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(54) Presentation system for a real time card event

(57) The present invention disclosed herein provides a system and method for tracking the distribution of cards during the play of a game. The distribution of cards to players are tracked in part by using a reader, e.g. a camera, barcode reader, RFID reader, etc preferably located, or affixed, under the playing surface of a table to determine the cards dealt to players by a dealer during the course of game play. It is a further aspect of certain embodiments of the present invention to virtually replicate at least a portion of the game play, based on the tracked distribution of cards, for presentation to spectators of the game. The system and method can be used for real-time presentation of a card game, such as a poker game, to spectators.

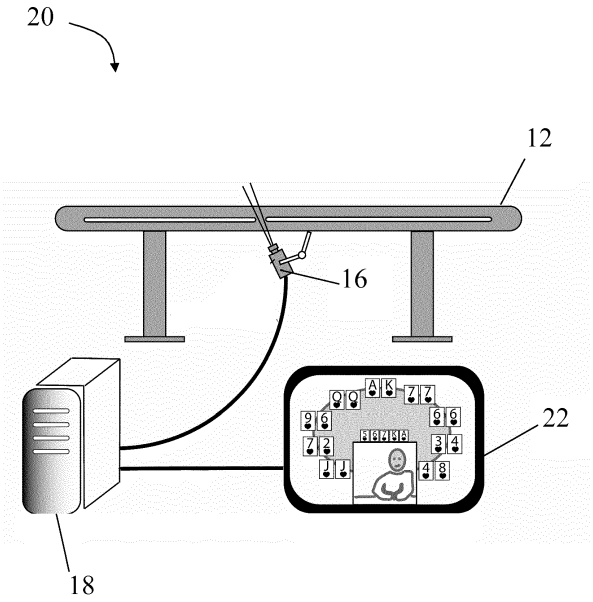

Fig. 2

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Description

FIELD OF INVENTION

[0001] The present invention relates generally to a system and method for tracking the distribution of cards during the play of a game. Furthermore, there are described herein embodiments for utilizing the tracking data for presenting the play of the game on one or more remote displays.

BACKGROUND OF THE INVENTION

[0002] Games of chance and card games such as poker and black jack are becoming ever more popular spectator events. In a game such as black jack the majority of cards are face-up and therefore easily captured by television cameras located above the playing surface. In fact, in a standard game there is only one dealer card face down during normal play and that card is eventually shown to the players and therefore to spectators.

[0003] However, when presenting poker as a spectator event several challenges arise. In most forms of poker the players are dealt at least one card face down which is known only to them during game play. If a player decides to fold their cards early in the hand then their face down cards, or whole cards, are not shown to the players at the table. While this is accepted by players of the game, spectators expect to see all of the cards on the table during the game, including the whole cards of each of the players regardless of how they play the game. Therefore, a standard television camera located above the playing surface will record only a portion of the action occurring on the table and be unacceptable to spectators.

[0004] Several attempts have been made to overcome this problem. For instance, in many televised poker tournaments each player station at a table is equipped with a camera under a piece of glass on the playing surface. Once the player has been dealt their cards they are supposed to move their cards over the glass portion of the table top long enough for the camera to capture images of the cards. A video feed of the player's cards can then be relayed to someone who will record the cards of each player or simply broadcast to the spectators.

[0005] A similar implementation is to put a small camera in to the cushion/bumper around the rim of the table at each player station. Once the player has been dealt their cards they are supposed to turn up at least the corners of their cards so that the camera in the cushion can record their cards.

[0006] Both of these implementations are subject to several similar disadvantages. For one, players can refuse to show their cards or purposefully hide one or more of their whole cards from the cameras. Additionally, in the case of Hold'em or Omaha poker where each player has multiple whole cards, sometimes the closer card to the camera will partially or completely obscure one or more of the subsequent cards. In this case, the error can be unintentional and irreversible, i.e. in this case once the player folds there is no way for the spectators to know what cards were hidden and folded.

[0007] Another basic problem with these systems is that they require each player station at a table to have a camera. With 9 or 10 player stations at each table this becomes costly in mega tournaments with hundreds of tables. Therefore, in many tournament situations there are a limited number of tables equipped with this monitoring technology and therefore only a limited opportunity for spectators to follow players in the tournament.

SUMMARY OF THE INVENTION

[0008] The object of the present invention is to provide a system and method for tracking the distribution of cards during the play of a game.

[0009] An aspect of certain embodiments of the present invention is to track the distribution of cards to players by using a reader, e.g. a camera, barcode reader, RFID reader, etc., to determine the distribution of cards as they are dealt by a dealer.

[0010] It is a further aspect of certain embodiments of the present invention to virtually replicate at least a portion of the game play, based on the tracked distribution of cards, for presentation to spectators of the game.

[0011] According to certain embodiments of the present invention there is a reader located under, or substantially under, the playing surface of a table, such as a poker table. The reader is capable of reading at least one marking on each card being used during the game. A marking can be, for example, the card identifier (e.g. K♥ or 10♣), a barcode and/or QR-code printed and/or affixed to the face of a card, an RFID-chip and/or conductive code printed and/or affixed to the face and/or under the face of a card, or the like.

[0012] According to certain embodiments of the present invention the reader is located at, or substantially near a location under where a dealer will normally deal the cards during the game.

