An aspect of the present invention provides a game monitoring system for a game in which a dealer draws cards from a card dealer device one by one and deals the cards to any of a plurality of card dealing areas, the game monitoring system comprising at least one imaging device configured to generate one or more images of proceedings of the game; and at least one processor configured to: analyze the one or more images; for each card of multiple cards drawn from the card dealer device: based on analysis of the one or more images, identify into which card dealing area of the plurality of card dealing areas the card has been dealt; obtain, from the card dealer device, card information including at least a rank of the card; and determine a hand in a card dealing area of the plurality of card dealing areas, the hand including a first card and a second card of the multiple cards determined to be in the card dealing area based on the analysis of the one or more images, and the hand determined based on a first rank of the first card and a second rank of the second card obtained from the card dealer device.

Another aspect of the present invention provides an abnormality detection system, comprising an imaging device; and at least one processor, wherein the at least one processor is configured to: perform image analysis of a video, obtained from the imaging device, of proceedings of a game played on a game table; identify an order of dealing and respective positions of cards dealt onto respective areas of the game

table based on the image analysis; determine whether there is an abnormality of the identified order of dealing and identified respective positions of the cards being in non-conformance with a rule of the game; and output an indication of a presence of the abnormality when a determination result is presence of the abnormality.

~~To solve the various problems described above, a~~An abnormality detection system for a playroom with a game table according to the present ~~invention~~ disclosure is

an abnormality detection system for a baccarat game, including:

a game monitoring device that monitors proceedings of the baccarat game played on a game table using a camera;

an image analyzing device that performs image analysis of a video obtained by the camera;

a card dealing device that determines and displays a winner/loser result of each game on the game table;

a card deal detecting device that identifies an order of dealing and positions of cards dealt on the game table by a dealer based on an analysis result from the image analyzing device; and

a controller that stores a rule of the baccarat game and determines whether or not the order of dealing and positions of cards obtained from the card deal detecting device are those in which the cards are dealt in a Player area or a

Banker area on the game table according to the rule of the baccarat game,

wherein the controller has a function of outputting an abnormality determination result when it is determined that an abnormality that does not conform to the rule of the baccarat game has occurred.

[0010]

card deal detecting device may have a function of detecting positions and movements of two cards dealt in each area, and the controller may have a function of determining whether or not the two cards dealt in the Player area are moved to in front of the game participant who has betted on the Player side for squeezing and the two cards dealt in the Banker area are moved to in front of the game participant who has betted on the Banker side for squeezing.

[0014]

In addition, the controller may have a function of further determining whether or not the two cards provided to each game participant for squeezing are correctly placed back in the Player area and the Banker area on the game table.

[0015]

In addition, the controller may turn on an abnormality indicator lamp provided on either or both of the card dealing device and the game table when it is determined that an abnormality has occurred.

[Advantageous Effect ~~of Invention~~]

[0016]

The system according to the present ~~invention~~ disclosure can detect an abnormality or cheating and issue a warning or stop the abnormality or cheating when, after drawing cards onto a table in a baccarat game, a dealer makes a

[Document Name] Claims

~~[Claim 1]~~

~~An abnormality detection system for a baccarat game, comprising:~~

~~a game monitoring device that monitors proceedings of the baccarat game played on a game table using a camera;~~

~~an image analyzing device that performs image analysis of a video obtained by the camera;~~

~~a card dealing device that determines and displays a winner/loser result of each game on the game table;~~

~~a card deal detecting device that identifies an order of dealing and positions of cards dealt on the game table by a dealer based on an analysis result from the image analyzing device; and~~

~~a controller that stores a rule of the baccarat game and determines whether or not the order of dealing and positions of cards obtained from the card deal detecting device are those in which the cards are dealt in a Player area or a Banker area on the game table according to the rule of the baccarat game,~~

~~wherein the controller has a function of outputting an abnormality determination result when it is determined that an abnormality that does not conform to the rule of the baccarat game has occurred.~~

~~[Claim 2]~~

~~The abnormality detection system for a baccarat game according to Claim 1, wherein the card dealing device further comprises a deal restricting device that inhibits dealing of cards in response to the output of the abnormality determination result.~~

~~[Claim 3]~~

~~The abnormality detection system for a baccarat game according to Claim 2, wherein the controller has a function of determining an abnormality of dealing of cards in each game until the number of cards dealt by the dealer reaches three and activating the deal restricting device that inhibits dealing of cards in response to the determination result so that four or more cards are not dealt on the table when it is determined that an abnormality has occurred.~~

~~[Claim 4]~~

~~The abnormality detection system for a baccarat game according to Claim 2, wherein the controller has a function of determining an abnormality of dealing of cards in each game each time the dealer deals a card and activating the deal restricting device that inhibits dealing of cards in response to the determination result so that no card is dealt on the table after it is determined that an abnormality has occurred.~~

