

GAME PROCESS DISPLAYING METHODS AND APPARATUSES AND ELECTRONIC DEVICE AND STORAGE MEDIUM

TECHNICAL FIELD

[0001] The present disclosure relates to the field of game control technologies, and in particular to methods and apparatuses for displaying process of game, an electronic device and a storage medium.

BACKGROUND

[0002] At present, games are developing toward intelligentization and automation, for example, states of a game may be automatically switched according to operation of a game manager, and game items (game props, etc.) in a game region and the like. Therefore, one complete game requires correct operation of a game manager and normal operation of a game system. In a case of misoperation of the game manager or abnormal operation of the game system, control error will be brought to the game. In the related art, the game process cannot be restored when a control error occurs. Thus, it is difficult to find out a factor generating the control error, and hence the game control cannot be quickly restored to normal.

SUMMARY

[0003] The present disclosure provides methods and apparatuses for displaying a process of a game, and an electronic device and a storage medium so as to solve the shortcomings of the related art.

[0004] According to a first aspect of embodiments of the present disclosure, a method of displaying a process of a game is provided, which includes:

[0005] receiving, by a client, first service information from a service end, and displaying a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, wherein a communication connection is established between the client and the service end, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

[0006] receiving, by the client, second service information from the service end, and according to a second identifier and position information of the game item in the second service information, displaying the game item corresponding to the second identifier in a

corresponding position in the picture of the game region, where the second service information is generated in response to a change of any one of state, number and position of the game items.

[0007] In an embodiment, displaying the picture of the game region corresponding to the first identifier according to the first identifier for identifying the game region type of the game in the first service information includes:

[0008] obtaining a pre-stored first mapping relationship between a identifier of a game region type and a picture of a game region;

[0009] displaying the picture of the game region corresponding to the first identifier according to the first identifier in the first service information and the first mapping relationship.

[0010] In an embodiment, displaying the game item corresponding to the second identifier in the corresponding position in the picture of the game region according to the second identifier and the position information of the game item in the second service information includes:

[0011] obtaining a pre-stored second mapping relationship between an identifier of a game item and an image of the game item;

[0012] determining an image of the game item identified by the second identifier according to the second identifier in the second service information and the second mapping relationship;

[0013] displaying the image of the game item identified by the second identifier in the corresponding position in the picture of the game region according to the position information of the game item in the second service information.

[0014] In an embodiment, the game region includes at least two operation zones, where a respective operation zone is used for operation for a corresponding type of the game items;

[0015] at least one of the operation zones includes a plurality of sub-zones, where a respective sub-zone is used for operation of a game item of a corresponding game character.

[0016] In an embodiment, displaying the image of the game item identified by the second identifier in the corresponding position in the picture of the game region according to the position information of the game item in the second service information includes:

[0017] determining an identifier of a sub-region where the game item is located according to the position information of the game item;

[0018] determining a locating box in the picture of the game region according to the identifier of the sub-region;

[0019] determining a scaling factor of the image of the game item identified by the second identifier according to a type of the game item and a size of the picture of the game region;

[0020] performing scaling for the image of the game item identified by the second identifier according to the scaling factor and displaying the scaled image in the locating box.

[0021] In an embodiment, determining the locating box in the picture of the game region according to the identifier of the sub-region includes:

[0022] obtaining a third mapping relationship of a game item sequence of the sub-region and a preset locating box;

[0023] obtaining a number of game items displayed in a display region corresponding to the sub-region in the picture, and determining a target sequence according to the number of displayed game items;

[0024] determining the locating box according to the target sequence and the third mapping relationship.

[0025] In an embodiment, the locating box is a rectangular box with four pixel points as vertices in the picture of the game region.

[0026] In an embodiment, displaying the game item corresponding to the second identifier in the corresponding position in the picture of the game region includes:

[0027] drawing an image of the game item identified by the second identifier in the corresponding position in the picture of the game region.

[0028] In an embodiment, the method further includes:

[0029] sending a first game control instruction to the service end such that the service end adjusts a game state according to the first game control instruction; and/or,

[0030] receiving a second game control instruction from the service end, and adjusting the game state according to the second game control instruction, wherein the second game control instruction is generated by the service end or input by an interaction end for interaction with a game manager.

