

INFORMATION DISPLAY METHOD AND APPARATUS, AND STORAGE MEDIUM AND ELECTRONIC DEVICE

RELATED APPLICATION

[0001] This application claims priority to Chinese Patent Application No. 202211736953.5, entitled "INFORMATION DISPLAY METHOD AND APPARATUS, STORAGE MEDIUM, AND ELECTRONIC DEVICE" filed with the China National Intellectual Property Administration on December 30, 2022, which is incorporated herein by reference in its entirety.

FIELD OF THE TECHNOLOGY

[0002] This application relates to the field of computers, and specifically, to an information display method and apparatus, a storage medium, and an electronic device.

BACKGROUND OF THE DISCLOSURE

[0003] In an information display scene, in related art, a current state of a function is usually displayed, but relevant information is not provided on when or under what conditions the function can enter a next state. In related art, the information display method for the function is relatively monotonous, and a user cannot intuitively know a use progress of the function. In other words, there is a technical problem in related art that an information display method is relatively monotonous.

SUMMARY

[0004] Embodiments of this application provide an information display method, including:

[0005] displaying a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states including a first-level state and a second-level state;

[0006] displaying level information of the target function, and displaying progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state; and

[0007] displaying, when the first use progress satisfies an upgrade condition corresponding to the first-level state, updated level information and updated progress information corresponding to the target function, the updated level information indicating that the target function is currently in

the second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

[0008] Embodiments of this application further provides an information display apparatus, including:

[0009] a first display unit, configured to display a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states including a first-level state and a second-level state;

[0010] a second display unit, configured to display level information of the target function, and display progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state; and

[0011] a third display unit, configured to display, when the first use progress satisfies an upgrade condition corresponding to the first-level state, updated level information and updated progress information corresponding to the target function, the updated level information indicating that the target function is currently in the second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

[0012] Embodiments of this application provide a computer program product or a computer program, the computer program product or the computer program including computer instructions stored on a computer-readable storage medium. A processor of a computer device reads the computer instructions from the computer-readable storage medium, and the processor executes the computer instructions to enable the computer device to perform the foregoing information display method.

[0013] Embodiments of this application further provide an electronic device including a memory, a processor, and a computer program stored in the memory and capable of being run on the processor, the processor performing the foregoing information display method by using the computer program.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The accompanying drawings described herein are used to provide a further understanding of this application, and form a part of this application. Exemplary embodiments of

this application and descriptions thereof are used to explain this application, and do not constitute any inappropriate limitation to this application. In the accompanying drawings:

[0015] FIG. 1A is a schematic diagram of an implementation environment applicable to an information display method according to an embodiment of this application.

[0016] FIG. 1B is a schematic diagram of an application environment of an information display method according to an embodiment of this application.

[0017] FIG. 2 is a schematic flowchart of an information display method according to an embodiment of this application.

[0018] FIG. 3 is a schematic diagram of an information display method according to an embodiment of this application.

[0019] FIG. 4 is a schematic diagram of another information display method according to an embodiment of this application.

[0020] FIG. 5 is a schematic diagram of another information display method according to an embodiment of this application.

[0021] FIG. 6 is a schematic diagram of another information display method according to an embodiment of this application.

[0022] FIG. 7 is a schematic diagram of another information display method according to an embodiment of this application.

[0023] FIG. 8 is a schematic diagram of another information display method according to an embodiment of this application.

[0024] FIG. 9 is a schematic diagram of another information display method according to an embodiment of this application.

[0025] FIG. 10 is a schematic diagram of another information display method according to an embodiment of this application.

[0026] FIG. 11 is a schematic diagram of another information display method according to an embodiment of this application.

[0027] FIG. 12 is a schematic diagram of another information display method according to an embodiment of this application.

[0028] FIG. 13 is a schematic diagram of another information display method according to an embodiment of this application.

[0029] FIG. 14 is a schematic diagram of another information display method according to an embodiment of this application.

[0030] FIG. 15 is a schematic diagram of another information display method according to an embodiment of this application.

[0031] FIG. 16 is a schematic diagram of an information display apparatus according to an embodiment of this application.

[0032] FIG. 17 is a schematic diagram of a structure of an electronic device according to an embodiment of this application.

DESCRIPTION OF EMBODIMENTS

[0033] To make a person skilled in the art better understand the solutions of this application, the following clearly and completely describes the technical solutions in embodiments of this application with reference to the accompanying drawings in embodiments of this application. Apparently, the described embodiments are merely some of embodiments of this application rather than all of embodiments of this application. All other embodiments obtained by a person of ordinary skill in the art based on embodiments of this application without creative efforts shall fall within the protection scope of this application.

[0034] In this specification, claims, and accompanying drawings of this application, the terms "first", "second", and the like are intended to distinguish similar objects but do not necessarily indicate a specific order or sequence. Such used data is changeable under appropriate conditions, so that embodiments of this application described here can be implemented in an order other than those illustrated or described here. Moreover, the terms "include", "have", and any other variants are intended to cover the non-exclusive inclusion, for example, a process, method, system, product, or device that includes a list of operations or units is not necessarily limited to those expressly listed operations or units, but may include other operations or units not expressly listed or inherent to such a process, method, product, or device.

[0035] As described above, in an information display scene, especially in a specific shooting game scene, there is a function of an upgradeable skill. After a player reaches an upgrade condition through a specific game operation, the player is usually informed that an upgrade goal has been achieved only after upgrade is completed, and an upgrade display means is simply as a sentence or a mark to inform the player that the upgrade has been completed. However, during a game, the player cannot know how many times a skill has been used, or how many times the user needs to use a skill before the skill can be upgraded. In other words, the player cannot be given a real-time prompt

during the game, resulting in information display during the upgrade not being intuitive enough and the display means of a game upgrade progress of the player being relatively monotonous.

[0036] Therefore, embodiments of this application provide an information display method. According to the method, a problem that the information display is not intuitive enough when the game is upgraded can be resolved.

[0037] FIG. 1A is a schematic diagram of an implementation environment according to an embodiment of this application. The implementation environment includes a user device 102 and a server 112. The user device 102 communicates with the server 112 via a wired or wireless communication network.

[0038] The user accesses the server 112 via a client installed in the user device 102. The client may be a game application client or may be installed in the user device 102. The server 112 may provide different services for the user, such as a game service.

[0039] In some embodiments, the user device 102 may be an electronic device, such as a smartphone, a tablet, a laptop, a computer, a smart voice interaction device, a smart home appliance, a vehicle-mounted terminal, or an aircraft. The server 112 may be an independent physical server, a server cluster or distributed system including a plurality of physical servers, a cloud server providing a cloud service, a cloud database, cloud computing, a cloud function, cloud storage, a network service, cloud communication, a middleware service, a domain name service, a security service, a content delivery network (CDN), a big data and artificial intelligence platform, or the like, which is not limited herein.

