## CLAIMS

~~What is claimed is:~~

1. A method for displaying a virtual environment picture, performed by a client, the method comprising:

displaying a first virtual environment picture, the first virtual environment picture being a picture obtained by observing a virtual environment by using a first observation position as an observation center of a camera model disposed in the virtual environment, the first virtual environment picture displaying a master virtual character located in the virtual environment;

displaying, in response to receiving a first directional instruction generated by a first directional operation, a directional skill indicator pointing to a first direction, the directional skill indicator being a directional identifier that uses a position of the master virtual character as a starting point and that points to the first direction;

obtaining, in response to the directional skill indicator exceeding a first visual field determining box, an offset of the camera model according to a distance by which the directional skill indicator exceeds the first visual field determining box, the first visual field determining box being a visual field determining box with the first observation position as a center point and configured to represent a visual field of the camera model;

controlling, according to the offset, the camera model to move from a first camera position to a second camera position, the observation center of the camera model at the first camera position being the first observation position, and the observation center of the camera model at the second camera position being a second observation position; and

displaying a second virtual environment picture according to the camera model at the second camera position, the second virtual environment picture being a picture obtained by observing the virtual environment by using the~~a~~ second observation position as ~~an~~ the observation center of the camera model, the second virtual environment picture comprising the directional skill indicator, and the second observation position being in the first direction of the first observation position or in a surrounding region in the first direction.

~~2. The method according to claim 1, wherein the displaying a second virtual environment picture comprises:~~

~~displaying the second virtual environment picture in response to that a length of the directional skill indicator is greater than a distance threshold, the distance threshold being a visual field threshold that uses the position of the master virtual character as a starting point in the first virtual environment picture and that is in the first direction.~~

~~3~~2. The method according to claim 1~~ or 2~~, wherein the first virtual environment picture and the second virtual environment picture are pictures captured by the~~a~~ camera model disposed in the virtual environment, and the observation center of the camera model is an intersection of a ray emitted from a position of the camera model along an observing direction and the virtual environment~~; and~~

~~the displaying the second virtual environment picture in response to that a length of the directional skill indicator is greater than a distance threshold comprises:~~

~~obtaining an offset of the camera model in response to that the length of the directional skill indicator is greater than the distance threshold, the offset being used for determining a moving direction and a moving distance of the camera model;~~

~~controlling, according to the offset, the camera model to move from a first camera position to a second camera position, an observation center of the camera model at the first camera position being the first observation position, and an observation center of the camera model at the second camera position being the second observation position; and~~

~~displaying the second virtual environment picture according to the camera model at the second camera position, the second virtual environment picture comprising the directional skill indicator~~.

~~4. The method according to claim 3, wherein the offset is calculated according to a visual field determining box, and the visual field determining box is configured to represent a visual field of the camera model; and~~

~~the obtaining an offset of the camera model in response to that the length of the directional skill indicator is greater than the distance threshold comprises:~~

~~obtaining the offset of the camera model in response to that the directional skill indicator exceeds a first visual field determining box and according to a distance by which the directional skill indicator exceeds the first visual field determining box, the first visual field determining box being a visual field determining box with the first observation position as a center point.~~

~~5~~3. The method according to claim ~~4~~1, wherein ~~the~~ obtaining, in response to the directional skill indicator exceeding the first visual field determining box, the offset of the camera model ~~in response to that the directional skill indicator exceeds a first visual field determining box and~~ according to the~~a~~ distance by which the directional skill indicator exceeds the first visual field determining box

comprises:

obtaining an offset calculation point of the directional skill indicator, the offset calculation point being determined based on an end of the directional skill indicator;

calculating, in response to that the offset calculation point is located outside the first visual field determining box, an exceeding distance by which the offset calculation point exceeds the first visual field determining box; and

determining the exceeding distance as the offset of the camera model.

~~6~~4. The method according to claim ~~5~~3, further comprising:

displaying, in response to receiving a second directional instruction generated by a second directional operation, that the directional skill indicator changes from pointing to the first direction to pointing to a second direction;

controlling, in response to that the offset calculation point of the directional skill indicator that points to the second direction is located in a second visual field determining box, the camera model to move in a direction from the second camera position to a default camera position to reach a third camera position, the second visual field determining box being a visual field determining box with the second observation position as a center point, and the default camera position being a position of the camera model in the virtual environment in a case that the camera model is not offset; and

displaying a third virtual environment picture according to the camera model at the third camera position, the third virtual environment picture comprising the directional skill indicator,

~~an~~the observation center of the camera model at the third camera position being a third observation position, the offset calculation point of the directional skill indicator in the third virtual environment picture intersecting a side line of a third visual field determining box, the third visual field determining box being a visual field determining box with the third observation position as a center point.