[0031] In an embodiment, the method further includes:

[0032] obtaining operation behavior information in the second service information, and determining a display manner of the game item in the picture according to the operation behavior information, wherein the operation behavior information includes information for performing operation for the game item.

[0033] In an embodiment, determining the display manner of the game item in the picture according to the operation behavior information includes:

[0034] in response to that the operation behavior information represents that the game item is taken away, determining the display manner of the game item as removed from the corresponding position in the picture;

[0035] in response to that the operation behavior information represents that the game item is placed in, determining the display manner of the game item as added in the corresponding position in the picture.

[0036] In an embodiment, the method further includes:

[0037] storing the received first service information and second service information;

[0038] generating a video of a game process according to the stored first service information and second service information.

[0039] In an embodiment, the game item includes at least one of game coin, playing card, insurance card and identification card.

[0040] According to a second aspect of embodiments of the present disclosure, a method of displaying a process of a game is provided, which includes:

[0041] sending, by a service end, first service information to a client, such that the client displays a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, where a communication connection is pre-established between the service end and the client, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

[0042] sending, by the service end, second service information to the client, such that the client displays the game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the second service information is generated in response to a change of any one of state, number and position of the game items.

[0043] In an embodiment, the method further includes:

[0044] receiving a first game control instruction from the client, and adjusting a game state according to the first game control instruction; and/or,

[0045] generating a second game control instruction or receiving the second game control instruction input by an interaction end for interaction with a game manager, and sending the

second game control instruction to the client, such that the client adjusts the game state according to the second game control instruction.

[0046] In an embodiment, the first service information is generated based on a video stream of a game process; and/or,

[0047] the second service information is generated based on the video stream of the game process.

[0048] According to a third aspect of embodiments of the present disclosure, an apparatus for displaying a process of a game is provided, which includes:

[0049] a first receiving module, configured to receive first service information from a service end, and display a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, where a communication connection is established between the service end and a client to which the apparatus is applied, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

[0050] a second receiving module, configured to receive second service information from the service end, and display the game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the second service information is generated in response to a change of any one of state, number and position of the game items.

[0051] According to a fourth aspect of embodiments of the present disclosure, an apparatus for displaying a process of a game is provided, which includes:

[0052] a first sending module, configured to send first service information to a client, such that the client displays a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, where a communication connection is pre-established between the client and a service end to which the apparatus is applied, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

[0053] a second sending module, configured to send second service information to the client, such that the client displays a game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the

second service information is generated in response to change of any one of state, number and position of the game items.

[0054] According to a fifth aspect of embodiments of the present disclosure, an electronic device is provided, including a memory, a processor, and computer instructions stored in the memory and run on the processor. The processor is configured to, when executing the computer instructions, implement the method according to the first or second aspect.

[0055] According to a sixth aspect of embodiments of the present disclosure, a computer readable storage medium is provided, storing computer programs. The computer programs are executed by a processor to implement the method according to the first or second aspect.

[0056] In the above embodiments, the client may receive the first service information from the service end pre-establishing a communication connection with the client, and display the picture of the corresponding game region according to the identifier of the game region carried in the first service information. Further, the client may receive the second service information from the service end, and display a corresponding game item in the corresponding position in the picture of the game region according to the identifier and position of the game item carried in the second service information. In other words, the client can restore a game process in real time, so as to help to find a factor generating a control error when the control error occurs to a game, thus quickly restoring the game control to normal.

[0057] It is understood that the above general descriptions and subsequent detailed descriptions are merely illustrative and explanatory rather than limiting of the present disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0058] The accompanying drawings, which are incorporated in and constitute a part of the present description, illustrate examples consistent with the present disclosure and serve to explain the principles of the present disclosure together with the description.

[0059] FIG. 1 is a flowchart of a method of displaying a process of a game according to an embodiment of the present disclosure.

[0060] FIG. 2 is a schematic diagram of a display manner of a game item according to an embodiment of the present disclosure.

[0061] FIG. 3 is a flowchart of a method of displaying a process of a game according to another embodiment of the present disclosure.

[0062] FIG. 4 is a structural schematic diagram of an apparatus for displaying a process of a game according to an embodiment of the present disclosure.