[0040] Based on the implementation environment, according to an aspect in embodiments of this application, an information display method is provided. As shown in FIG. 1B, the information display method may be performed by the user device 102 and/or the server 112 in the implementation environment shown in FIG. 1A. The user device 102 may include, but is not limited to, a display 104, a processor 106, and a memory 108. The server 112 includes a database 114 and a processing engine 116.

[0041] Specific processes are as following operations.

[0042] Operation S102: The user device 102 obtains level information and progress information triggered by a function interaction button.

[0043] Operation S104 to operation S106: Send the level information and the progress information to the server 112 via a network 110.

[0044] Operation S108: The server 112 determines whether an upgrade condition is satisfied based on the level information and the progress information by using the processing engine, and further obtains upgraded level information and progress information.

[0045] Operation S110 to operation S114: Send the updated level information and progress information to the user device 102 via the network 110, and the user device 102 displays the level information and the progress information on the display 108 by using the processor 106.

[0046] In addition to the example shown in FIG. 1, the foregoing operations may be implemented by a client or a server independently, or implemented by the client and the server coordinately. For example, the user device 102 performs the foregoing operations such as S108, thereby reducing processing pressure of the server 112. The user device 102 includes but is not limited to a handheld device (such as a mobile phone), a laptop, a desktop computer, an on-board device, and the like. The specific implementations of the user device 102 are not limited in this application.

[0047] The following describes in detail the information display method provided in this embodiment of this application with reference to the accompanying drawings. The method is performed by a computer device. The computer device may be the foregoing user device. As shown in FIG. 2, the information display method includes the following operations.

[0048] S202: Display a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states including a first-level state and a second-level state.

[0049] In some embodiments, in response to a click/tap operation of the user on the function interaction button, the target function is activated and the first virtual object is triggered to use the target function.

[0050] S204: Display level information of the target function, and display progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state.

[0051] S206: Display updated level information and updated progress information of the target function when the first use progress satisfies an upgrade condition corresponding to the first-level state, the updated level information indicating that the target function is currently in the

second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

[0052] In this embodiment of this application, by using the function interaction button, the level information and level state are fully displayed in real time when the player operates the game. When using the function interaction button, the player is informed of a current skill use progress in a visual form of adding a segment in the function interaction button, to intuitively provide the user with a use progress in a current level state and progress information to a next level state. This improves diversity of a game display means and solves a problem that information display is not intuitive enough when the game is upgraded. This can avoid a problem of a cumbersome operation and low efficiency caused by a user's need to go to another page to view a skill level and an upgrade progress in the game during the game, to improve efficiency of human-computer interaction.

[0053] In some embodiments of this application, the function interaction button may be understood as, but is not limited to, a button for casting a skill, changing a form, and the like during the game. The user can control the function interaction button through a touch screen, sound, and another manner to activate the above functions and enable the first virtual object to use the function. The function interaction button is configured to activate a function that may be, but is not limited to, in an activated or inactivated state during a game task. The target function may be, but is not limited to, understood as two functions or functions corresponding to two different levels. For example, a first-level skill is to provide a small field of view for bushes nearby, and the second-level skill is to provide an field of view for an entire region nearby. In an example, the first-level skill may upgrade to the second-level skill after the player needs to continuously hit a specific quantity of enemies. The target function is to provide a field of view for an environment nearby, and different levels correspond to different function strengths.

[0054] In some embodiments of this application, the target function may act on an individual user or on a group of users. For example, character A in an enemy faction may be hit continuously, and blood recovery speed of teammate B of character A may be reduced simultaneously. The target function may, but is not limited to, act on a target object, and may bring specific benefits to the user. For example, the first-level skill may provide the user with a specific field of view information or material information. Specifically, if player A is hit by a poisonous region within a period, player A may obtain information about whether there is bandage and another medicine within a specific range nearby. If player A is not attacked by the poisonous region for a long time, player A may know that player A has been upgraded to a second level through display of

the function interaction button. The second-level skill may enable the player to know whether there is a first aid kit and another advanced medicine within a specific range nearby.

[0055] In some embodiments of this application, the level information of the target function is displayed in a second area of the function interaction button, and the progress information of the target function is displayed in a first area of the function interaction button. The level information may indicate a current level of the target function. For example, the target function is currently in the first-level state. The at least two level states include the first-level state and the second-level state. The progress information may indicate the first use progress corresponding to the target function in first-level state.

[0056] In some embodiments of this application, the level information of the target function displayed in the second area of the function interaction button may be understood, but is not limited to, as displaying a level information state of the target function. The level information state may include, but not limited to, a plurality of level states. The plurality of level states may include, but are not limited to, indicating the current level information of the target function and displaying the progress information of the target function.

[0057] In some embodiments of this application, the progress information of the target function may be determined based on a quantity of times a skill is casted and duration of the skill. A use progress of the target function is determined based on the quantity of uses of the skill and the duration of the skill. For example, when the quantity of uses exceeds a specific threshold, the progress information is updated from a first-level progress to a second-level progress, and when the duration exceeds a specific threshold, the progress information is updated from the first-level progress to the second-level progress.

[0058] In some embodiments of this application, when the first use progress satisfies the upgrade condition corresponding to the first-level state, the updated level information may be displayed in the second area, and the updated progress information may be displayed in the first area. The updated level information may indicate that the target function is currently in the second-level state, and the updated progress information may indicate a second use progress corresponding to the target function in the second-level state.

[0059] In some embodiments of this application, the upgrade condition may include, but is not limited to, satisfying a specific preset threshold or reaching a specific activated level, which may be understood, but is not limited to, that the updated level information is displayed in the second area and the updated progress information is displayed in the first area. The second area and the first area may be displayed in different areas, or may be displayed in the same area in different

forms simultaneously. In other words, the second area and the first area may be two different areas, or may partially overlap.

[0060] Further, for example, as shown in FIG. 3, when a player participates in a shooting game, a game character has a shooting skill. In an initial state, the skill is in a first-level state. Level information of the shooting skill displayed in a second area 304 in a function interaction button 302 is the first-level state, and a first use progress of the shooting skill displayed in a first area 306 in the function interaction button 302 is 0. During the game, when the game character uses an attack skill, each time the attack skill is used, the first use progress displayed in the first area 306 of the function interaction button 302 increases by one. When the first use progress satisfies an upgrade condition corresponding to the first-level state that is, when continuous attacks are reached, the second area 304 is updated to level information corresponding to a second-level state, and the first area 306 is updated to progress information corresponding to the second-level state.