[0013] The reader is then connected to a control unit which, according to certain embodiments of the present invention, is capable of logging the read markers as well as the time at which the marker was read. The control unit is further capable of determining the card associated with the read marker. The control unit, or an additional unit downstream from the control unit, can, for example, then determine which cards have been dealt, to whom they have been dealt and therefore virtually recreate at least the whole cards held at the table at any given time.

[0014] Certain embodiments of the present invention therefore provide a less complex and therefore less expensive alternative to placing a camera at each player position. Additionally, as the cards are read as they are dealt there is little or no possibility for players to purposefully or inadvertently hide some or all of their whole cards from presentation to spectators.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

Fig. 1 shows a birds-eye view of a game table mid-deal

Fig. 2 shows a side view of a game table having a reader mounted thereto, said reader connected to a control unit which is further connected to a display device.

Fig. 3 shows examples of the back and front of marked cards.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0016] Presented herein is a system for tracking cards during game play. Embodiments of systems according to the present invention include components selected from; a playing table, one or more readers, one or more sets of playing cards, one or more operator input devices, a control unit, one or more servers or additional control and/or processing units, and transmission unit.

[0017] As to the reader, examples of applicable readers are, but not limited to, e.g. a camera, barcode reader, RFID reader, etc. The reader is preferably configured to read one or more markings present on the face of a playing card or within a playing card.

[0018] A control unit is preferably adapted to process data from the reader in order to virtually reconstruct at least a portion of the game play. The control unit is preferable further adapted to process request and data entered by one or more operator input devices. The control unit can be, for example a simple computer, tablet computer, CPU, server, or portion thereof. The control unit can have one or more processors, fixed permanent or temporary computer readable memories, removable computer readable memories, input devices, network connections, or other standard computing modules. Furthermore, the control unit can have previously stored thereon one or more sets of computer readable data or instructions for facilitating the present invention as described below.

[0019] In several embodiments it is preferable to have at least one operator input device. An operator input device can be, for example, a touch screen located at or near a dealer position of the table. Such an operator input device can allow a dealer to input information such as the occurrence of a full or partial misdeal, an exposed card, an addition, subtraction or movement of one or more players to/from the table, etc. Similarly, an operator input device can be located at a remote monitoring location in order to reduce the burden on the dealer. Said remote operator input device could be a touch screen or keyboard connected to the control unit.

[0020] Furthermore, in certain embodiments of the present invention it is preferable to send some, or all of the collected data and/or virtual representation of the game play quickly to a broadcast source, e.g. a television station or sub-station. In such embodiments the control unit, or subsequently connected processing unit, can be equipped with, or in connection with, a transmission unit. Said transmission unit therefore capable of transmitting said information to a remote location for presentation.

[0021] While the system need not include the table itself, for example in the case that the remaining portions of the system are transported to and from different tournament sites and installed/re-installed on different tables, the table may be an integral portion of the system. Furthermore, while the discussion and examples provided herein revolve mostly around different forms of poker played on a standard 9 or 10 person poker table, one of ordinary skill in the art will recognize the utility for use of a system in accordance with the present invention for other games and on other tables. However, each table should have a playing surface for playing said game.

[0022] Figure 1 shows an example 10 of a table 12 utilizing the present system. The example 10 shows a dealer in the middle of dealing whole cards to a plurality of players in the format of Hold'em poker. As can be seen in the figure, the dealer holds the deck of cards in his left hand and passes the card over a covered opening in the table 14 before dispersing the card to the intended player.

[0023] Figure 2, shows an example 20 of the table 12 from a side angle. As can be seen in the figure, a camera 16 is mounted below the playing surface of the table. The camera 16 is then connected to a control unit 18. Said control unit 18 is further connected to a presentation display 22.

[0024] From a position under the playing surface, the camera 16 is able to record images of the cards being dealt by recording through the opening 14 in the table above. In an embodiment where the reader is an optical camera which requires a direct line of sight to the cards then the opening can be covered with a transparent, or at least partially transparent material. Examples of some materials which can be suitable are glass, Plexiglas or other translucent plastic material. Those of ordinary skill in the art will recognize countless alternative suitable materials which allow a camera to record images of the markings on the cards dealt above.

[0025] However, for several embodiments of the present invention the reader does not need an optically clear line of sight to the cards. In the case of a card having an RFID chip, a electromagnetic code, a conductive code, or the like the reader can be located behind one or more non-transparent/non-translucent materials. Based on the technology of the particular reader being utilized it may be necessary or preferable to at least partially modify a portion of the table to facilitate clear and accurate reading of the markings on the cards by the reader.

[0026] As an example, the composition of the table above and/or around a reader may be altered to facilitate

said reader's ability to ready the markings on the cards. If a table construction is too thick for a reader to be mounted completely under the table and effectively read said markings then some or all of the material from a desired portion of the table can be removed and/or replaced with more suitable material. Additionally, substantially all of the material can be removed, as in the case of an opening, where the opening is then covered by essentially only the playing surface, e.g. felt. Such an example can be preferential for keeping the appearance of a standard game table. However, in such examples it can be preferential to in some way mark the top of the playing surface to indicate where the reader is located below. Such marking can be in the form of a printed symbol or the like.