[0063] FIG. 5 is a structural schematic diagram of an apparatus for displaying a process of a game according to another embodiment of the present disclosure.

[0064] FIG. 6 is a structural schematic diagram of an electronic device according to an embodiment of the present disclosure.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0065] Exemplary embodiments will be described in detail herein, with the illustrations thereof represented in the drawings. When the following descriptions involve the drawings, like numerals in different drawings, refer to like or similar elements unless otherwise indicated. The implementations described in the following exemplary embodiments do not represent all implementations consistent with the present application. Rather, they are merely examples of apparatuses and methods consistent with some aspects of the present application as described in detail in appended claims.

[0066] The terms used in the present disclosure are for the purpose of describing particular embodiments only, and are not intended to limit the present disclosure. The singular forms such as “a”, “said”, and “the” used in the present disclosure and the appended claims are also intended to include multiple, unless the context clearly indicates otherwise. It is also to be understood that the term “and/or” as used herein refers to any or all possible combinations that include one or more associated listed items.

[0067] It is to be understood that although different information may be described using the terms such as first, second, third, etc. in the present disclosure, these information should not be limited to these terms. These terms are used only to distinguish the same type of information from each other. For example, without departing from the scope of the present disclosure, the first information may also be referred to as the second information, and similarly, the second information may also be referred to as the first information. Depending on the context, the word “if” as used herein may be interpreted as “when” or “as” or “determining in response to”.

[0068] According to a first aspect of at least one embodiment of the present disclosure, a method of displaying a process of a game is provided. As shown in FIG. 1, the flow of the method includes steps S101-S103.

[0069] The method may be executed by a client of a game system, which is a front-end application of the game system. Debugging personnel may check a game situation from the client and remove control errors occurring in a game process and the like. In some examples, any terminal device which has installed the front application, such as a mobile phone, a wearable device, or other devices, may also be used as the client. The game system may include a service end and a client between which a communication connection is established in advance. In some examples, the service end may include any electronic device which has communication functions and data analysis functions, such as a computer, a server, and other devices. The service end is disposed corresponding to a game place in which one or more service ends may be disposed. Each service end is used to collect service information of one or more game regions. The game region is a region where a game goes on, for example, a game tabletop, and game characters and a game manager and the like involved in a game participate in a game process in the region. The service end may connect with an intelligent device in the game region and obtain service information obtained by monitoring game items in the game from the intelligent device. The intelligent device is connected with an image collection device in the game region to obtain a video stream collected by the image collection device for the game region and hence monitor the game items, and obtain service information based on a monitoring result. A plurality of image collection devices may be disposed around the game region on the game tabletop from several directions. Therefore, the image collection devices may record a video stream of a game process in the game region from several directions and angles. The service end may also be connected with an interaction end in the game region and the interaction end is used for interaction with the game manager. Thus, the service end may obtain operations performed by the game manager for the interaction end, and generate a game control instruction and the like based on these operations. In some examples, the interaction end may be any device which can provide input for any party participating in the game. The interaction device may be a mechanical device, an electronic device, a device provided with an interaction interface (such as a display screen), or any other device. For example, the interaction end may be one or more operation buttons on the game tabletop and the game manager may operate these operation buttons. The service end may obtain these operations in real time and generate a game control instruction based on these operations.

[0070] At step S101, first service information is received from the service end, and a picture of a game region corresponding to a first identifier is displayed according to the first identifier for identifying a game region type of the game in the first service information.

[0071] The first service information may be generated by the intelligent device based on a video stream of the game process obtained by the image collection device and sent to the service end. Each frame of image in the video stream includes image information of the game region, and the intelligent device may identify a type of the game region in the image to determine the first identifier of the game region. The intelligent device may determine an identifier corresponding to the type of the game region according to one or more frames of images. When a key part of the game region in the image is not blocked, the identifier of the game region may be determined based on one frame of image. The key part refers to a part based on which the types of different game regions can be distinguished, for example, a tabletop region division line for identifying a tabletop type in a table game. When the key part of the game region in the image is blocked, the identifier of the game region may be determined based on several frames of images. Under this circumstance, the intelligent device may determine the identifier of the game region independently several times, and compare determination results. When the determination results are consistent, the determination result is determined as a final result of the identifier of the game region. When the determination results are inconsistent, determination will be carried out again to improve the accuracy of the identifier of the game region. The identifier of the game region may be a name of the game region or a serial number of the game region or the like.