[0061] In some embodiments of this application, a function interaction button is displayed during running of a virtual game task in which a first virtual object participates. The function interaction button is configured to trigger the first virtual object to use a target function. The target function is in any one of at least two level states. The at least two level states include a first-level state and a second-level state. Level information of the target function is displayed, and progress information of the target function is displayed. The level information may indicate that the target function is currently in the first-level state, and the progress information may indicate a first use progress corresponding to the target function in the first-level state. Updated level information and updated progress information are displayed when the first use progress satisfies an upgrade condition corresponding to the first-level state. The updated level information may indicate that the target function is currently in the second-level state, and the updated progress information may indicate a second use progress corresponding to the target function in the second-level state. A use progress in a current level state and progress information to a next level state are intuitively displayed in a manner of displaying the level information and the progress information in an area associated with the function interaction button, thereby further achieving an objective of intuitively displaying different function interaction information during the game, and achieving a technical effect of improving diversity of information display. In addition, this can avoid a problem of a cumbersome operation and low efficiency caused by a user's need to go to another page to view a skill level and an upgrade progress in the game during the game, to improve efficiency of human-computer interaction.

[0062] In some embodiments of this application, the displaying progress information of the target function includes:

[0063] displaying a first quantity of first-level segments in a first area, the first quantity of first-level segments being configured to display a quantity of uses corresponding to the target function in the first-level state.

[0064] In some embodiments of this application, a first target segment is configured to display a quantity of uses of the target function corresponding to the first-level state. The quantity of uses of the target function may be specifically, but is not limited to, for example, once or twice. In some embodiments, the quantity of uses of the target function may alternatively be an unspecified quantity of combos. For example, if an enemy is hit five times in a row, a quantity of uses of triggering is combined into one. If an enemy is hit 10 times in a row, a quantity of uses of triggering is combined into one two. The first-level segments can further be configured to display a quantity of uses when the target function of the first-level state satisfies the upgrade condition. Each time the target function of the first-level state is used, a segment is filled. When all segments are filled, the upgrade condition of the first-level state is satisfied.

[0065] According to this embodiment provided in this application, the first quantity of first-level segments are displayed in the first area. The first quantity of first-level segments are configured to display the quantity of uses corresponding to the target function in the first-level state, thereby achieving an objective of using a quantity of segments to facilitate intuitive display, and achieving a technical effect of improving information display efficiency.

[0066] In some embodiments of this application, the displaying a first-level quantity of first-level segments in a first area includes:

[0067] A first quantity of a first segment subsets and a second quantity of a second segment subsets are displayed in the first area. A sum of the first quantity and the second quantity is a first target quantity. The first segment subset is a set including a first quantity of first-level segments in an empty state, and the second segment subset is a set including a second quantity of first-level segments in a filled state. In other words, the first segment subset includes the first-level segments in the empty state. The second segment subset includes the first-level segments in the filled state. The first quantity of first segment subsets and the second quantity of second segment subsets are configured to display a quantity of uses corresponding to the target function in the first-level state.

[0068] In some embodiments of this application, the first-level quantity may be configured for displaying a quantity of first-level segments, including a quantity of segments in an empty state

and a quantity of segments in a filled state. The first segment subset may be understood, but is not limited to, as a set of the first-level segments in the empty state. The first quantity may be understood, but is not limited to, as the quantity of first-level segments in the first segment subset that are in the empty state. The second segment subset may be understood, but is not limited to, as a set of the first-level segments in the filled state. The second quantity may be understood, but is not limited to, as a quantity of second-level segments in the second segment subset that are in the filled state.

[0069] According to this embodiment provided in this application, the first segment subset including the first quantity of first-level segments and the second segment subset including the second quantity of first-level segments are displayed in the first area. The sum of the first quantity and the second quantity is the first-level quantity. The first segment subset includes the first-level segments in the empty state, and the second segment subset includes the first-level segments in the filled state. The first segment and the second segment are configured to display the quantity of uses corresponding to the target function in the first-level state, thereby achieving a technical effect of improving display efficiency by using a quantity of filled and unfilled segments.

[0070] In some embodiments, the displaying a first segment subset and a second segment subset in the first area includes:

[0071] displaying, in the first area, a first initial segment subset including a first initial quantity of first-level segments and a second initial segment subset including a second initial quantity of first-level segments, a sum of the first initial quantity and the second initial quantity being the first-level quantity; determining, in response to obtaining a use operation of the first virtual object on the target function in the first-level state, a preset quantity of segments from the first initial segment subset for filling to obtain a preset quantity of first-level segments in the filled state; adding the obtained preset quantity of first-level segments in the filled state to the second initial segment subset to obtain the second segment subset including the second quantity of first-level segments; and using a first initial segment subset from which the preset quantity of first-level segments are removed as the first segment subset including the first quantity of first-level segments, a difference between the first quantity and the first initial quantity being the preset quantity, and a difference between the second quantity and the second initial quantity being the preset quantity.

[0072] In this case, in combination with a quantity of target segments in a filled state and a quantity of target segments in an unfilled state, a technical effect of improving diversity of a display means is achieved.

[0073] In some embodiments of this application, the first initial quantity may be understood, but is not limited to, before the use operation of the first virtual object that is triggered to use the target function in the first-level state is obtained, as the quantity of first-level segments in the first segment subset that are in the empty state. The second initial quantity may be understood, but is not limited to, before the use operation of the first virtual object that is triggered to use the target function in the first-level state is obtained, as the quantity of first-level segments in the second segment subset that are in the filled state. The first quantity may be understood, but is not limited to, after the use operation of the first virtual object that is triggered to use the target function in the first-level state is obtained, as the quantity of first-level segments in the first segment subset that are in the empty state. The fourth initial quantity may be understood, but is not limited to, after the use operation of the first virtual object that is triggered to use the target function in the first-level state is obtained, as the quantity of first-level segments in the second segment subset that are in the filled state.

[0074] In some embodiments, before the displaying updated level information and updated progress information corresponding to the target function, the method further includes:

[0075] determining, when the first quantity is 0 or the second quantity is the first-level quantity, that the first use progress satisfies the upgrade condition corresponding to the first-level state.

[0076] According to this embodiment provided in this application, when the first quantity is 0 or the second quantity is the first-level quantity, it is determined that the first use progress satisfies the upgrade condition corresponding to the first-level state, thereby achieving an objective of filling a segment. Each time a segment quantity is filled, an objective of upgrading is achieved, to achieve a technical effect of improving information display efficiency.

[0077] In some embodiments, after the determining that the first use progress satisfies the upgrade condition corresponding to the first-level state, the method further includes:

[0078] generating and displaying a dynamic special effect for indicating that the first-level state is upgraded to the second-level state; and

[0079] displaying, after playback of the dynamic special effect ends, the updated level information in a second area, and displaying the updated progress information in the first area.

[0080] In this embodiment of this application, the dynamic special effect for indicating that the first-level state is upgraded to the second-level state may include, but is not limited to, an aperture, a color, and the like, or may be, but is not limited to, a gradual change process, such as

increasing display duration, or improving display efficiency. In addition, the updated level information and progress information are respectively displayed in the second area and the first area after playback of the dynamic special effect ends.

[0081] According to this embodiment provided in this application, the dynamic special effect for indicating that the first-level state is upgraded to the second-level state is displayed. After playback of the dynamic special effect ends, the updated level information is displayed in the second area and the updated progress information is displayed in the first area, to significantly remind the user that the first-level state is upgraded to the second-level state, simplifying a user operation and improving human-computer interaction efficiency without a need of user's manual query of the current level.