[0027] Additionally, the present system may include one or more sets of cards. Each set of cards may have one or more markings per card capable of being read by a reader of the system. Figure 3 shows several examples of such cards. In order to prevent cheating, or even the appearance of possible cheating, it is preferable that the back of a card 30 is free from any type of specific identifier. Therefore, any marking of the cards should be on their fronts, as shown in examples 32A, 32B and 32C or within the card itself.

[0028] Example 32A shows a card which has a barcode across a portion of the face of the card. Similarly, 32B shows a card with a QR-code on a portion of the face of the card. 32C shows an example of an RFID chip on the face of the card. However, for examples such as an RFID chip where the marker does not need to be viewed to be read it can be advantageous to locate the marking within the card itself, e.g. between a face and back portion of the card. However, in some instances it may be preferred, or necessary to modify a deck of cards after their production in which case a marker, such as the RFID tag of 32C can be affixed to the front of the card.

[0029] Additionally as can be seen on all of the cards in the examples, the card identifier (K♣) is still clearly visible in its standard location. Therefore, each card in the present examples 32A-C can be said to have two distinct markers. In an embodiment of the present invention a different, or the same, reader can be used to read each of the two, or more, markers. This can be used, for example, as a safe check to make sure that cards or markers have not been tampered with.

[0030] According to the example 20 the reader 16 is an optical camera. According to similar embodiments of the present invention, the cards can be as described with regards to examples 32A and 32B or may have only their standard card identifier. The optical camera can then take a preferably continuous video stream of the cards being dealt by the dealer. Then, either the reader 16 or the control unit 18 can use a known method for optically determining the markings viewed by the reader 16. One of such methods can be to use optical recognition software. As mentioned above, the reader 16 can also be a barcode, QR code, electromagnetic reader or the like which records data about the card being dealt and then processes the data to determine the corresponding card to the date.

[0031] In virtually all versions of spectator poker, and card games for that matter, there is an assigned dealer. As such, the dealer stays in a fixed position of the table and routinely deals cards in a predictable manner. Therefore, it is advantageous to place the reader at or near a location of the table where the dealer is expected to, or instructed to, deal the cards from. With such a placement of the reader it becomes redundant to place additional readers/cameras at each of the player stations, as is required in known implementations. Such a single location therefore reduces the total number of readers/cameras required, reduces the amount of modification necessary to the table and therefore reduces the overall cost of implementing the system.

[0032] However, there may be an advantage to mounting more than one reader, similar or dissimilar to the first, at a location on the table to double check or augment the first. This location may remain close to the dealer, the two readers may be arranged to accommodate both right and left handed dealers, or they may be located at a substantially different locations to best take in to consideration the capabilities of the readers and the flow of card distribution and game play.

[0033] Furthermore, disclosed herein is a method for virtually recreating at least a portion of the play of a game. The methods disclosed herein are carried out with the aid of a processor. The duties of said processor may be spread over several computing units. However, as described herein said duties are described with respect to being carried out primarily by the control unit. One of ordinary skill in the art will recognize that the invention as such should not be limited to such an example but that the example is mearly to facilitate description of the embodiments of the invention.

[0034] The control unit 18, or one or more processing elements therein, are configured to register that a marking on at least one card has been read by the reader 16. Data relating to the read marking can then be stored in a database, or other nonvolatile memory, of, or in communication with, the control unit. Additionally, it can be preferable that a time stamp is assigned, and/or logged with the data at this point. The control unit should also be capable of determining if any operator input has been entered or registered which should be taken in to account in any of these steps.

[0035] Based on the received data the control unit determines the particular card which corresponds to the read markings. While this can be done by the reader itself, it is often necessary to compare a determined marking to a list of associated markings and cards stored in a database, potentially on a memory of the control unit, in order to determine the corresponding card.

[0036] Determining the particular card which corresponds to the read marking can take any of a number of forms as described in part above. For example, the con-

trol unit can use optical recognition software stored on the control unit, or accessible by the control unit, in order to determine the marking and/or card identifier from an image captured by an optical camera. Said optical recognition software, and/or a barcode reading software and/or a QR code reading software can also determine the viewed marker and then determine out right, or after consulting a list of associations, the identity of the specific card.

[0037] In certain implementations, for example a high value tournament, it can be beneficial to have additional security measures in place, possibly including, but not limited to encryption and decryption. For instance, after the marker is read the information can be encoded, transmitted by the reader or a intermediary unit to a remote location housing a control unit and then decrypted away from the gaming table itself.

[0038] At this point, the control unit can determine the cards which have been dealt by the dealer and, preferably, the time or relative time at which they were dealt. The distribution of the cards can then be determined simply by knowing the number of players being dealt cards at the table, the number of cards that each player receives and which player is dealt to first. Some or all of this information can be entered via an operator input as described above. Additionally, some of this information can be determined by the control unit based on previous data and events.

[0039] The control unit can have an accessible memory with one or more game rules and/or game conditions stored thereon. Examples of game rules are; the number of cards dealt to each player at each step of the game, the order in which cards are dealt to players, the number of cards dealt as community and/or burn cards, the order in which community and/or burn cards are dealt, etc. Examples of game conditions are; the number of players starting at the table, the number of players at the table at a given time, the number and/or position of players who are at the table but not receiving cards, the position of the first person to be dealt to at the beginning of game session, the position of the first person to be dealt to at a given point in time, etc.