~~7. The method according to claim 3, wherein the offset is calculated according to the first direction; and~~

~~the obtaining an offset of the camera model in response to that the length of the directional skill indicator is greater than the distance threshold comprises:~~

~~obtaining the offset of the camera model according to the first direction and a fixed offset distance in response to that the length of the directional skill indicator is greater than the distance threshold, the fixed offset distance being any value.~~

~~8. The method according to claim 7, wherein the obtaining the offset of the camera model according to the first direction and a fixed offset distance comprises:~~

~~obtaining a first angle between the first direction and an x-axis of a ground coordinate system, the ground coordinate system being a rectangular coordinate system that uses the position of the master virtual character as an origin and that is established according to the observing direction of the camera model and parallel to a ground;~~

~~determining the fixed offset distance corresponding to the first direction according to a quadrant or a coordinate axis at which the first direction is located in the ground coordinate system; and~~

~~determining the offset of the camera model according to the first angle and the fixed offset distance corresponding to the first direction.~~

~~9. The method according to claim 8, wherein the fixed offset distance comprises at least one of a longitudinal fixed offset distance and a transverse fixed offset distance; and~~

~~the determining the offset of the camera model according to the first angle and the fixed offset distance corresponding to the first direction comprises:~~

~~determining a product of the transverse fixed offset distance and a cosine value of the first angle as a transverse offset distance in response to that the fixed offset distance corresponding to the first direction comprises the transverse fixed offset distance;~~

~~determining a product of the longitudinal fixed offset distance and a sine value of the first angle as a longitudinal offset distance in response to that the fixed offset distance corresponding to the first direction comprises the longitudinal fixed offset distance; and~~

~~determining at least one of the transverse offset distance and the longitudinal offset distance as the offset of the camera model.~~

~~10~~5. The method according to claim ~~3~~1, wherein ~~the~~ controlling, according to the offset, the camera model to move from the~~a~~ first camera position to the~~a~~ second camera position comprises:

controlling, according to the offset, the camera model to move from the first camera position to the second camera position in a specified movement manner, the specified movement manner comprising any one of a uniform motion, a differential motion, and a smooth damped motion.

~~11~~6. The method according to claim ~~3~~1, wherein ~~the~~ obtaining ~~an~~ the offset of the camera model further comprises:

obtaining a skill offset and a global offset of the camera model, the skill offset being determined according to a control instruction of the directional skill indicator, and the global offset being

determined according to at least one camera control instruction of an instruction of dragging a map, an instruction of viewing a minimap, and an instruction of specifying a visual angle of a virtual unit; and

determining a sum of the skill offset and the global offset as the offset of the camera model.

~~12~~7. An apparatus for displaying a virtual environment picture, comprising:

a display module, configured to display a first virtual environment picture, the first virtual environment picture being a picture obtained by observing a virtual environment by using a first observation position as an observation center of a camera model disposed in the virtual environment, the first virtual environment picture displaying a master virtual character located in the virtual environment; ~~and~~

an interaction module, configured to receive a first directional operation to generate a first directional instruction,

the display module being further configured to display, in response to receiving the first directional instruction generated by the first directional operation, a directional skill indicator pointing to a first direction, the directional skill indicator being a directional identifier that uses a position of the master virtual character as a starting point and that points to the first direction;

an obtaining module, configured to obtain, in response to the directional skill indicator exceeding a first visual field determining box, an offset of the camera model according to a distance by which the directional skill indicator exceeds the first visual field determining box, the first visual field determining box being a visual field determining box with the first observation position as a center point and configured to represent a visual field of the camera model;

a control module, configured to control, according to the offset, the camera model to move from a first camera position to a second camera position, the observation center of the camera model at the first camera position being the first observation position, and the observation center of the camera model at the second camera position being a second observation position; and

the display module being further configured to display a second virtual environment picture according to the camera model at the second camera position, the second virtual environment picture being a picture obtained by observing the virtual environment by using the~~a~~ second observation position as ~~an~~the observation center of the camera model, the second virtual environment picture comprising the directional skill indicator, and the second observation position being in the first direction of the first observation position or in a surrounding region in the first direction.

~~13. The apparatus according to claim 12, wherein the display module is configured to display~~

~~the second virtual environment picture in response to that a length of the directional skill indicator is greater than a distance threshold, the distance threshold being a visual field threshold that uses the position of the master virtual character as a starting point in the first virtual environment picture and that is in the first direction.~~

~~14~~8. The apparatus according to claim ~~12 or 13~~7, wherein the first virtual environment picture and the second virtual environment picture are pictures captured by the~~a~~ camera model disposed in the virtual environment, and the observation center of the camera model is an intersection of a ray emitted from a position of the camera model along an observing direction and the virtual environment~~; and~~

~~the apparatus further comprises:~~

~~an obtaining module, configured to obtain an offset of the camera model in response to that the length of the directional skill indicator is greater than the distance threshold, the offset being used for determining a moving direction and a moving distance of the camera model; and~~

~~a control module, configured to control, according to the offset, the camera model to move from a first camera position to a second camera position, an observation center of the camera model at the first camera position being the first observation position, and an observation center of the camera model at the second camera position being the second observation position,~~

~~the display module being further configured to display the second virtual environment picture according to the camera model at the second camera position, the second virtual environment picture comprising the directional skill indicator~~.