[0082] In some embodiments, the displaying updated level information and updated progress information corresponding to the target function includes:

[0083] displaying the updated level information in a second area, and displaying a second-level quantity of second-level segments in the first area, the second-level segments being configured to display a quantity of uses corresponding to the target function in the second-level state, and the second-level quantity being greater than or equal to the first-level quantity.

[0084] In some embodiments, the displaying a function interaction button includes:

[0085] displaying the function interaction button when a distance between the first virtual object and a target object is less than a preset distance threshold. The target function used by the first virtual object acts on the target object.

[0086] In this embodiment of this application, considering a balance of the game, after the first-level state is upgraded to the second-level state, level condition difficulty corresponding to the first-level state needs to be less than or equal to level condition difficulty corresponding to the second-level state, so that the player's balance of the game during the game is increased, challenge fun of the player is increased, and user experience is improved.

[0087] In some embodiments, after the displaying a function interaction button, the method further includes:

[0088] controlling the first virtual object to use the target function in response to a trigger operation performed on the function interaction button; and

[0089] displaying reference information associated with the target object.

[0090] For example, in response to the first virtual object performing a click/tap operation on the function interaction button, a reconnaissance function is activated to find out whether the second virtual object (a killer) is still alive and a location of the second virtual object.

[0091] In some embodiments, the reference information associated with the target object includes reference information of the second virtual object and prompt information. The displaying reference information associated with the target object includes:

[0092] displaying the reference information of the second virtual object, the target object being an elimination mark generated after a third virtual object is eliminated, the second virtual object being a virtual object that eliminates the third virtual object and is not eliminated, and the first virtual object, the second virtual object, and the third virtual object jointly participating in the virtual game task; or

[0093] displaying the prompt information, the prompt information indicating that the second virtual object that eliminates the third virtual object is eliminated.

[0094] In some embodiments, the displaying the reference information of the second virtual object includes:

[0095] displaying first reference information when the target function is currently in the first-level state; or

[0096] displaying the first reference information and second reference information when the target function is currently in the second-level state.

[0097] The first reference information may include location information of the second virtual object. The location information of the second virtual object may be, but is not limited to, current coordinates of the second virtual object in a mini-map, and may alternatively be a specific orientation or a building in which the second virtual object is located. The second reference information includes attribute information and configuration information of the second virtual object. The configuration information of the second virtual object may include, but is not limited to, a level of a virtual item, equipment, a rune, and the like currently owned by the second virtual object. The attribute information of the second virtual object may include, but is not limited to, an ID of the second virtual object, a winning rate of the second virtual object, armor information of the owned virtual item, basic health point information, and the like.

[0098] In some embodiments, the displaying the reference information of the second virtual object includes at least one of the following:

[0099] displaying virtual identity information of the second virtual object;

[00100] displaying location information of the second virtual object;

[00101] displaying configuration information of the second virtual object;

[00102] displaying attribute information of the second virtual object; or

[00103] displaying team information of the second virtual object.

[00104] In some embodiments of this application, the reference information of the second virtual object may be, but is not limited to, the virtual identity information of the second virtual object, such as the ID of the second virtual object, a quantity of people currently defeated by the second virtual object, and a title obtained by the second virtual object. For example, after the function is upgraded, the title of the second virtual object is displayed as the "Kill leader" to indirectly inform a gaming level of the second virtual object and make better a decision.

[00105] In some embodiments of this application, the location information of the second virtual object may be, but is not limited to, current coordinates of the second virtual object in a mini-map, and may alternatively be the specific orientation or the building in which the second virtual object is located. The configuration information of the second virtual object may include, but is not limited to, a level of a virtual item, equipment, a rune, and the like currently owned by the second virtual object. The attribute information of the second virtual object may include, but is not limited to, an ID of the second virtual object, a winning rate of the second virtual object, armor information of the owned virtual item, basic health point information, and the like, which is not redundantly limited here. The team information of the second virtual object may be understood, but is not limited to, as current team information of a killer, such as a quantity of surviving teams of the second virtual object and a team level of the second virtual object.

[00106] In some embodiments of this application, after the displaying a function interaction button, the method further includes:

[00107] controlling the first virtual object to use the target function in response to a trigger operation performed on the function interaction button; and

[00108] setting a state of the target function to a cooldown state, and hiding the function interaction button; and

[00109] setting, when duration of the target function being in the cooldown state is greater than or equal to a preset duration threshold, the state of the target function to an activated state, and displaying the function interaction button.

[00110] In some embodiments, after the displaying updated level information and updated progress information corresponding to the target function, the method further includes:

[00111] displaying, when the second use progress satisfies an upgrade condition corresponding to the second-level state and a third-level state is a higher-level state among the at least two level states, additional updated level information in the second area, and hiding progress information in the first area, the additional updated level information indicating that the target function is currently in the third-level state.

[00112] Further, the foregoing technical means are displayed in a specific scene. The function interaction button is specified as a skill interaction button.

[00113] In a shooting game, when a player dies, a virtual item (such as, a death chest of a dead player) including all items of the player is left. Currently, a hero has a skill to check a location of a killer by using a virtual item. If the killer is still alive, the location and a skill of the killer are directly displayed. If the killer is not alive, the location and the skill of the killer are not displayed. In an initial state (that is, at the beginning of each game, when a skill level of the player is level 1), when the player using the hero gets close to a virtual item of another team player (for example, the death chest left by the another team player after the another team player is dead), a skill icon and a skill interaction button 402 appear on a model. As shown in FIG. 4, a skill upgrade condition is using the skill 3 times, and then the skill is upgraded to level 2. In the initial state, there are three points in the lower right corner of the skill interaction button 402, which may be used to count a quantity of uses, as specifically shown in FIG. 5. As shown in FIG. 6, when the player presses the skill interaction button when aiming at the virtual item, a check function is triggered, and a location of a currently alive player (a quantity of the alive players ranges from 0 to 3) who kills the dead player is displayed in a display frame 602 at the top of an interface. In addition, the skill button for the same virtual item goes into cooldown and disappears after a use state ends. To prevent the player from frequently refreshing a location of an enemy, rechecking is not allowed within a specific period (greater than 10 seconds).

[00114] For example, as shown in FIG. 7, when the player discovers another virtual item or cooldown of the same virtual item ends, a skill interaction button 702 appears again, and a quantity of counting points in the lower right corner of a skill icon is refreshed, one point is accumulated.

[00115] For example, as shown in FIG. 8, when the player uses a skill a quantity of times (that is, three times) required for upgrading, points are fully accumulated. During a period in which the button does not disappear in the use state, an animation effect of accumulating points and upgrading to a next level is displayed on the skill button. A specific special effect process is shown

in FIG. 9. When a condition of using a skill is triggered next time, the skill icon has already been an icon of the next level, as shown in FIG. 10. As shown in FIG. 11, when the skill level is 2, after the player uses a check skill, a count increases, and a hero avatar and armor information of an attacker (zero to three attackers) are additionally displayed by the skill effect. At the next time, a quantity of uses is increased by one, as shown in FIG. 12. After the skill is used six times, the skill is upgraded to level 3, and the counting points disappear and are not displayed again. In this case, the skill is already in a final state, as shown in FIG. 13.