[0040] When the control unit knows the first position to be dealt to and the total number of players at the table then, for example, it simply assigns the first card dealt to the first position, the second to the second position, and so on until it starts over at the first position if each position is to receive more than one card. The control unit is then capable of determining when a round of cards has been completely dealt and therefore what the distribution of the cards is at the end of that dealing round. Furthermore, the control unit may determine the ending of a specific dealing round by detecting a prolonged time break after a last card is dealt.

[0041] According to certain embodiments of the present invention, the game is to be presented in real-time, or substantially in real-time. In such embodiments the control unit can continuously send card distribution information, for example through a transmission unit, to a remote display or broadcast station. In other embodiments, the control unit can collect distribution information and send it as a packet when a round is determined to have been concluded. Said round can be a dealing round or a full hand of play.

[0042] According to certain embodiments of the present invention, the system is additionally capable of virtually reconstructing at least a portion of the game play. This is based in part on the determined distribution of the cards during the play of the game. For instance, when the control unit is privy to one or more rules of the game, such as each player receives two whole cards and then there is a burn card, followed by three flop cards, followed by a burn, followed by a turn card, followed by a last burn card and ending with a river card, then the control unit can determine based off of the timing between cards being dealt and the read markings what the card distribution and what a portion of the game play looks like. The control unit can the virtually recreate the card dealing portion of the game play for further presentation to spectators.

[0043] In a further example, knowing the above information, the control unit can calculate the number of cards being dealt with only a small time duration between cards and therefore determine the total amount of cards dealt during the initial deal. As the system known that each player gets two cards it can then determine the number of players remaining at the table. If the control unit knew who was dealt to first in the last round then it will know, based off of one or more additional rules, who received the first card in the present round. Therefore, for each hand it is not necessary to manually enter game conditions. The control unit then knows that if four cards are dealt after a break from the initial deal that the first card is a burn, and therefore not shown, and the next cards create the flop. If at any time there are more cards dealt than according to the known rules then the system can determine that the previous hand has concluded and the newly dealt cards comprise the whole cards for the next hand. Further advantages to such a system over those with only cameras by the player stations or above the table is that a spectator can now know what the burn cards are, or potentially what the next card to come out would have been.

[0044] The method steps of the processor as described above with regards to the operation of the control unit may be stored as a computer program product on a transitory and/or non-transitory computer readable medium. Said medium can be a fixed or removable computer readable medium accessible by one or more processors of the control unit or other processing unit.

[0045] Embodiments of the present invention can be further described by means of the following clauses:

Clause 1, A system for tracking cards during game play comprising; a reader configured to read one or more markings on a plurality of playing cards, and a control unit adapted to process data from the reader

in order to virtually reconstruct at least a portion of the game play.

Clause 2, A system in accordance with clause 1, further comprising; an operator input device, and a transmission unit capable of transmitting said virtually reconstructed portion of the game play to a remote location for presentation.

Clause 3, A system in accordance with clause 1 or clause 2, further comprising; a table having a playing surface for playing said game, wherein said reader is mounted substantially under the playing surface.

Clause 4, A system in accordance with clause 3, wherein said table further comprises an opening arranged above said reader.

Clause 5, A system in accordance with clause 4, wherein said opening is covered by an at least partially transparent material.

Clause 6, A system in accordance with clause 5, wherein said at least partially transparent material is selected from the group of glass, Plexiglas or other translucent plastic material.

Clause 7, A system in accordance with any of clauses 2-6, wherein the composition of the table above and/or around said reader is altered to facilitate said reader's ability to ready the markings on the cards.

Clause 8, A system in accordance with any of the preceding clauses, further comprising; one or more sets of cards having one or more markings per card capable of being read by said reader.

Clause 9, A system in accordance with clause 8, wherein one or more of said marking on each card are on a face side of each card.

Clause 10, A system in accordance with any of the preceding clauses, wherein said reader is an optical camera.

Clause 11, A system in accordance with any of the preceding clauses, wherein said reader is an electromagnetic reader.

Clause 12, A system in accordance with any of the preceding clauses, wherein said reader is arranged to read at least one barcode and/or QR code on the face of each of said cards as they are dealt.

Clause 13, A system in accordance with any of the preceding clauses, wherein said reader is mounted substantially in front of a dealer position at the table.

Clause 14, A system in accordance with any of the preceding clauses, wherein said reader is mounted substantially under a position where a dealer deals the cards during at least a portion of the game play.

Clause 15, A system in accordance with any of the preceding clauses, further comprising one or more additional readers.

Clause 16, A system in accordance with clause 15, wherein said one or more additional readers are capable of reading the same markings as the first reader at one or more different locations around the table.

Clause 17, A system in accordance with clause 15 or 16, wherein said one or more additional readers are capable of reading different markings from the first reader at substantially the same and/or different locations around the table.

Clause 18, A system in accordance with any of the preceding clauses, wherein said operator input device is located at or near a dealer position of the table.

Clause 19, A system in accordance with any of clauses 1-17, wherein said operator input device is located at a remote location from the table.

Clause 20, A system in accordance with any of the preceding clauses, wherein said control unit comprises a CPU.

