the win/loss evaluation result output starts,

the table game system further comprises a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at

a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered on, and

the period ending at

a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered off, and

measurement of an in-shoe package exchange period

with the in-shoe package exchange operation starting at

the point of time when the signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered off, and

the in-shoe package exchange operation ending at

the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered on.

[Claim 2]

The table game system according to claim 1,

wherein the signal representing the start of the in-shoe package exchange operation is at least one of

(1) a signal representing that a state of a lid provided in an upper portion of the card accommodating section of the card shoe changes from a closed state to an open state in response to a signal from a sensor that detects the open/close states of the lid,

(2) a signal representing stop of the win/loss evaluation result output in a game in which a cut-card inserted into the shuffle playing cards accommodated in the card accommodating section is drawn or in a last of a pre-specified number of games after the cut-card is drawn,

(3) a signal representing that the state of the lid provided in the upper portion of the card accommodating section changes from the closed state to the open state after the cut-card is drawn, and

(4) an input signal representing end of use of the shuffle playing cards or the start of the in-shoe package exchange operation.

[Claim 3]

The table game system according to claim 1,

wherein the signal representing the end of the in-shoe package exchange operation is at least one of

(1) a signal representing that a state of a lid provided in an upper portion of the card accommodating section of the card shoe changes from an open state to a closed state in response to a signal from a sensor that detects the open/close states of the lid,

(2) a signal representing that a first card is drawn from the card shoe,

(3) a signal representing start of bets in the game, and

(4) an input signal representing start of use of the shuffle playing cards or the end of the in-shoe package exchange operation.

[Claim 4]

The table game system according to claim 1, wherein the management control section calculates a temporal ratio between the period for which the shuffle playing cards on a package basis or a set basis are used and the in-shoe package exchange period.

[Claim 5]

The table game system according to claim 1,

wherein in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used, the management control section is further configured to be capable of

measuring a period from time when a first card is drawn in each of the games to time when the win/loss evaluation result output starts as a play period and

calculating at least one of
a sum of a plurality of play periods in the period for which the shuffle playing cards on a package basis or a set basis are used,
an average of the play periods, and
dispersion of the play period.

[Claim 6]

The table game system according to any of claims 1 to 5,

wherein the card shoe further includes a result output stop control section that controls stop of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to stop the output,

the management control section is configured to be capable of further receiving a signal from the result output stop control section and memorizing time when the win/loss evaluation result output stops,

the item of the measurement of the period between the points of time when the at least two specific items occur further includes at least one of
[1] an item of measurement of a period from the time when the win/loss evaluation result output starts to the time when the win/loss evaluation result output stops as a bet settlement period, and
[2] an item of measurement of a period from time when the win/loss evaluation result output in a preceding game stops to the time when the first card is drawn as a bet period, and

the management control section is further configured to be capable of calculating at least one of
a sum,
an average, and
dispersion

of the bet settlement periods or the bet periods in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 7]

The table game system according to claim 6,

wherein the management control section adds a result of the measurement of the bet settlement period to a result of the measurement of the bet period into a period excluding play and is further configured to be capable of calculating at least one of

a sum,

an average, and

dispersion

of the periods excluding play in the plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 8]

The table game system according to claim 7,

wherein the management control section adds the play period to a result of the measurement of the period excluding play into a game period and is configured to be capable of calculating at least one of

a sum of a plurality of game periods in the period for which the shuffle playing cards on a package basis or a set basis are used,

an average of the game periods, and

dispersion of the game periods.

[Claim 9]

The table game system according to any of claims 1 to 4,

wherein the item of the measurement of the period between the points of time when the at least two specific items occur includes at least one of

[1] an item of measurement of a dealing period that starts when a first card is drawn and ends when a fourth card is drawn in the play period, and

[2] an item of measurement of a player's period that starts when the fourth card is drawn and ends when the win/loss evaluation result output starts in the play period, and

the management control section is configured to be capable of further calculating at least one of

a sum,

an average, and

dispersion

of the dealing periods or the player's periods in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 10]

The table game system according to any of claims 1 to 5, wherein the management control section is configured to be capable of setting a standard guideline period corresponding to at least one of the measured dealing period, player's period, bet settlement period, bet period, play period, period excluding play, game period, and in-shoe package exchange period and outputs a fact that any of the measured periods exceeds the standard guideline period.