[00116] For example, in the final state of the skill in FIG. 14, a skill interaction icon is shown as the final level state. An effect after the player uses the skill is the same as that of level 2, but is refreshed in real time every five seconds. When the player uses the hero in a battle, coordinates (x, y) of the player are recorded. Within a diameter range of the coordinates (x, y), if there is a virtual item, it is detected whether the virtual item belongs to a teammate. If the virtual item does not belong to a teammate, a skill interaction button appears. The skill interaction button includes two parts: a skill icon (distinguishing between levels 1, 2, and 3) and counting points (1 to 3 points, distinguishing between an unused state and a used state). When a screen detects that the player clicks/taps the skill interaction button, a killer record of a dead player and a name of the killer are obtained from a server, and a name of an entire killer team is obtained based on a team name record. After a killer team ID is obtained, it is detected whether the killer is dead. If the killer is not dead, coordinates (xn, yn) of all killers from the server are obtained, the killer is marked with a red enemy mark on a map, and an entire team of the player is informed of a location of a remaining player in the killer team. If the killer is dead, the following message appears at the top: No surviving killer. After a skill process is completed, the skill is first be displayed in an in-use state, then begins cooldown, a skill count is increased by 1. A resource corresponding to a counting point in an icon is displayed in the used state, to provide the player with current count information. After the player uses the skill three times, the counting points are fully accumulated, the skill is upgraded to level 2, and the skill button icon is replaced with a level-2 skill icon. When the player uses a level-2 skill, a hero name and armor data of a currently remaining killer is additionally requested from the server and are reflected in the virtual item of the player using the skill. After the player uses the skill six times, the skill is upgraded to level 3, and the skill button icon is replaced with a level-3 skill icon. When the player uses a level-3 skill, all effects of levels 1 and 2 are included, and a location of a remaining enemy killer is refreshed in real time every five seconds.

[00117] For example, as shown in FIG. 15, operation S1502: Detect whether there is a virtual item around, specifically, record coordinates (x, y) of a player; detect, within a diameter range of (x,

y), if there is a virtual item, whether the virtual item belongs to a teammate; and perform operation S1504 if the virtual item does not belong to the teammate.

[00118] Operation S1504: Obtain a current count and a corresponding skill level, specifically, record coordinates (x, y) of a player; detect, within the diameter range of the coordinate (x, y), if there is the virtual item, whether the virtual item belongs to the teammate; and perform operation S1506 if the virtual item does not belong to the teammate.

[00119] Operation S1506: Display a torture skill interaction button of a current skill level, specifically, display a skill interaction button. The skill interaction button includes two parts: a skill icon (distinguishing between levels a twenty 1, 2, and 3) and counting points (1 to 3 points (also referred to as segments), distinguishing between an unused state and a used state).

[00120] Operation S1508: Detect a click/tap gesture on a button, specifically, activate a skill corresponding to the skill interaction button when a screen detects the click/tap gesture on the button.

[00121] Operation S1510: Extract killer team information, specifically, obtain a killer record of a dead player and a name of the killer from a server, and obtain a name of an entire killer team based on a team name record.

[00122] Operation S1512: Detect whether the killer team is alive, specifically, query, after the killer team name is obtained, the server whether a killer is dead.

[00123] Operation S1514: Obtain coordinates of the killer and mark the coordinates on a map, specifically, obtain, after a result fed back by the server is obtained, coordinates (xn, yn) of all killers from the server if the killer is not dead. If the killer is dead, the following message appears at the top: No surviving killer.

[00124] Operation S1516: Mark a location of the killer for all members of a player's team, specifically, mark the killer with a red enemy marks on a map, and inform the entire team of the player of a location of a remaining player in the killer team.

[00125] Operation S1518: Detect whether a level reaches 2, specifically, feed yes (“Y”) back if the level reaches 2; or feed no (“N”) back if the level does not reach 2.

[00126] Operation S1520: Display a legend and an armor level state of the killer. Specifically, after the player uses the skill three times, the counting points are fully accumulated, in other words, all the counting points are filled, the skill is upgraded to level 2, and the skill button icon is replaced with a level-2 skill icon; and when the player uses a level-2 skill, a hero name and

armor data of a currently remaining killer may be additionally requested from the server and displayed in the interface of the player using the skill.

[00127] Operation S1522: Detect whether a skill level reaches 3, specifically, feed yes (“Y”) back if the level reaches 3; or feed no (“N”) back if the level does not reach 3.

[00128] Operation S1524: Refresh a location and armor information of the killer in real time every five seconds. Specifically, after the player uses the skill six times, the skill is upgraded to level 3, and the skill button icon is replaced with a level-3 skill icon; and when the player uses a level-3 skill, all effects of levels 1 and 2 are included, and a location of a remaining enemy killer may be refreshed in real time every five seconds.

[00129] Operation S1526: The skill begins cooldown, a count is increased by one, which are reflected on the icon. Specifically, before the skill level reaches 3, each time the player uses the skill, the counting point in the skill icon changes from the unused state to the used state, to prompt the player of a current count progress (a quantity of uses of a function); and after the skill is used, the skill begins cooldown and a state of the skill changes, and when there is a virtual item around, the skill interaction button is not displayed again.

[00130] Operation S1528: The cooldown ends, specifically, normally display the skill interaction button when the cooldown ends and a condition (that is, there is the virtual item around) is satisfied.

[00131] In the specific implementation of this application, relevant data such as user information is involved. When the foregoing embodiments of this application are applied to a specific product or technology, a permission or consent of a user is required, and collection, use, and processing of the relevant data need to comply with relevant laws, regulations, and standards of relevant countries and regions.

[00132] For each of the foregoing method embodiments, for ease of description, the method embodiments are described as a series of action combination. But a person of ordinary skill in the art is to know that this application is not limited to any described sequence of the action, as some operations can use other sequences or can be executed simultaneously according to this application. In addition, a person skilled in the art also knows that all embodiments described in the specification are exemplary embodiments, and the related actions and modules are not necessarily required by this application.

[00133] According to another aspect of embodiments of this application, an information display apparatus for implementing the information display method is further provided. As shown in FIG. 16, the apparatus includes:

[00134] a first display unit 1602, configured to display a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states including a first-level state and a second-level state;

[00135] a second display unit 1604, displaying level information of the target function, and displaying progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state; and

[00136] a third display unit 1606, displaying, when the first use progress satisfies an upgrade condition corresponding to the first-level state, updated level information and updated progress information corresponding to the target function, the updated level information indicating that the target function is currently in the second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

[00137] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00138] In some embodiments, the second display unit includes:

[00139] a first display module, configured to display a first-level quantity of first-level segments in a first area of the function interaction button, the first-level quantity of first-level segments being configured to display a quantity of uses corresponding to the target function in the first-level state.