[0072] The intelligent device may classify the image of the game region using a trained classification neural network, and a classification result is one of pre-stored types or identifiers of the game region. After determining the first identifier of the game region, the intelligent device may generate the first service information carrying the first identifier. It is understood that the first service information may further include other information such as verification information, where the verification information is used by the client to verify legitimacy and validity of the first service information after receiving the first service information.

[0073] The client may communicate with the service end through a websocket channel, that is, the service end may send the first service information to the client through the websocket channel, and the client may obtain the first service information by invoking a restful interface.

[0074] The client may pre-store a first mapping relationship between an identifier of a game region type and a picture of a game region, for example, a mapping table and the like. When receiving the first service information, the client may obtain the first identifier of the game region carried in the first service information, and obtain the above first mapping relationship, and then display the picture of the game region corresponding to the first identifier according to the first identifier of the game region carried in the first service information and the first mapping relationship. That is, a corresponding picture is queried for in the above first mapping relationship according to the first identifier. After the corresponding picture is determined, the picture of the game region may be drawn on an electronic device where the client is located. Herein, the format of the picture of the game region may be an image format in which the picture of the game region is displayed at the client by rendering.

[0075] At step S102, second service information is received from the service end, and a game item corresponding to a second identifier is displayed in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, where the second service information is generated in response to change of any one of state, number and position of game items.

[0076] The second service information may be generated by the intelligent device based on the video stream of the game process collected by the image collection device. The intelligent device may identify the video stream of the game process in real time or at a given frequency. When at least one of state, number and position of the game items in the game region changes, the intelligent device may automatically detect the change through an image, and determine the second identifier and position of the game item, to which a change occurs, to generate the second service information. The second identifier of the game item may be a name or a serial number or the like of the game item, and the position information of the game item may be an identifier of a sub-region of the game region or a coordinate of the game region or the like. It is understood that the second service information may further include other information such as verification information, where the verification information is used by the client to verify legitimacy and validity of the second service information after receiving the second service information.

[0077] The client may communicate with the service end through a websocket channel, that is, the service end may send the second service information to the client through the

websocket channel, and the client may obtain the second service information by invoking a restful interface.

[0078] Optionally, an image of the game item identified by the second identifier is drawn in the corresponding position in the picture of the game region.

[0079] In an embodiment, the game item may be playing card, game coin and insurance card and the like. When the game manager deals playing cards, the client may draw an image of the playing cards in a corresponding position in the picture of the game region. When a game player operates game coins, the client may draw an image of the game coins in a corresponding position in the picture of the game region. When the game manager places insurance cards, the client may draw an image of the insurance cards in a corresponding position in the picture of the game region.

[0080] As can be known from the above embodiments, the client may receive the first service information from the service end pre-establishing a communication connection with the client, and display the picture of the corresponding game region (or regions) according to the first identifier of the game region (or regions) in the first service information; further, the client may receive the second service information from the service end and display the corresponding game item (or items) in the corresponding position in the picture of the game region according to the second identifier and the position information of the game item (or items) in the second service information. That is, a game process can be restored in real time at the client so as to help to find a factor generating a control error when the control error occurs to a game, thus quickly restoring the game control to normal.

[0081] In some embodiments of the present disclosure, as shown in FIG. 2, the game item corresponding to the second identifier may be displayed in the corresponding position in the picture of the game region according to the second identifier and the position information of the game item in the second service information, which includes steps S201-S203.

[0082] At step S201, a pre-stored second mapping relationship between an identifier of a game item and an image of the game item is obtained.

[0083] The client may pre-store the second mapping relationship between an identifier of a game item and an image of the game item, for example, a mapping table and the like. In the second mapping relationship, the type of the game item may be determined based on a type of a game, for example, the game item may be at least one of game coin, playing card, insurance card and identification card. The identifier of the game item may be a name or serial number or the like. Further, when the number of game items in a game is increased,

the second mapping relationship in the client may be updated, that is, the identifiers and images of the new game items are added in the original second mapping relationship.