~~[Claim 5]~~

~~The abnormality detection system for a baccarat game according to Claim 1, wherein the controller has a chip detection function of identifying on which of a Player side or a Banker side on the game table a game participant has betted a chip based on the analysis result from the image analyzing device in each game, the card deal detecting device has a function of detecting positions and movements of two cards dealt in each area, and the controller has a function of determining whether or not the two cards dealt in the Player area are moved to in front of the game participant who has betted on the Player side for squeezing and the two cards dealt in the Banker area are moved to in front of the game participant who has betted on the Banker side for squeezing.~~

~~[Claim 6]~~

~~The abnormality detection system for a baccarat game according to any one of Claims 1 to 5, wherein the controller has a function of further determining whether or not the two cards provided to each game participant for squeezing are correctly placed back in the Player area and the Banker area on the game table.~~

~~[Claim 7]~~

~~The abnormality detection system for a baccarat game according to any one of Claims 1 to 6, wherein the controller turns on an abnormality indicator lamp provided on either or both of the card dealing device and the game table when it is determined that an abnormality has occurred.~~

1. A game monitoring system for a game in which a dealer draws cards from a card dealer device one by one and deals the cards to any of a plurality of card dealing areas, the game monitoring system comprising:

at least one imaging device configured to generate one or more images of proceedings of the game; and

at least one processor configured to:

analyze the one or more images;

for each card of multiple cards drawn from the card dealer device:

based on analysis of the one or more images, identify into which card dealing area of the plurality of card dealing areas the card has been dealt;

obtain, from the card dealer device, card information including at least a rank of the card; and

determine a hand in a card dealing area of the plurality of card dealing areas, the hand including a first card and a second card of the multiple cards determined to be in the card dealing area based on the

analysis of the one or more images, and the hand determined based on a first rank of the first card and a second rank of the second card obtained from the card dealer device.

2. The game monitoring system according to claim 1, wherein, for each card of the multiple cards, the at least one processor is further configured to identify one card dealing area of the plurality of card dealing areas into which the card has been dealt after obtainment of the card information corresponding to the card.

3. The game monitoring system according to claim 1, wherein the at least one processor is further configured to detect positions and a total sum of one or more chips bet by a game participant using the at least one imaging device or identifications (IDs) embedded in the one or more chips.

4. The game monitoring system according to claim 3, wherein the at least one processor is further configured to determine that the multiple cards have been moved in front of the game participant who has bet the one or more chips.

5. The game monitoring system according to claim 1, wherein the at least one processor is further configured

to obtain information on a rank of each card of the multiple cards based on the analysis of the one or more images.

6. The game monitoring system according to claim 5, further comprising a sensor, wherein:

the sensor is configured to sense respective ranks of the multiple cards as they are dealt from the card dealer device; and

the at least one processor is further configured to compare the information on the rank obtained based on the analysis of the one or more images and the ranks sensed by the sensor.

7. The game monitoring system according to claim 1, wherein the game involves the dealer and a player who move hands on a table.

8. An abnormality detection system, comprising:

an imaging device; and

at least one processor, wherein the at least one processor is configured to:

perform image analysis of a video, obtained from the imaging device, of proceedings of a game played on a game table;

identify an order of dealing and respective positions of cards dealt onto respective areas of the game table based on the image analysis;

determine whether there is an abnormality of the identified order of dealing and identified respective positions of the cards being in non-conformance with a rule of the game; and

output an indication of a presence of the abnormality when a determination result is presence of the abnormality.

9. The abnormality detection system according to claim 8, wherein the at least one processor is further configured to perform an abnormality determination operation in the game until a number of the cards dealt in each of the areas reaches two and perform a control based on a determination that the abnormality has occurred to prevent dealing of another card onto the game table after the occurrence of the abnormality is determined.

10. The abnormality detection system according to claim 8, wherein the at least one processor is further configured to perform an abnormality determination operation each time a card is dealt in the game and perform a control based on a determination that the abnormality has occurred to prevent dealing of another card onto the game

table after the occurrence of the abnormality is determined.

11. The abnormality detection system according to claim 8, wherein the at least one processor is further configured to identify at least one chip bet by a game participant based on the image analysis, and determine whether each of the areas into which the cards are dealt is an area corresponding to the at least one chip that is bet, according to the rule of the game.

12. The abnormality detection system according to claim 8, wherein the output of the indication includes turning on an abnormality indicator lamp provided on the game table.

13. The abnormality detection system according to claim 8, further comprising a card dealer that includes a housing from which the card dealer is configured to deal the cards onto the game table and a restrictor, wherein the restrictor is configured to inhibit the dealing of the cards in response to the presence of the abnormality.

14. The abnormality detection system according to claim 8, wherein the at least one processor is further configured to store the rule of the game.