[00140] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00141] In some embodiments, the first display module includes:

[00142] a first display submodule, configured to display a first segment subset and a second segment subset in the first area, the first segment subset being a set including a first quantity of first-level segments in an empty state, the second segment subset being a set including a second quantity of first-level segments in a filled state, a sum of the first quantity and the second quantity

being the first-level quantity, and the first segment subset and the second segment subset being configured to display the quantity of uses corresponding to the target function in the first-level state.

[00143] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00144] In some embodiments, the first display submodule includes:

[00145] a first display subunit, configured to display, in the first area, a first initial segment subset including a first initial quantity of first-level segments and a second initial segment subset including a second initial quantity of first-level segments, a sum of the first initial quantity and the second initial quantity being the first-level quantity;

[00146] a first determining subunit, configured to determine, in response to obtaining a use operation of the first virtual object on the target function in the first-level state, a preset quantity of segments from the first initial segment subset for filling to obtain a preset quantity of first-level segments in the filled state;

[00147] a second display subunit, configured to add the obtained preset quantity of first-level segments in the filled state to the second initial segment subset to obtain the second segment subset including the second quantity of first-level segments; and use a first initial segment subset form which the preset quantity of first-level segments are removed as the first segment subset including the first quantity of first-level segments, a difference between the first quantity and the first initial quantity being the preset quantity, and a difference between the second quantity and the second initial quantity being the preset quantity.

[00148] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00149] In some embodiments, the apparatus further includes:

[00150] a first determining module, configured to determine, before the updated level information is displayed in the second area, and the updated progress information is displayed in the first area, as well as when the first quantity is 0 or the second quantity is the first-level quantity, that the first use progress satisfies the upgrade condition corresponding to the first-level state.

[00151] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00152] In some embodiments, the apparatus further includes:

[00153] a first playing module, configured to play, after it is determined that the first use progress satisfies the upgrade condition corresponding to the first-level state, a dynamic special effect for indicating that the first-level state is upgraded to the second-level state; and

[00154] a second display module, configured to display, after playback of the dynamic special effect ends, the updated level information in a second area, and display the updated progress information in the first area.

[00155] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00156] In some embodiments, the first display module includes:

[00157] a second display submodule, configured to display the updated level information in a second area, and display a second-level quantity of second-level segments in the first area, the second-level segments being configured to display a quantity of uses corresponding to the target function in the second-level state, and the second-level quantity being greater than or equal to the first-level quantity.

[00158] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00159] In some embodiments, the first display unit includes:

[00160] a third display module, configured to display the function interaction button when a distance between the first virtual object and a target object is less than a preset distance threshold. The target function used by the virtual object acts on the target object.

[00161] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00162] In some embodiments, the apparatus further includes:

[00163] a first control module, configured to control, after the function interaction button is displayed, the first virtual object to use the target function in response to a trigger operation performed on the function interaction button; and

[00164] a second control module, configured to display reference information associated with the target object after the function interaction button is displayed.

[00165] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00166] In some embodiments, the reference information associated with the target object includes reference information of the second virtual object and prompt information. The second control module includes:

[00167] a third display submodule, configured to display the reference information of the second virtual object, the target object being an elimination mark generated after a third virtual object is eliminated, the second virtual object being a virtual object that eliminates the third virtual object and is not eliminated, and the first virtual object, the second virtual object, and the third virtual object jointly participating in the virtual game task; or

[00168] a fourth display submodule, configured to display the prompt information, the prompt information indicating that the second virtual object that eliminates the third virtual object is eliminated.

[00169] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00170] In some embodiments, the third display submodule includes:

[00171] a third display subunit, configured to display first reference information when the target function is currently in first-level state; or

[00172] a fourth display subunit, configured to display the first reference information and second reference information when the target function is currently in the second-level state.

[00173] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00174] In some embodiments, the third display submodule includes at least one of the following:

[00175] a fifth display subunit, configured to display virtual identity information of the second virtual object;

[00176] a sixth display subunit, configured to display location information of the second virtual object;

[00177] a seventh display subunit, configured to display configuration information of the second virtual object;

[00178] an eighth display subunit, configured to display attribute information of the second virtual object; or

[00179] a ninth display subunit, configured to display team information of the second virtual object.

[00180] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00181] In some embodiments, the apparatus includes:

[00182] a third control module, configured to control, after the function interaction button is displayed, the first virtual object to use the target function in response to a trigger operation performed on the function interaction button;

[00183] a first hiding module, configured to set, after the function interaction button is displayed, a state of the target function to a cooldown state, and hide the function interaction button; and

[00184] a first setting module, configured to set, after the function interaction button is displayed and when duration of the target function being in the cooldown state is greater than or equal to a preset duration threshold, the state of the target function to an activated state, and display the function interaction button.

[00185] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00186] In some embodiments, the apparatus further includes:

[00187] a fourth display module, configured to display, after the updated level information is displayed in the second area, and the updated progress information is displayed in the first area, as well as when the second use progress satisfies an upgrade condition corresponding to the second-level state and a third-level state is a higher-level state among the at least two level states, additional updated level information in the second area, and hide progress information in the first area, the additional updated level information indicating that the target function is currently in the third-level state.

[00188] For specific embodiments, reference may be made to the example shown in the foregoing information display apparatus, which is not described again in this example.

[00189] According to another aspect of embodiments of this application, an electronic device configured to implement the foregoing information display method is further provided. As shown in FIG. 17, the electronic device includes a memory 1702 and a processor 1704. The memory 1702

has a computer program stored therein, and the processor 1704 is configured to perform operations in any one of the foregoing method embodiments by using the computer program.

[00190] In this embodiment, the electronic device may be located in at least one of a plurality of network devices in a computer network.

[00191] In this embodiment, the processor may be configured to execute the computer program to perform the following operations.

[00192] S1: Display a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states including a first-level state and a second-level state;

[00193] S2: Display level information of the target function, and display progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state; and

[00194] S3: Display, when the first use progress satisfies an upgrade condition corresponding to the first-level state, updated level information and updated progress information corresponding to the target function, the updated level information indicating that the target function is currently in the second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

[00195] In some embodiments, a person of ordinary skill in the art may understand that, the structure shown in FIG. 17 is only for example. The electronic device may be a terminal device, such as a smartphone (such as an Android mobile phone, or an iOS mobile phone), a tablet computer, a palmtop computer, a mobile Internet device (MID), or a PAD. The structure of the foregoing electronic device is not limited in FIG. 17. For example, the electronic device may further include more or fewer components (for example, a network interface) than those shown in FIG. 17, or has a configuration different from that shown in FIG. 17.