[0084] In an embodiment, in the mapping table as the second mapping relationship, the serial number 001 of the game coins corresponds to an image A, the serial number 002 of the playing cards corresponds to an image B, the serial number 003 of the insurance cards corresponds to an image C, and the serial number 004 of the identification cards corresponds to an image D.

[0085] At step S202, an image of the game item identified by the second identifier is determined according to the second identifier in the second service information and the second mapping relationship.

[0086] In this step, the identifier of the game item such as name or serial number may be obtained from the second service information, and then an image corresponding to the identifier is queried for in the second mapping relationship based on the identifier.

[0087] At step S203, the image of the game item identified by the second identifier is displayed in a corresponding position in the picture of the game region according to the position information of the game item in the second service information.

[0088] In some embodiments, the position information of the game item in the second service information may be firstly mapped to the corresponding position in the picture of the game region. The position information of the game item in the second service information may include coordinate information of the game item in the image and/or information of a sub-region, where the game item is located, of a plurality of preset sub-regions in the game region. The position information of various preset sub-regions in the game region is preset to be in one-to-one correspondence with various sub-regions in the picture of the game region. Then, the image of the game item is presented in the corresponding position in the picture of the game region by drawing or rendering.

[0089] In some embodiments, in this step, the image of the game item may be displayed in the following manner: firstly, the identifier of the sub-region where the game item is located is determined according to the position information of the game item; next, a locating box is determined in the picture of the game region according to the identifier of the sub-region; next, a scaling factor of the image of the game item identified by the second identifier is determined according to the type of the game item and the size of the picture of the game region; finally, scaling is performed for the image of the game item identified by

the second identifier according to the scaling factor, and the scaled image is displayed in the locating box.

[0090] The game region includes at least two operation zones, each of which is used for operation of one type of game items, for example, an operation zone is an area where game coins are operated, and another operation zone is an area where playing cards are operated. At least one of the operation zones includes a plurality of sub-zones, each of which is used for operation of a game item of one game character.

[0091] The position information of the game item may be an identifier or a coordinate of a sub-region where the game item is located. When the position information of the game item is the identifier of the sub-region where the game item is located, the identifier of the sub-region where the game item is located, for example, the serial number of the sub-region, may be directly determined. When the position information of the game item is the coordinate of the sub-region, the identifier of the sub-region where the game item is located may be determined according to the coordinate of the sub-region and a coordinate set of various sub-regions pre-stored in the client.

[0092] When the locating box is determined, a third mapping relationship between a game item sequence of a sub-region and a preset locating box may be firstly obtained. The third mapping relationship may be a mapping table, and the locating box may be a rectangular box, with four pixel points as vertices, in the picture of the game region. The locating boxes corresponding to different game item sequences may be arranged sequentially based on preset arrangement direction and distance. Next, a number of game items displayed in a display region corresponding to the sub-region in the picture is obtained, and a target sequence is determined based on the number of the displayed game items. Every time one game item is displayed, one locating box is occupied. Therefore, the target sequence may be the number of the displayed game items +1. Finally, the locating box is determined according to the target sequence and the third mapping relationship. Specifically, the locating box corresponding to the target sequence may be queried for in the third mapping relationship.

[0093] The client may pre-store a standard size of each type of game items and a display size of each type of game items in the picture of each game region. When a game item is displayed in a picture of a determined game region, a scaling factor may be determined according to the standard size and the display size of the game item. Preferably, the display

sizes of a same type of game items are made consistent in different sub-regions in the picture of a same game region.

[0094] When an image scaled to the display size is displayed in the locating box, a center point of the image is overlapped with a center point of the locating box. In this way, after different game items are displayed in sequence, the distances between them will be relatively uniform, thus displaying a clear picture.

[0095] Furthermore, after the scaled image is displayed in the locating box, the number of game items displayed in the display region corresponding to the sub-region is updated, that is, the original number is increased by 1. Hence, a locating box can be accurately determined when a next game item is drawn in the display region corresponding to the sub-region.

[0096] In some embodiments of the present disclosure, operation behavior information in the second service information may also be obtained, and a display manner of the game item in the picture is determined based on the operation behavior information. The operation behavior information includes information for performing operation for the game item.