Clause 21, A system in accordance with any of the preceding clauses, wherein said control unit comprises a processor being configured to perform the steps of; registering that a marking on at least one card has been read, determining the particular card from a set of cards which corresponds to said marking, determining if any operator input has been registered, determining a distribution of one or more cards during the play of the game, virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

Clause 22, A system in accordance with clause 21, wherein said registering step includes storing a time stamp of the time the marking was read along with the marking in a register and/or database.

Clause 23, A system in accordance with clause 21 or 22, wherein said markings are registered in a temporary memory of the control unit.

Clause 24, A system in accordance with any of clauses 21-23, wherein said markings are registered in a hard drive of the control unit.

Clause 25, A system in accordance with any of clauses 21-24, wherein determining the particular card from a set of cards includes using an optical recognition process to determine the marking from an optical image.

Clause 26, A system in accordance with any of clauses 21-25, wherein determining the particular card from a set of cards includes using a barcode reading process to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 27, A system in accordance with any of clauses 21-26, wherein determining the particular card from a set of cards includes using a QR code reading process to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 28, A system in accordance with any of clauses 21-27, wherein determining the particular card from a set of cards includes using an RFID reading process to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 29, A system in accordance with any of clauses 21-28, wherein determining the particular card from a set of cards includes determining a change in electro mechanic characteristics over said marking to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 30, A system in accordance with any of clauses 21-29, wherein determining the particular card from a set of cards includes determining a change in conductance over the marking to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 31, A system in accordance with any of clauses 21-30, wherein determining the distribution of the cards on the table includes taking in to account at least one rule of the game being played and the timing of the reading of the cards to determine to which positions of the table the cards are dealt.

Clause 32, A system in accordance with any of clauses 21-31, wherein determining the distribution of the cards on the table includes taking in to account a starting condition of the deal at a set point in time.

Clause 33, A system in accordance with clause 32, wherein said starting condition includes the position at the table where the first card is to be dealt.

Clause 34, A system in accordance with clause 32 or 33, wherein said starting condition includes the number of players at the table.

Clause 35, A system in accordance with any of clauses 21-34, wherein determining the distribution of the cards on the table includes taking in to account the interval between at least two registering of read markings.

Clause 36, A system in accordance with any of clauses 21-35, wherein virtually reconstructing at least a portion of the game play includes reconstructing the whole cards of each of the players dealt in to the game at a given time.

Clause 37, A method for virtually reconstructing at least a portion of the play of a card game, wherein said card game is played on a table having a reader arranged to read at least one marking on each of a plurality of cards used in the game, said markings being arranged on a face surface of each card, said method including the steps of; registering that a marking on at least one card has been read, determining the particular card from a set of cards which corresponds to said marking, determining if any operator input has been registered, determining a distribution of one or more cards during the play of the game, virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

Clause 38, A processing unit adapted to virtually reconstructing at least a portion of the play of a card game, wherein said card game is played on a table having a reader arranged to read at least one marking on each of a plurality of cards used in the game, said markings being arranged on a face surface of each card, said method including the steps of; registering that a marking on at least one card has been read, determining the particular card from a set of cards which corresponds to said marking, determining if any operator input has been registered, determining a distribution of one or more cards during the play of the game, virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

Clause 39, A computer readable medium having stored thereon a computer program product for causing a processor to virtually reconstructing at least a portion of the play of a card game, wherein said card game is played on a table having a reader arranged to read at least one marking on each of a plurality of cards used in the game, said markings being arranged on a face surface of each card, said method including the steps of; registering that a marking on at least one card has been read, determining the

particular card from a set of cards which corresponds to said marking, determining if any operator input has been registered, determining a distribution of one or more cards during the play of the game, virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

Clause 40, A non-transitory computer readable medium having stored thereon a computer program product for causing a processor to virtually reconstructing at least a portion of the play of a card game, wherein said card game is played on a table having a reader arranged to read at least one marking on each of a plurality of cards used in the game, said markings being arranged on a face surface of each card, said method including the steps of; registering that a marking on at least one card has been read, determining the particular card from a set of cards which corresponds to said marking, determining if any operator input has been registered, determining a distribution of one or more cards during the play of the game, virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

Clause 41, A method, processing unit or computer readable medium in accordance with any of clauses 37-40, wherein said registering step includes storing a time stamp of the time the marking was read along with the marking in a register and/or database.

Clause 42, A method, processing unit or computer readable medium in accordance with any of clause 37-41, wherein said markings are registered in a temporary memory of the control unit.

Clause 43, A method, processing unit or computer readable medium in accordance with any of clauses 37-42, wherein said markings are registered in a hard drive of the control unit.

Clause 44, A method, processing unit or computer readable medium in accordance with any of clauses 37-43, wherein determining the particular card from a set of cards includes using an optical recognition process to determine the marking from an optical image.

Clause 45, A method, processing unit or computer readable medium in accordance with any of clauses 37-44, wherein determining the particular card from a set of cards includes using a barcode reading process to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 46, A method, processing unit or computer readable medium in accordance with any of clauses 37-45, wherein determining the particular card from a set of cards includes using a QR code reading process to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 47, A method, processing unit or computer readable medium in accordance with any of clauses 37-46, wherein determining the particular card from a set of cards includes using an RFID reading process to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 48, A method, processing unit or computer readable medium in accordance with any of clauses 37-47, wherein determining the particular card from a set of cards includes determining a change in electro mechanic characteristics over said marking to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 49, A method, processing unit or computer readable medium in accordance with any of clauses 37-48, wherein determining the particular card from a set of cards includes determining a change in conductance over the marking to determine the marking, and retrieving the identity of the card which corresponds to said marking.