[00196] The memory 1702 may be configured to store a software program and a module, such as a program instruction/module corresponding to the information display method and apparatus in embodiments of this application, and the processor 1704 performs various functional applications and data processing by running the software program and the module stored in the memory 1702, in other words, implements the foregoing information display method. The memory 1702 may include a high-speed random memory, and may further include a non-volatile memory,

such as one or more magnetic storage apparatuses, a flash memory, or another non-volatile solid-state memory. In some embodiments, the memory 1702 may further include memories remotely disposed relative to the processor 1704, and the remote memories may be connected to a terminal over a network. Examples of the network include, but are not limited to, the Internet, an intranet, a local area network, a mobile communication network, and a combination thereof. The memory 1702 may be specifically configured, but is not limited to, to store information such as a candidate detection point set, a blocking degree, and a target detection point set. As an example, as shown in FIG. 17, the memory 1702 may include, but is not limited to, the first display unit 1602, the second display unit 1604, and the third display unit 1606 in the foregoing information display apparatus. In addition, another module unit in the foregoing information display apparatus may be included, but is not limited, which is not repeated in the example.

[00197] A transmission apparatus 1706 is configured to receive or transmit data via a network. Specific examples of the network include a wired network and a wireless network. In an example, the transmission apparatus 1706 includes a network interface controller (NIC). The network interface controller may be connected to another network device and a router via a network cable, to communicate with the Internet or a local area network. In an example, the transmission apparatus 1706 is a radio frequency (RF) module. The radio frequency module communicates with the Internet in a wireless manner.

[00198] In addition, the electronic device further includes: a display 1708, configured to display information such as the candidate detection point set, the blocking degree, and the target detection point set; and a connection bus 1710, configured to connect each module component in the electronic device.

[00199] In another embodiment, the foregoing terminal device or server may be a node in a distributed system. The distributed system may be a blockchain system, the blockchain system may be a distributed system formed by connecting a plurality of nodes through network communication. A peer to peer (P2P) network may be formed between the nodes. Any form of a computing device, such as the server, the terminal, and another electronic device, may become a node in the blockchain system by joining the peer-to-peer network.

[00200] According to an aspect in this application, a computer program product is provided. The computer program product includes a computer program/instructions. The computer program/instructions include program code used for performing the method shown in the flowchart. In such an embodiment, the computer program may be downloaded and installed from a network through the communication part, and/or installed from the removable medium. When executed by a

central processing unit, the computer program executes functions provided in embodiments of this application.

[00201] The sequence numbers of the foregoing embodiments of this application are merely for description, and do not imply the preference among embodiments.

[00202] The computer system of the electronic device is merely an example, and does not constitute any limitation on functions and use ranges in this embodiment of this application.

[00203] The computer system includes a central processing unit (CPU), which may perform various suitable actions and processing according to a program stored in a read-only memory (ROM) or a program loaded from a storage part into a random access memory (RAM). In the random access memory, various programs and data required by system operations are further stored. The central processing unit, the read-only memory, and the random access memory are connected to each other through a bus. An input/output (I/O) interface is also connected to the bus.

[00204] The following components are connected to the input/output interface: an input part including a keyboard, a mouse, or the like; an output part including a cathode ray tube (CRT), a liquid crystal display (LCD), a speaker, or the like; a storage part including a hard disk, or the like; and a communication part including a network interface card such as a local area network (LAN) card or a modem. The communication part performs communication processing over a network such as the Internet. A driver is also connected to the input/output interface as required. A removable medium, such as a magnetic disk, an optical disc, a magneto-optical disk, or a semiconductor memory, is installed on the driver as required, so that a computer program read from the removable medium is installed into the storage part as required.

[00205] Particularly, according to an embodiment of this application, the processes described in each method flowchart may be implemented as a computer software program. For example, this embodiment of this application includes a computer program product, the computer program product includes a computer program carried on a computer-readable medium, and the computer program includes program code used for performing the methods shown in the flowcharts. In such an embodiment, the computer program may be downloaded and installed from a network through the communication part, and/or installed from the removable medium. When the computer program is executed by the central processing unit, the various functions defined in the system of this application are executed.

[00206] According to an aspect of this application, a computer-readable storage medium is provided. A processor of a computer device reads computer instructions from the computer-

readable storage medium. The processor executes the computer instructions, to enable the computer device to perform the method provided in the foregoing various implementations.

[00207] In some embodiments of this application, the computer-readable storage medium may be configured to store a computer program configured for performing the following operations:

[00208] S1: Display a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states including a first-level state and a second-level state;

[00209] S2: Display level information of the target function, and display progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state; and

[00210] S3: Display, when the first use progress satisfies an upgrade condition corresponding to the first-level state, updated level information and updated progress information corresponding to the target function, the updated level information indicating that the target function is currently in the second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

[00211] In some embodiments of this application, a person of ordinary skill in the art may understand that all or some operations in the methods of the foregoing embodiments may be performed by a program instructing relevant hardware of the terminal device. The program may be stored in a computer-readable storage medium. The storage medium may include: a flash drive, a read-only memory (ROM), a random access memory (RAM), a magnetic disk, an optical disc, and the like.

[00212] The sequence numbers of the foregoing embodiments of this application are merely for description, and do not imply the preference among embodiments.

[00213] When the integrated unit in the foregoing embodiments is implemented in the form of a software functional unit and sold or used as an independent product, the integrated unit may be stored in the foregoing computer-readable storage medium. Based on such an understanding, the technical solutions of this application essentially, or the part contributing to the related art, or all or some of the technical solutions may be implemented in a form of a software product. The computer software product is stored in a storage medium and includes a plurality of instructions for instructing one or more computer devices (which may be a personal computer, a server, a network

device, or the like) to perform all or some of the operations of the methods described in embodiments of this application.

[00214] In the foregoing embodiments of this application, the descriptions of embodiments have respective focuses. For a part that is not described in detail in an embodiment, refer to related descriptions in other embodiments.

[00215] In the several embodiments provided in this application, the disclosed client may be implemented in another manner. The apparatus embodiments described above are merely exemplary. For example, the division of the units is merely the division of logic functions, and there may be other division manners in other implementations. For example, a plurality of units or components may be combined, or may be integrated into another system, or some features may be omitted or not performed. In addition, the displayed or discussed couplings or direct couplings, or communication connections may be implemented by using some interfaces. The indirect couplings or communication connections between the units or modules may be implemented in electric or other forms.

[00216] The units described as separate parts may or may not be physically separate, and components displayed as units may or may not be physical units, that is, may be located in one place, or may be distributed on a plurality of network units. Some or all of the units may be selected based on actual needs to implement the objectives of embodiments.

[00217] In addition, functional units in embodiments of this application may be integrated into one processing unit, or each of the units may be physically separated, or two or more units may be integrated into one unit. The integrated unit may be implemented in the form of hardware, or may be implemented in a form of a software functional unit.

[00218] The foregoing descriptions are merely preferred embodiments of this application, and a person of ordinary skill in the art may make various improvements and refinements without departing from the principle of this application. All such modifications and refinements should also be intended to be covered by this application.