[Claim 11]

The table game system according to any of claims 1 to 5, wherein the management control section is configured to be capable of further calculating a ratio among at least a plurality of the calculated sum of the dealing periods, the player's periods, the bet settlement periods, the bet periods, the play periods, the periods excluding play, and the game periods and the in-shoe package exchange period.

[Claim 12]

The table game system according to any of claims 1 to 5, wherein the management control section further includes an error sensing section that memorizes a predetermined rule of the card game and senses, based on the rule, a state of an error that is against the rule of the card game, and the error sensing section memorizes or outputs a number of sensed errors or contents of the sensed errors in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 13]

The table game system according to claim 12,

wherein the management control section is further configured to be capable of identifying at least one of
(1) drawing of a subsequent card from the card shoe in a course of the game, and
(2) the win/loss evaluation result output performed by the result output start control section
showing that the system has recovered from the error state, measuring an error recovery period required from time when the error sensing section senses the error to time when recovery from the error state is achieved, and calculating at least one of

a sum,
an average, and
dispersion
of the error recovery period having occurred in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 14]

A table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

a management control section that measures, based on points of time when specific items in a card game occur, a period between points of time when at least two of the specific items occur,

wherein the card shoe includes

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output start control section that controls start of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to start of the output,

the management control section is configured to be

capable of receiving, from the card sensor, a signal representing that a card has been drawn and sensed and further measuring how many cards have been drawn in each game, and

capable of receiving a signal from the result output start control section and memorizing time when the win/loss evaluation result output starts,

the table game system further comprises a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at

a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered on, and

the period ending at

a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered off.

[Claim 15]

The table game system according to claim 14,

wherein the signal representing the start of the in-shoe package exchange operation is at least one of

(1) a signal representing that a state of a lid provided in an upper portion of the card accommodating section of the card shoe changes from a closed state to an open state in response to a signal from a sensor that detects the open/close states of the lid,

(2) a signal representing stop of the win/loss evaluation result output in a game in which a cut-card inserted into the shuffle playing cards accommodated in the card accommodating section is drawn or in a last of a pre-specified number of games after the cut-card is drawn,

(3) a signal representing that the state of the lid provided in the upper portion of the card accommodating section changes from the closed state to the open state after the cut-card is drawn, and

(4) an input signal representing end of use of the shuffle playing cards or the start of the in-shoe package exchange operation.

[Claim 16]

The table game system according to claim 14,

wherein the signal representing the end of the in-shoe package exchange operation is at least one of

(1) a signal representing that a state of a lid provided in an upper portion of the card accommodating section of the card shoe changes from an open state to a closed state in response to a signal from a sensor that detects the open/close states of the lid,

(2) a signal representing that a first card is drawn from the card shoe,
(3) a signal representing start of bets in the game, and
(4) an input signal representing start of use of the shuffle playing cards or the end of the in-shoe package exchange operation.

[Claim 17]

The table game system according to claim 14,

wherein in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used, the management control section is further configured to be capable of

measuring a period from time when a first card is drawn in each of the games to time when the win/loss evaluation result output starts as a play period and

calculating at least one of
a sum of a plurality of play periods in the period for which the shuffle playing cards on a package basis or a set basis are used,
an average of the play periods, and
dispersion of the play period.