Clause 50, A method, processing unit or computer readable medium in accordance with any of clauses 37-49, wherein determining the distribution of the cards on the table includes taking in to account at least one rule of the game being played and the timing of the reading of the cards to determine to which positions of the table the cards are dealt.

Clause 51, A method, processing unit or computer readable medium in accordance with any of clauses 37-50, wherein determining the distribution of the cards on the table includes taking in to account a starting condition of the deal at a set point in time.

Clause 52, A method, processing unit or computer readable medium in accordance with clause 51, wherein said starting condition includes the position at the table where the first card is to be dealt.

Clause 53, A method, processing unit or computer readable medium in accordance with clause 51 or 52, wherein said starting condition includes the number of players at the table.

Clause 54, A method, processing unit or computer readable medium in accordance with any of clauses

37-53, wherein determining the distribution of the cards on the table includes taking in to account the interval between at least two registering of read markings.

Clause 55, A method, processing unit or computer readable medium in accordance with any of clauses 37-54, wherein virtually reconstructing at least a portion of the game play includes reconstructing the whole cards of each of the players dealt in to the game at a given time.

[0046] It is to be understood that the embodiments of the invention disclosed are not limited to the particular structures, process steps, or materials disclosed herein, but are extended to equivalents thereof as would be recognized by those ordinarily skilled in the relevant arts. It should also be understood that terminology employed herein is used for the purpose of describing particular embodiments only and is not intended to be limiting.

[0047] Reference throughout this specification to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "in one embodiment" or "in an embodiment" in various places throughout this specification are not necessarily all referring to the same embodiment.

[0048] As used herein, a plurality of items, structural elements, compositional elements, and/or materials may be presented in a common list for convenience. However, these lists should be construed as though each member of the list is individually identified as a separate and unique member. Thus, no individual member of such list should be construed as a de facto equivalent of any other member of the same list solely based on their presentation in a common group without indications to the contrary. In addition, various embodiments and example of the present invention may be referred to herein along with alternatives for the various components thereof. It is understood that such embodiments, examples, and alternatives are not to be construed as de facto equivalents of one another, but are to be considered as separate and autonomous representations of the present invention.

[0049] Furthermore, the described features, structures, or characteristics may be combined in any suitable manner in one or more embodiments. In the following description, numerous specific details are provided, such as examples of lengths, widths, shapes, etc., to provide a thorough understanding of embodiments of the invention. One skilled in the relevant art will recognize, however, that the invention can be practiced without one or more of the specific details, or with other methods, components, materials, etc. In other instances, well-known structures, materials, or operations are not shown or described in detail to avoid obscuring aspects of the invention.

[0050] While the forgoing examples are illustrative of the principles of the present invention in one or more particular applications, it will be apparent to those of ordinary skill in the art that numerous modifications in form, usage and details of implementation can be made without the exercise of inventive faculty, and without departing from the principles and concepts of the invention. Accordingly, it is not intended that the invention be limited, except as by the claims set forth below.

Claims

1. A system for tracking cards during game play comprising;

   - a reader configured to read one or more markings on a plurality of playing cards,
   - a control unit adapted to process data from the reader in order to virtually reconstruct at least a portion of the game play,
   - an operator input device, and
   - a transmission unit capable of transmitting said virtually reconstructed portion of the game play to a remote location for presentation.

2. A system in accordance with claim 1, further comprising;

   - a table having a playing surface for playing said game, wherein said reader is mounted substantially under the playing surface.

3. A system in accordance with claim 2, wherein said table further comprises an opening arranged above said reader, said opening being covered by an at least partially transparent material.

4. A system in accordance with any of the preceding claims, further comprising;

   - one or more sets of cards having one or more markings per card capable of being read by said reader.

5. A system in accordance with any of the preceding claims, wherein said reader is an optical camera or an electromagnetic reader.

6. A system in accordance with any of the preceding claims, wherein said reader is arranged to read at least one barcode and/or QR code on the face of each of said cards as they are dealt.

7. A system in accordance with any of claims 2-6, wherein said reader is mounted substantially in front of a dealer position at the table.

8. A system in accordance with any of the preceding claims, wherein said control unit comprises a processor being configured to perform the steps of;

- registering that a marking on at least one card has been read,
- determining the particular card from a set of cards which corresponds to said marking,
- determining if any operator input has been registered,
- determining a distribution of one or more cards during the play of the game,
- virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

9. A system in accordance with claim 8, wherein said registering step includes storing a time stamp of the time the marking was read along with the marking in a register and/or database.

10. A system in accordance with any of claims 8 or 9, wherein determining the distribution of the cards on the table includes taking in to account at least one rule of the game being played and the timing of the reading of the cards to determine to which positions of the table the cards are dealt.

11. A system in accordance with any of claims 8-10, wherein determining the distribution of the cards on the table includes taking in to account a starting condition of the deal at a set point in time, wherein said starting condition is at least one of; the position at the table where the first card is to be dealt and the number of players at the table.