CLAIMS

What is claimed is:

1. An information display method, performed by a computer device, and comprising:

displaying a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states comprising a first-level state and a second-level state;

displaying level information of the target function, and displaying progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state; and

displaying, when the first use progress satisfies an upgrade condition corresponding to the first-level state, updated level information and updated progress information corresponding to the target function, the updated level information indicating that the target function is currently in the second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

2. The method according to claim 1, wherein the displaying progress information of the target function comprises:

displaying a first-level quantity of first-level segments in a first area of the function interaction button, the first-level quantity of first-level segments being configured to display a quantity of uses corresponding to the target function in the first-level state.

3. The method according to claim 2, wherein the displaying a first-level quantity of first-level segments in a first area of the function interaction button comprises:

displaying a first segment subset and a second segment subset in the first area, the first segment subset comprising a first quantity of first-level segments in an empty state, the second segment subset comprising a second quantity of first-level segments in a filled state, a sum of the first quantity and the second quantity being the first-level quantity, and the first segment subset and the second segment subset being configured to display the quantity of uses corresponding to the target function in the first-level state.

4. The method according to claim 3, wherein the displaying a first segment subset and a second segment subset in the first area comprises:

displaying, in the first area, a first initial segment subset comprising a first initial quantity of first-level segments and a second initial segment subset comprising a second initial quantity of first-level segments, a sum of the first initial quantity and the second initial quantity being the first-level quantity;

determining, in response to obtaining a use operation of the first virtual object on the target function in the first-level state, a preset quantity of segments from the first initial segment subset for filling to obtain a preset quantity of first-level segments in the filled state;

adding the obtained preset quantity of first-level segments in the filled state to the second initial segment subset to obtain the second segment subset comprising the second quantity of first-level segments; and

using a first initial segment subset from which the preset quantity of first-level segments are removed as the first segment subset comprising the first quantity of first-level segments,

a difference between the first quantity and the first initial quantity being the preset quantity, and a difference between the second quantity and the second initial quantity being the preset quantity.

5. The method according to claim 3, wherein before the displaying updated level information and updated progress information corresponding to the target function, the method further comprising:

determining, when the first quantity is 0 or the second quantity is the first-level quantity, that the first use progress satisfies the upgrade condition corresponding to the first-level state.

6. The method according to claim 5, wherein after the determining that the first use progress satisfies the upgrade condition corresponding to the first-level state, the method further comprising:

generating and displaying a dynamic special effect for indicating that the first-level state is upgraded to the second-level state; and

displaying, after playback of the dynamic special effect ends, the updated level information in a second area, and displaying the updated progress information in the first area.

7. The method according to claim 2, wherein the displaying updated level information and updated progress information corresponding to the target function comprises:

displaying the updated level information in a second area, and displaying a second-level quantity of second-level segments in the first area, the second-level segments being configured to display a quantity of uses corresponding to the target function in the second-level state, and the

second-level quantity being greater than or equal to the first-level quantity.

8. The method according to claim 1, wherein the displaying a function interaction button comprises:

displaying the function interaction button when a distance between the first virtual object and a target object is less than a preset distance threshold.

9. The method according to claim 8, wherein after the displaying the function interaction button, the method further comprises:

controlling the first virtual object to use the target function in response to a trigger operation performed on the function interaction button; and

displaying reference information associated with the target object.

10. The method according to claim 9, wherein the reference information associated with the target object comprises reference information of a second virtual object and prompt information; and

the displaying reference information associated with the target object comprises:

displaying the reference information of the second virtual object, the target object being an elimination mark generated after a third virtual object is eliminated, the second virtual object being a virtual object that eliminates the third virtual object and is not eliminated, and the first virtual object, the second virtual object, and the third virtual object jointly participating in the virtual game task; or

displaying the prompt information, the prompt information indicating that the second virtual object that eliminates the third virtual object is eliminated.

11. The method according to claim 10, wherein the displaying the reference information of the second virtual object comprises:

displaying first reference information when the target function is currently in the first-level state; or

displaying the first reference information and second reference information when the target function is currently in the second-level state.

12. The method according to claim 10, wherein the displaying the reference information of the second virtual object comprises at least one of the following:

displaying virtual identity information of the second virtual object;

displaying location information of the second virtual object;
displaying configuration information of the second virtual object;
displaying attribute information of the second virtual object; or
displaying team information of the second virtual object.

13. The method according to any one of claims 1 to 12, wherein after the displaying a function interaction button, the method further comprises:

setting a state of the target function to a cooldown state, and hiding the function interaction button; and

setting, when duration of the target function being in the cooldown state is greater than or equal to a preset duration threshold, the state of the target function to an activated state, and displaying the function interaction button.

14. The method according to any one of claims 1 to 12, wherein after the displaying updated level information and updated progress information corresponding to the target function, the method further comprises:

displaying, when the second use progress satisfies an upgrade condition corresponding to the second-level state and a third-level state is a higher-level state among the at least two level states, additional updated level information in the second area, and hiding progress information in the first area, the additional updated level information indicating that the target function is currently in the third-level state.

15. An information display apparatus, comprising:

a first display unit, configured to display a function interaction button during running of a virtual game task in which a first virtual object participates, the function interaction button being configured to trigger the first virtual object to use a target function, the target function corresponding to at least two level states, and the at least two level states comprising a first-level state and a second-level state;

a second display unit, configured to display level information of the target function, and display progress information of the target function, the level information indicating that the target function is currently in the first-level state, and the progress information indicating a first use progress corresponding to the target function in the first-level state; and

a third display unit, configured to display, when the first use progress satisfies an upgrade condition corresponding to the first-level state, updated level information and updated progress

information corresponding to the target function, the updated level information indicating that the target function is currently in the second-level state, and the updated progress information indicating a second use progress corresponding to the target function in the second-level state.

16. The apparatus according to claim 15, wherein the second display unit is configured to display a first-level quantity of first-level segments in a first area of the function interaction button, the first-level quantity of first-level segments being configured to display a quantity of uses corresponding to the target function in the first-level state.

17. The apparatus according to claim 16, wherein the second display unit is configured to display a first segment subset and a second segment subset in the first area, the first segment subset comprising a first quantity of first-level segments in an empty state, the second segment subset comprising a second quantity of first-level segments in a filled state, a sum of the first quantity and the second quantity being the first-level quantity, and the first segment subset and the second segment subset being configured to display the quantity of uses corresponding to the target function in the first-level state.

18. A computer-readable storage medium, comprising a program stored thereon, the computer program, when run by a terminal device or a computer, performing the method according to any one of claims 1 to 14.

19. A computer program product, comprising a computer program/instructions, the computer program/instructions, when executed by a processor, implementing operations of the method according to any one of claims 1 to 14.

20. An electronic device, comprising a memory and a processor, the memory having a computer program stored therein, and the processor being configured to perform the method according to any one of claims 1 to 14 by using the computer program.