[Claim 18]

The table game system according to any of claims 14 to 17,

wherein the card shoe further includes a result output stop control section that controls stop of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to stop the output,

the management control section is configured to be capable of further receiving a signal from the result output stop

control section and memorizing time when the win/loss evaluation result output stops,

the item of the measurement of the period between the points of time when the at least two specific items occur further includes at least one of

[3] an item of measurement of a period from the time when the win/loss evaluation result output starts to the time when the win/loss evaluation result output stops as a bet settlement period, and

[4] an item of measurement of a period from time when the win/loss evaluation result output in a preceding game stops to the time when the first card is drawn as a bet period, and

the management control section is further configured to be capable of calculating at least one of

a sum,

an average, and

dispersion

of the bet settlement periods or the bet periods in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 19]

The table game system according to claim 18,

wherein the management control section adds a result of the measurement of the bet settlement period to a result of the measurement of the bet period into a period excluding play and is further configured to be capable of calculating at least one of

a sum,

an average, and

dispersion

of the periods excluding play in the plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 20]

The table game system according to claim 19,

wherein the management control section adds the play period to a result of the measurement of the period excluding play into a game period and is configured to be capable of calculating at least one of

a sum of a plurality of game periods in the period for which the shuffle playing cards on a package basis or a set basis are used,

an average of the game periods, and

dispersion of the game periods.

[Claim 21]

The table game system according to any of claims 14 to 17,

wherein the item of the measurement of the period between the points of time when the at least two specific items occur further includes at least one of

[3] an item of measurement of a dealing period that starts when a first card is drawn and ends when a fourth card is drawn in the play period, and

[4] an item of measurement of a player's period that starts when the fourth card is drawn and ends when the win/loss evaluation result output starts in the play period, and

the management control section is configured to be capable of further calculating at least one of

a sum,

an average, and

dispersion

of the dealing periods or the player's periods in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 22]

The table game system according to any of claims 14 to 17, wherein the management control section is configured to be capable of setting a standard guideline period corresponding to at least one of the measured dealing period, player's period, bet settlement period, bet period, play period, period excluding play, game period, and in-shoe package exchange period and outputs a fact that any of the measured periods exceeds the standard guideline period.

[Claim 23]

The table game system according to any of claims 14 to 17, wherein the management control section is configured to be capable of further calculating a ratio among at least a plurality of the calculated sum of the dealing periods, the player's periods, the bet settlement periods, the bet periods, the play periods, the periods excluding play, and the game periods and the in-shoe package exchange period.

[Claim 24]

The table game system according to any of claims 14 to 17, wherein the management control section further includes an error sensing section that memorizes a predetermined rule of the card game and senses, based on the rule, a state of an error that is against the rule of the card game, and the error sensing section memorizes or outputs a number of sensed errors or contents of the sensed errors in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 25]

The table game system according to claim 24,

wherein the management control section is configured to be capable of further identifying at least one of

(1) drawing of a subsequent card from the card shoe in a course of the game, and

(2) the win/loss evaluation result output performed by the result output start control section

showing that the system has recovered from the error state, measuring an error recovery period required from time when the error sensing section senses the error to time when recovery from the error state is achieved, and further calculating at least one of

a sum,

an average, and

dispersion

of the error recovery period having occurred in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 26]

A table game system comprising:

shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set;

a card shoe including

a card accommodating section that accommodates the shuffle playing cards, and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table; and

a management control section that measures, based on points of time when specific items in a card game occur, a period between points of time when at least two of the specific items occur,

wherein the card shoe includes

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output stop control section that controls stop of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to stop of the output,

the management control section is configured to be capable of receiving a signal from the result output stop control section and memorizing time when the win/loss evaluation result output stops,

the table game system further comprises a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

[1] measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at

a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered on, and

the period ending at

a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

a point of time when the card shoe is powered off,

[2] measurement of an in-shoe package exchange period,

the period starting at

the point of time when the signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered off, and

the period ending at

the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section, or

the point of time when the card shoe is powered on,

[3] measurement of a game period that starts at a point of time when the win/loss evaluation result output in a preceding game stops and ends at a point of time when the win/loss evaluation result output in a current game stops, and

[4] calculation of a sum, an average, or dispersion of the game periods in a plurality of games in the period for which the shuffle playing cards on a package basis or a set basis are used.