~~15. The apparatus according to claim 14, wherein the offset is calculated according to a visual field determining box, and the visual field determining box is configured to represent a visual field of the camera model; and~~

~~the obtaining module is configured to obtain the offset of the camera model in response to that the directional skill indicator exceeds a first visual field determining box and according to a distance by which the directional skill indicator exceeds the first visual field determining box, the first visual field determining box being a visual field determining box with the first observation position as a center point.~~

~~16~~9. The apparatus according to claim ~~15~~7, wherein the apparatus further comprises a calculation module and a determining module;

the obtaining module is configured to obtain an offset calculation point of the directional skill indicator, the offset calculation point being determined based on an end of the directional skill indicator;

the calculation module is configured to calculate, in response to that the offset calculation point is located outside the first visual field determining box, an exceeding distance by which the offset calculation point exceeds the first visual field determining box; and

the determining module is configured to determine the exceeding distance as the offset of the camera model.

~~17~~10. The apparatus according to claim ~~16~~9, wherein

the display module is configured to display, in response to receiving a second directional instruction generated by a second directional operation, that the directional skill indicator changes from pointing to the first direction to pointing to a second direction;

the control module is configured to control, in response to that the offset calculation point of the directional skill indicator that points to the second direction is located in a second visual field determining box, the camera model to move in a direction from the second camera position to a default camera position to reach a third camera position, the second visual field determining box being a visual field determining box with the second observation position as a center point, and the default camera position being a position of the camera model in the virtual environment in a case that the camera model is not offset; and

the display module is configured to display a third virtual environment picture according to the camera model at the third camera position, the third virtual environment picture comprising the directional skill indicator,

~~an~~the observation center of the camera model at the third camera position being a third observation position, the offset calculation point of the directional skill indicator in the third virtual environment picture intersecting a side line of a third visual field determining box, the third visual field determining box being a visual field determining box with the third observation position as a center point.

~~18. The apparatus according to claim 14, wherein the offset is calculated according to the first direction; and~~

~~the obtaining module is configured to obtain the offset of the camera model according to the first direction and a fixed offset distance in response to that the length of the directional skill indicator is greater than the distance threshold, the fixed offset distance being any value.~~

~~19. The apparatus according to claim 18, wherein the apparatus comprises a determining module;~~

~~the obtaining module is configured to obtain a first angle between the first direction and an x-axis of a ground coordinate system, the ground coordinate system being a rectangular coordinate system that uses the position of the master virtual character as an origin and that is established according to the observing direction of the camera model and parallel to a ground;~~

~~the determining module is configured to determine the fixed offset distance corresponding to the first direction according to a quadrant or a coordinate axis at which the first direction is located in the ground coordinate system; and~~

~~the determining module is configured to determine the offset of the camera model according to the first angle and the fixed offset distance corresponding to the first direction.~~

~~20. The apparatus according to claim 19, wherein the fixed offset distance comprises at least one of a longitudinal fixed offset distance and a transverse fixed offset distance, and the apparatus further comprises a calculation module;~~

~~the calculation module is configured to determine a product of the transverse fixed offset distance and a cosine value of the first angle as a transverse offset distance in response to that the fixed offset distance corresponding to the first direction comprises the transverse fixed offset distance;~~

~~the calculation module is configured to determine a product of the longitudinal fixed offset distance and a sine value of the first angle as a longitudinal offset distance in response to that the fixed offset distance corresponding to the first direction comprises the longitudinal fixed offset distance; and~~

~~the determining module is configured to determine at least one of the transverse offset distance and the longitudinal offset distance as the offset of the camera model.~~

~~21~~11. The apparatus according to claim ~~14~~7, wherein the control module is configured to control, according to the offset, the camera model to move from the first camera position to the second camera position in a specified movement manner, the specified movement manner comprising any one of a uniform motion, a differential motion, and a smooth damped motion.

~~22~~12. The apparatus according to claim ~~14~~7, wherein the apparatus further comprises a determining module;

the obtaining module is configured to obtain a skill offset and a global offset of the camera model, the skill offset being determined according to a control instruction of the directional skill indicator, and the global offset being determined according to at least one camera control instruction of an

instruction of dragging a map, an instruction of viewing a minimap, and an instruction of specifying a visual angle of a virtual unit; and

the determining module is configured to determine a sum of the skill offset and the global offset as the offset of the camera model.

~~23~~13. A computer device, comprising a processor and a memory, the memory storing at least one instruction, at least one program, a code set or an instruction set, the at least one instruction, the at least one program, the code set or the instruction set being loaded and executed by the processor to implement the method for displaying a virtual environment picture according to any one of claims 1 to ~~11~~6.

~~24~~14. A computer-readable storage medium, storing at least one instruction, at least one program, a code set or an instruction set, the at least one instruction, the at least one program, the code set or the instruction set being loaded and executed by a processor to implement the method for displaying a virtual environment picture according to any one of claims 1 to ~~11~~6.