12. A system in accordance with any of claims 8-11, wherein virtually reconstructing at least a portion of the game play includes reconstructing the whole cards of each of the players dealt in to the game at a given time.

13. A method for virtually reconstructing at least a portion of the play of a card game, wherein said card game is played on a table having a reader arranged to read at least one marking on each of a plurality of cards used in the game, said markings being arranged on a face surface of each card, said method including the steps of;

- registering that a marking on at least one card has been read,
- determining the particular card from a set of cards which corresponds to said marking,
- determining if any operator input has been registered,
- determining a distribution of one or more cards during the play of the game,
- virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

14. A processing unit adapted to virtually reconstructing at least a portion of the play of a card game, wherein said card game is played on a table having a reader arranged to read at least one marking on each of a plurality of cards used in the game, said markings being arranged on a face surface of each card, said method including the steps of;

- registering that a marking on at least one card has been read,
- determining the particular card from a set of cards which corresponds to said marking,
- determining if any operator input has been registered,
- determining a distribution of one or more cards during the play of the game,
- virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

15. A computer readable medium having stored thereon a computer program product for causing a processor to virtually reconstructing at least a portion of the play of a card game, wherein said card game is played on a table having a reader arranged to read at least one marking on each of a plurality of cards used in the game, said markings being arranged on a face surface of each card, said method including the steps of;

- registering that a marking on at least one card has been read,
- determining the particular card from a set of cards which corresponds to said marking,
- determining if any operator input has been registered,
- determining a distribution of one or more cards during the play of the game,
- virtually reconstructing at least a portion of the game play based on the determined distribution of said one or more cards during the play of the game.