[0097] In response to that the operation behavior information represents that the game item is taken away, the display manner of the game item is determined as removed from the corresponding position in the picture; in response to that the operation behavior information represents that the game item is placed in, the display manner of the game item is determined as added in the corresponding position in the picture.

[0098] In this embodiment, by obtaining and identifying the operation behavior information, the corresponding display manner can be determined in response to that the game item is taken away or placed in, which is applicable to two operation situations in a game process, and greatly increases a restoration capability of the method for the game process.

[0099] In some embodiments of the present disclosure, the method of displaying a process of a game may further include at least one of the following state synchronization manners.

[0100] In a first manner, the client sends a first game control instruction to the service end such that the service end adjusts a game state according to the first game control instruction.

[0101] In a second manner, the client receives a second game control instruction from the service end, and adjusts a game state according to the second game control instruction. The second game control instruction is generated by the service end, or input by an interaction end for interaction with a game manager.

[0102] In the above two manners, one of the client and the service end may synchronize the game state to the other by use of the game control instruction. When the service end synchronizes the game state to the client, the service end may switch the game state automatically or by hand (operated by the game manager) and report it to the client at the same time, thereby synchronizing the game state of the client. When a scenario of the game region satisfies a game state switching condition but the service end does not switch the game state, debugging personnel may switch the game state from the client and synchronize it to the service end. By use of the above bidirectional game state synchronization manner, the client may remain in state synchronization with the service end in real time, and the state switching can be achieved based on the instruction of the client in a case of slow switching or fault of the service end.

[0103] One complete game may include several different game stages. The game can be switched to a corresponding game state based on a game progress when the game is in process. For example, a table card game is usually divided into an idle state, a game coin operation state, a card operation state, a result processing state and the like. For example, in the game coin operation state, a game object participating in the game may place game coins in a corresponding region, where a value, a number and a placement region and the like of the game coins represent a participation degree of the game object; for another example, in the card operation state, when each game object completes operations for the game coins, a dealer of the game objects participating in the game may deal cards. The service end may automatically switch the game state based on change of game items in the game region according to the service information generated by the intelligent device based on the monitoring result of the video stream, and may also switch the game state based on an operation performed by the game manager for the interaction end.

[0104] In some embodiments of the present disclosure, after receiving the first service information and the second service information, the client may also store the received first service information and the received second service information, such that a video of a game process can be generated based on the stored first service information and the stored second service information. When maintenance personnel at the client side fails to find a factor generating a control error in time at the time of occurrence of the error to the game control, the factor may be found by viewing the video of the game process through a visual page or a browser-provided developer tool, thus quickly restoring the game control to normal. In addition, maintenance personnel may also find the factor generating the control error by

viewing records of the first service information and the second service information one by one through the visual page or the browser-provided developer tool.

[0105] According to a second aspect of embodiments of the present disclosure, a method of displaying a process of a game is provided, which is applied to a service end. A communication connection is pre-established between the service end and a client, and the service end is used to obtain service information obtained by monitoring a game item in the game. As shown in FIG. 3, the flow of the method may include steps S301-S302.

[0106] At step S301, first service information is sent to the client, such that the client displays a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information.

[0107] At step S302, second service information is sent to the client, such that the client displays a game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, where the second service information is generated based on change of any one of state, number and position of the game items.

[0108] In some embodiments of the present disclosure, the method further includes: receiving a first game control instruction from the client, and adjusting a game state according to the first game control instruction; and/or, generating a second game control instruction or receiving the second game control instruction input by an interaction end for interaction with a game manager, and sending the second game control instruction to the client, such that the client adjusts the game state according to the second game control instruction.

[0109] In some embodiments of the present disclosure, the first service information is generated based on the video stream of the game process; and/or, the second service information is generated based on the video stream of the game process.

[0110] The details of various steps of the method of the embodiments of the present disclosure are already described in various embodiments of the first aspect and thus will not be repeated herein.

[0111] According to a third aspect of embodiments of the present disclosure, an apparatus for displaying a process of a game is provided. FIG. 4 shows a structure of the apparatus, which includes the following modules:

[0112] a first receiving module 401, configured to receive first service information from a service end, and display a picture of a game region corresponding to a first identifier

according to the first identifier for identifying a game region type of the game in the first service information, where a communication connection is established between the service end and a client to which the apparatus is applied, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

[0113] a second receiving module 402, configured to receive second service information from the service end, and display a game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the second service information is generated in response to change of any one of state, number and position of the game items.

