of a game, fraud according to collection or repayment of chips that is different from the result of win/loose, and the like based on an image acquired from the monitoring camera.

[0004]

Meanwhile, in order to perceive the number or a total amount of bet chips, it has been proposed to perceive the amount of chips by attaching an IC tag to each chip.

[0005]

In a card game monitoring system disclosed in PCT/JP2015/000171, it is determined whether or not chips placed on a game table is collected or re-paid according to a result of win/loose by performing an image analysis of the movement of chips, whereby fraud is monitored.

Disclosure of Invention

Technical Problem

[0006]

Embodiments of the present disclosure seek to provide a new management system that may detect fraud in a game in a game house or a mistake or fraud when substitute currency for gaming is bet or is paid off.

Solution to Problem

[0006a]

An aspect of the present invention provides a management system of a table game, the management system comprising:

substitute currency for gaming to which an ID that can be individually identified is attached; a game table on which games are played by using the substitute currency for gaming; a chip tray that holds the substitute currency for gaming used by a dealer at the game table; a chip determination device that specifies types and quantities of the substitute currency for gaming held by the chip tray, by using the IDs; a winning/losing determination device that determines and displays a result of winning/losing of each game on the game table; a camera that captures substitute currency for gaming placed on the game table to generate an image; and an intelligent-type control device that identifies positions, types, and quantities of chips bet by each player through image analysis using deep learning or artificial intelligence on the image, wherein the intelligent-type control device is capable of identifying a total amount of the chips on the chip tray through the chip determination device and further capable of recognizing a color pattern of the side of the substitute currency for gaming and specifying the types of the substitute currency for gaming based on the colors that constitute the color pattern, and determines whether or not the increased/decreased amount is correct of the substitute currency for gaming on the chip tray by using the specified types of the substitute currency for gaming on the game table and the result of winning/losing of the game acquired from the winning/losing determination device.

[0007]

There is also disclosed a management system of a table game comprising: a card distributing device that determines and displays a result of winning/losing of each game in a game table; a measurement device that measures types and quantities of substitute currency for gaming placed on the game table by using a camera; and a management control device that specifies and stores a position, types, and quantities of the substitute currency for gaming placed on the game table by a game participant by using a result of the measurement performed by the measurement device in each game, wherein the substitute currency for gaming forms a stripe pattern on a side face in a stacking direction by employing a multi-layer structure in which a plurality of plastic layers having different colors are stacked, a coloring layer is included at least in the middle, and white layers or thin-color layers are stacked on both sides of the coloring layer disposed in the middle, and has a configuration enabling the type of the substitute currency for gaming to be specified by the coloring layer, and the management control device has a calculation function of determining the game participant as a winner/loser in each game and calculating a balance of a casino side on the game table for each game by using the result of winning/losing acquired from the card distributing device and the result of the measurement of the position, the types, and the quantities of the substitute currency for gaming placed by the game participant.