[Claim 27]

The table game system according to any of claims 1, 14 and 26,

further comprising bet area sensing means for sensing whether or not a bet is present in a bet area on the game table,

wherein the management control section further evaluates whether

(1) a bet has been placed in a player's area, and

(2) a bet has been placed in a banker's area,

based on information sensed by the beat area sensing means and representing whether or not a bet is present in the bet area, and memorizes or outputs a result of the evaluation in relation to at least one of the measured player's period, play period, or game period.

[Claim 28]

The table game system according to any of claims 1, 14 and 26,

further comprising bet area sensing means for sensing whether or not a bet is present in a bet area on the game table,

wherein the management control section is configured to calculate data on a number of players in the table game based on information sensed by the beat area sensing means and representing whether or not a bet is present in the bet area, and

the management control section further memorizes or outputs the calculated number of players in relation to at least one of the bet settlement period, the bet period, the period excluding play, or the game period.

[Claim 29]

The table game system according to any of claims 1, 14 and 26, wherein the table game system further comprises dealer ID sensing means for sensing a dealer ID given to a dealer responsible for a game table in use, and the management control section memorizes or outputs the sensed dealer ID in relation to at least one of the periods measured as the item of the measurement of the period between the points of time when the at least two specific items occur.

[Claim 30]

The table game system according to any of claims 1, 14 and 26,

further comprising a mode switcher that switches a mode in accordance with which the management control section operates to a period measurement omission mode in which the management control section does not measure the period between the points of time when the specific items occur in the table game, and

the management control section is configured to further measure a measurement omission period that starts at time when the mode switcher switches the mode in accordance with which the management control section operates to the period measurement omission mode and ends at time when the operation mode changes from the period measurement omission mode and further configured to exclude the measured measurement omission period from the bet period, the period excluding play, or the game period in a game immediately after the operation mode switches to the period measurement omission mode.

[Claim 31]

The table game system according to any of claims 1, 14 and 26, wherein the management control section further includes output means for outputting at least one of results of the measurement to an apparatus external to the card shoe in a wired or wireless manner.

[Claim 32]

The table game system according to any of claims 1, 14 and 26, wherein the management control section is accommodated in the card shoe.

[Claim 33]

A card shoe comprising:

a card accommodating section that accommodates shuffle playing cards that are playing cards formed of a multiple number of decks and shuffled and packaged or set; and

an opening through which the cards are drawn one by one from the card accommodating section onto a game table,

wherein the card shoe further includes

a management control section that measures, based on points of time when specific items in a card game occur, a period between points of time when at least two of the specific items occur,

a card sensor that senses that one of the cards is drawn and outputs a signal,

a card reading section that reads at least a rank of the drawn card,

a win/loss evaluating section that performs win/loss evaluation of the card game based on information on the rank of the card read by the card reading section,

a win/loss evaluation result output section that outputs a result of the win/loss evaluation performed by the win/loss evaluating section, and

a result output stop control section that controls stop of the win/loss evaluation result output performed by the win/loss evaluation result output section for an instruction to stop of the output,

the management control section is configured to be capable of receiving a signal from the result output stop control section and memorizing time when the win/loss evaluation result output stops,

the card shoe further includes a package exchange detecting section that detects start and end of in-shoe package exchange operation of exchanging the playing cards accommodated in the card accommodating section, and

an item of the measurement of the period between the points of time when the at least two specific items occur includes

measurement of a period for which shuffle playing cards on a package basis or a set basis are used,

the period starting at a point of time when a signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section or a point of time when the card shoe is powered on, and

the period ending at a point of time when a signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section or a point of time when the card shoe is powered off, and

measurement of an in-shoe package exchange period,

the period starting at the point of time when the signal representing the start of the in-shoe package exchange operation is received from the package exchange detecting section or the point of time when the card shoe is powered off, and

the period ending at the point of time when the signal representing the end of the in-shoe package exchange operation is received from the package exchange detecting section or the point of time when the card shoe is powered on.