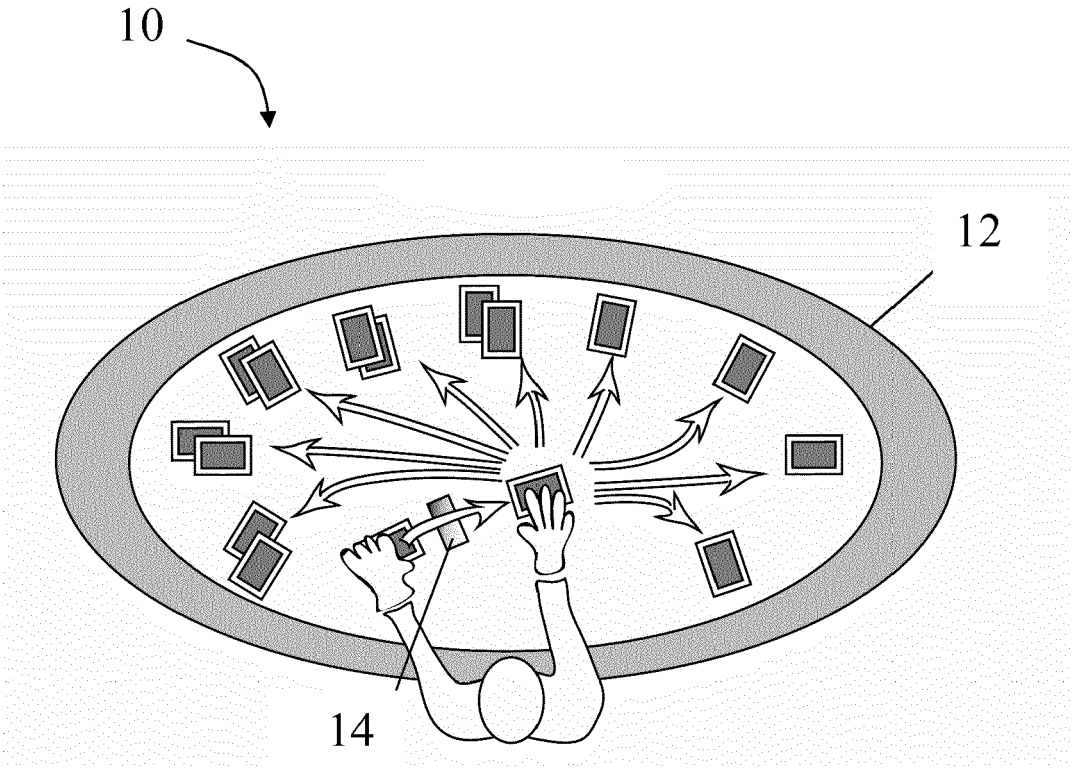

Fig. 1

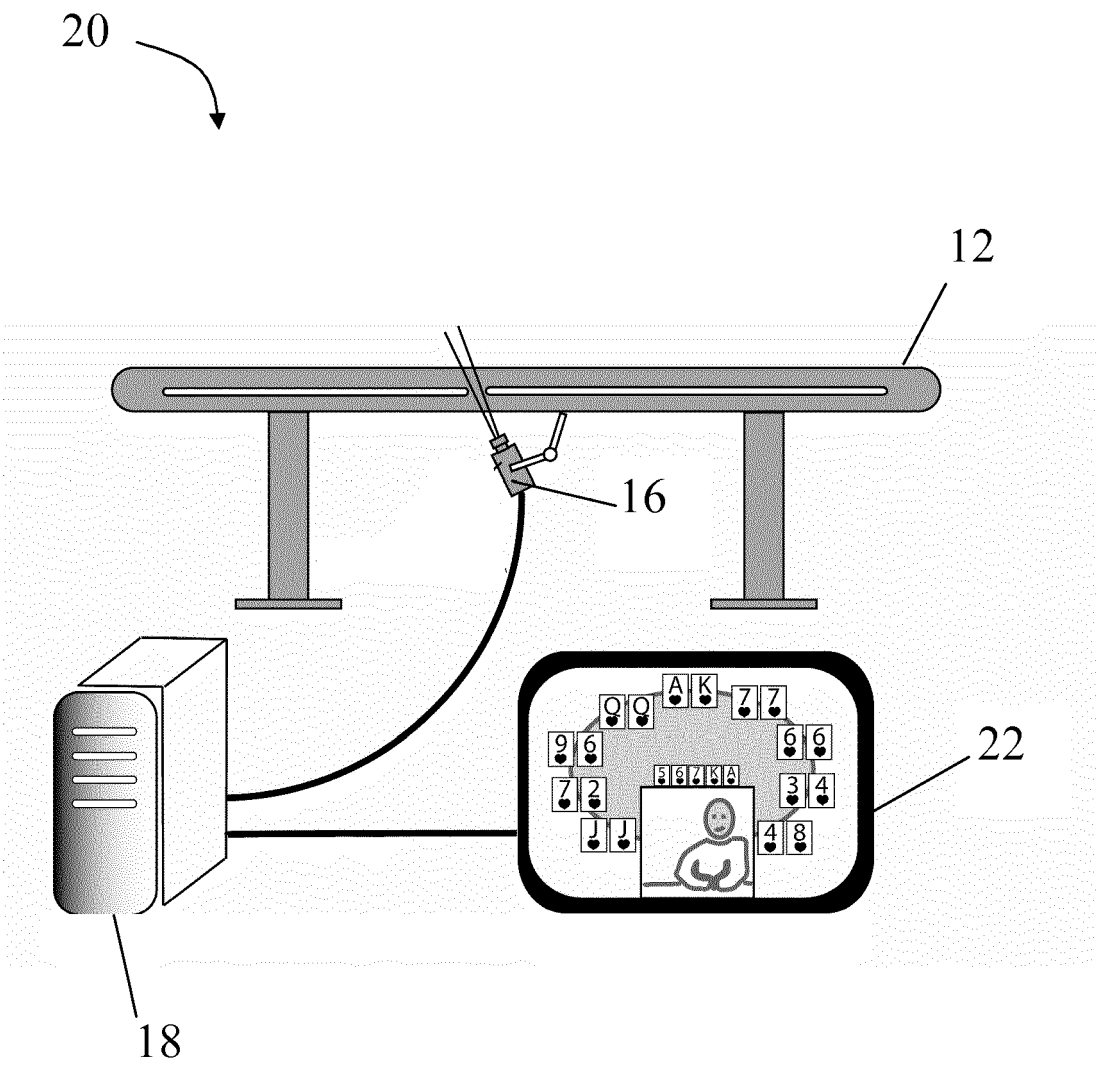

Fig. 2

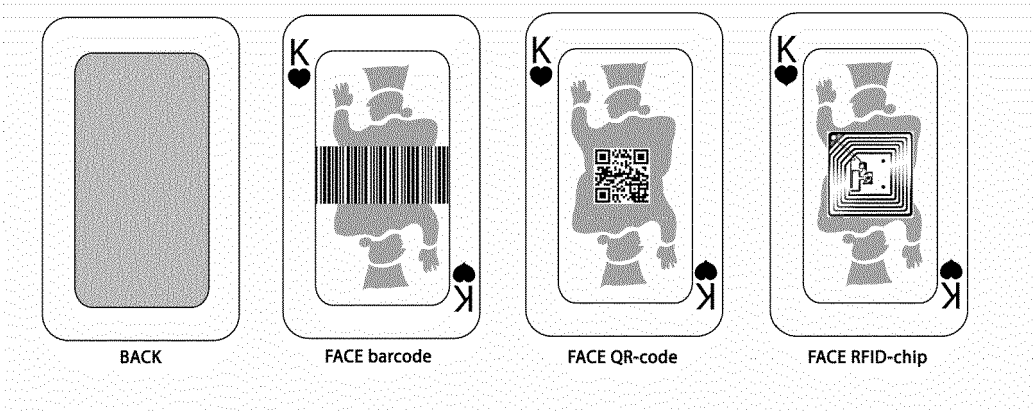

Fig. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 13 15 0373

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X	US 2010/105460 A1 (MAKHOUL GEORGE [US] ET AL) 29 April 2010 (2010-04-29) * abstract * * paragraphs [0012], [0013], [0016], [0017], [0032] - [0035], [0042] - [0051], [0058], [0059], [0062] - [0073], [0088], [0089]; figures 1-3 *	1-15	INV. G07F17/32
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X	US 2009/048026 A1 (FRENCH JOHN B [US] FRENCH JOHN B B [US]) 19 February 2009 (2009-02-19) * abstract * * paragraphs [0042] - [0044], [0054], [0059], [0061], [0062], [0070], [0071], [0076] - [0079], [0090] - [0092], [0097], [0101], [0106] * * paragraphs [0118] - [0121]; figures 1-6 *	1-15	TECHNICAL FIELDS SEARCHED (IPC) G07F
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	3 April 2013	Fyhr, Jonas

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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