[0114] According to a fourth aspect of embodiments of the present disclosure, an apparatus for displaying a process of a game is provided. FIG. 5 shows a structure of the apparatus which includes the following modules:

[0115] a first sending module 501, configured to send first service information to a client, such that the client displays a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, where a communication connection is pre-established between the client and a service end to which the apparatus is applied, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

[0116] a second sending module 502, configured to send second service information to the client, such that the client displays a game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the second service information is generated in response to change of any one of state, number and position of the game items.

[0117] The specific manner in which various modules in the apparatuses of the above embodiments perform operations is already described in details in the embodiments relating to the method according to the first or second aspect and thus will not be repeated herein.

[0118] According to a fifth aspect of embodiments of the present disclosure, an electronic device is provided. FIG. 6 shows a structure of the device. The device includes a memory, a processor and computer instructions stored in the memory and run on the processor. The processor is configured to, when executing the computer instructions, implement the method according to the first or second aspect.

[0119] According to a sixth aspect of embodiments of the present disclosure, a computer readable storage medium storing computer programs is provided. The programs are executed by a processor to implement the method according to the first aspect or the second aspect.

[0120] In the present disclosure, the terms such as “first” and “second” are used only for the purpose of descriptions and shall not be understood as indicating or implying relative importance. The term “plurality” means two or more unless otherwise stated clearly.

[0121] Other implementations of the present disclosure will be apparent to those skilled in the art from consideration of the specification and practice of the present disclosure herein. The present disclosure is intended to cover any variations, uses, modification or adaptations of the present disclosure that follow the general principles thereof and include common knowledge or conventional technical means in the related art that are not disclosed in the present disclosure. The specification and examples are considered as exemplary only, with a true scope and spirit of the present disclosure being indicated by the following claims.

[0122] It is to be understood that the present disclosure is not limited to the precise structure described above and shown in the accompanying drawings, and that various modifications and changes may be made without departing from the scope thereof. The scope of the present disclosure is limited only by the appended claims.

CLAIMS

1. A method of displaying a process of a game, the method comprising:

receiving, by a client, first service information from a service end, and displaying a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, wherein there is a pre-stored first mapping relationship between the first identifier and the picture of the game region, and wherein a communication connection is established between the client and the service end, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

receiving, by the client, second service information from the service end, and according to a second identifier and position information of the game item in the second service information, displaying the game item corresponding to the second identifier in a corresponding position in the picture of the game region, wherein the second service information is generated in response to a change of any one of state, number and position of the game items.

2. The method of claim 1, wherein displaying the picture of the game region corresponding to the first identifier according to the first identifier for identifying the game region type of the game in the first service information comprises:

obtaining a pre-stored first mapping relationship between a identifier of a game region type and a picture of a game region;

displaying the picture of the game region corresponding to the first identifier according to the first identifier in the first service information and the first mapping relationship.

3. The method of claim 1, wherein displaying the game item corresponding to the second identifier in the corresponding position in the picture of the game region according to the second identifier and the position information of the game item in the second service information comprises:

obtaining a pre-stored second mapping relationship between an identifier of a game item and an image of the game item;

determining an image of a game item identified by the second identifier according to the second identifier in the second service information and the second mapping relationship;

displaying the image of the game item identified by the second identifier in the corresponding position in the picture of the game region according to the position information of the game item in the second service information.

4. The method of any one of claims 1-3, wherein the game region comprises at least two operation zones, wherein a respective operation zone is used for operation for a corresponding type of the game items;

at least one of the operation zones comprises a plurality of sub-zones, wherein a respective sub-zone is used for operation of a game item of a corresponding game character.

5. The method of claim 4, wherein displaying the image of the game item identified by the second identifier in the corresponding position in the picture of the game region according to the position information of the game item in the second service information comprises:

determining an identifier of a sub-region where the game item is located according to the position information of the game item;

determining a locating box in the picture of the game region according to the identifier of the sub-region;

determining a scaling factor of the image of the game item identified by the second identifier according to a type of the game item and a size of the picture of the game region;

performing scaling for the image of the game item identified by the second identifier according to the scaling factor and displaying the scaled image in the locating box.

