CLAIMS

1. An augmented reality-based display method, comprising:

performing object segmentation on a target object in a real-time scene image captured by an image acquisition unit to obtain a target object image;

generating a virtual image corresponding to the target object based on the target object image; and

displaying the virtual image in the real-time scene image based on an augmented reality display technology;

wherein the displaying the virtual image in the real-time scene image based on an augmented reality display technology comprises:

creating a virtual plane in the real-time scene image;

generating a three-dimensional space at the virtual plane; and

displaying the virtual image of the target object in the three-dimensional space, that is generated, based on the augmented reality display technology;

wherein the displaying the virtual image of the target object in the three-dimensional space, that is generated, based on the augmented reality display technology comprises:

determining a target position in the three-dimensional space; and

displaying the virtual image of the target object at the target position in the three-dimensional space based on the augmented reality display technology.

2. The method according to claim 1, wherein the generating a virtual image corresponding to the target object based on the target object image comprises:

synthesizing the target object image with an animation material to generate the virtual image corresponding to the target object,

wherein the preset animation material comprises a limb-body animation material and/or an expression animation material of the virtual image.

3. The method according to claim 2, wherein the synthesizing the target object image with an animation material comprises:

obtaining the limb-body animation material and/or the expression animation material;

determining a plurality of connection points on the target object image based on the target object image; and

synthesizing the limb-body animation material and/or the expression animation material with the target object image by means of the plurality of connection points to generate the virtual image corresponding to the target object.

4. The method according to claim 3, wherein the performing object segmentation on a target object in a real-time scene image captured by an image acquisition unit to obtain a target object image comprises:

running an object segmentation algorithm to perform object segmentation on the target object in the real-time scene image, thereby obtaining a mask and a bounding box of the target object image and obtaining a texture of an internal region of the mask.

5. The method according to claim 4, wherein the synthesizing the limb-body animation material and/or the expression animation material with the target object image by means of the plurality of connection points to generate the virtual image corresponding to the target object comprises:

synthesizing the limb-body animation material and/or the expression animation material with the texture of the internal region of the mask by means of the plurality of connection points to generate the virtual image corresponding to the target object.

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

adjusting a size of the animation material based on a size of the bounding box; and

adjusting positions of the plurality of connection points on the target object image based on an axis of symmetry and a length-width ratio of the bounding box.

7. The method according to any one of claims 2 to 6, further comprising:

playing the animation material to perform movement and/or expression control on the virtual image.

8. The method according to claim 7, wherein the playing the animation material to perform movement and/or expression control on the virtual image comprises:

playing the animation material according to preset animation frames of the animation material to perform movement and/or expression control on the virtual image; and/or

generating and playing animation frames of the animation material based on limb-body movements and/or expressions of a user, to perform movement and/or expression control on the virtual image.

9. The method according to claim 1, wherein the creating a virtual plane based on a target plane region in the real-time scene image comprises:

creating the virtual plane based on the target plane region in a case of detecting that the target plane region exists in the real-time scene image, wherein the target plane region is a plane region having a distance to the image acquisition unit within a first preset distance range and/or a plane region located in a central region of the real-time scene image; or

creating the virtual plane at a particular position in the real-time scene image.

10. The method according to claim 1, wherein the determining a target position in the three-dimensional space comprises:

receiving a position specifying instruction from a user, establishing a three-dimensional anchor point in the three-dimensional space based on a position point triggered by the position specifying instruction from the user, and using the three-dimensional anchor point as the target position.

11. The method according to any one of claims 1 to 6, further comprising:

receiving a first triggering instruction from a user, and running an object segmentation algorithm that is pre-loaded according to the first triggering instruction to perform object segmentation on the target object in the real-time scene image; and

receiving a second triggering instruction from the user, and stopping the running of the object segmentation algorithm according to the second triggering instruction.

12. The method according to any one of claims 1 to 6, wherein the displaying the virtual image in the real-time scene image comprises:

dynamically displaying the virtual image in the real-time scene image.

13. An augmented reality-based display device, comprising:

a target object determination unit, configured to perform object segmentation on a target object in a real-time scene image captured by an image acquisition unit to obtain a target object image;

a generation unit, configured to generate a virtual image corresponding to the target object based on the target object image; and

a display unit, configured to display the virtual image in the real-time scene image based on an augmented reality display technology;

wherein the display unit, when displaying the virtual image in the real-time scene image based on an augmented reality display technology, is configured to: create a virtual plane in the real-time scene image; generate a three-dimensional space at the virtual plane; and display the virtual image of the target object in the three-dimensional space, that is generated, based on the augmented reality display technology;

the display unit, when displaying the virtual image of the target object in the three-dimensional space, that is generated, based on the augmented reality display technology, is configured to: determine a target position in the 3D space; and display the virtual image of the target object at the target position in the 3D space based on the augmented reality display technology.

14. An electronic device, comprising:

at least one processor; and

a memory,

wherein the memory stores computer executable instructions; and

the at least one processor executes the computer executable instructions stored in the memory to cause the at least one processor to perform the method according to any one of claims 1 to 6.

15. A computer readable storage medium, wherein the computer readable storage medium stores computer executable instructions, when the computer executable instructions are executed by a processor, the method according to any one of claims 1 to 6 is performed.