6. The method of claim 5, wherein determining the locating box in the picture of the game region according to the identifier of the sub-region comprises:

obtaining a third mapping relationship of a game item sequence of the sub-region and a preset locating box;

obtaining a number of game items displayed in a display region corresponding to the sub-region in the picture, and determining a target sequence according to the number of displayed game items;

determining the locating box according to the target sequence and the third mapping relationship.

7. The method of claim 5 or 6, wherein the locating box is a rectangular box with four pixel points as vertices in the picture of the game region.

8. The method of any one of claims 1-7, wherein displaying the game item corresponding to the second identifier in the corresponding position in the picture of the game region comprises:

drawing an image of the game item identified by the second identifier in the corresponding position in the picture of the game region.

9. The method of any one of claims 1-8, further comprising:

sending a first game control instruction to the service end such that the service end adjusts a game state according to the first game control instruction; and/or,

receiving a second game control instruction from the service end, and adjusting the game state according to the second game control instruction, wherein the second game control instruction is generated by the service end or input by an interaction end for interaction with a game manager.

10. The method of any one of claims 1-9, further comprising:

obtaining operation behavior information in the second service information, and determining a display manner of the game item in the picture according to the operation behavior information, wherein the operation behavior information comprises information for performing operation for the game item.

11. The method of claim 10, wherein determining the display manner of the game item in the picture according to the operation behavior information comprises:

in response to that the operation behavior information represents that the game item is taken away, determining the display manner of the game item as removed from the corresponding position in the picture;

in response to that the operation behavior information represents that the game item is placed in, determining the display manner of the game item as added in the corresponding position in the picture.

12. The method of any one of claims 1-11, further comprising:

storing the received first service information and second service information;
generating a video of a game process according to the stored first service information and second service information.

13. The method of any one of claims 1-12, wherein the game item comprises at least one of game coin, playing card, insurance card and identification card.

14. A method of displaying a process of a game, the method comprising:

sending, by a service end, first service information to a client, such that the client displays a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, wherein there is a pre-stored first mapping relationship between the first identifier and the picture of the game region, and wherein a communication connection is pre-established between the service end and the client, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

sending, by the service end, second service information to the client, such that the client displays the game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the second service information is generated in response to a change of any one of state, number and position of the game items.

15. The method of claim 14, further comprising:

receiving a first game control instruction from the client, and adjusting a game state according to the first game control instruction; and/or,

generating a second game control instruction or receiving the second game control instruction input by an interaction end for interaction with a game manager, and sending the second game control instruction to the client, such that the client adjusts the game state according to the second game control instruction.

16. The method of claim 14 or 15, wherein the first service information is generated based on a video stream of a game process; and/or,

the second service information is generated based on the video stream of the game process.

17. An apparatus for displaying a process of a game, the apparatus comprising:

a first receiving module, configured to receive first service information from a service end, and display a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, wherein a communication connection is established between the service end and a client to which the apparatus is applied, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

a second receiving module, configured to receive second service information from the service end, and display the game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the second service information is generated in response to a change of any one of state, number and position of the game items.

18. An apparatus for displaying a process of a game, the apparatus comprising:

a first sending module, configured to send first service information to a client, such that the client displays a picture of a game region corresponding to a first identifier according to the first identifier for identifying a game region type of the game in the first service information, wherein a communication connection is pre-established between the client and a service end to which the apparatus is applied, and the service end is configured to obtain service information obtained by monitoring one or more game items in the game;

a second sending module, configured to send second service information to the client, such that the client displays the game item corresponding to a second identifier in a corresponding position in the picture of the game region according to the second identifier and position information of the game item in the second service information, wherein the second service information is generated in response to a change of any one of state, number and position of the game items.

19. An electronic device, comprising a processor, a memory and computer instructions stored in the memory and run on the processor, wherein the processor is configured to, when executing the computer instructions, implement the method of any one of claims 1-16.

20. A computer readable storage medium storing computer programs, wherein the computer programs are executed by a processor to implement the method of any one of claims 1-16.