CLAIMS:

1. An effect display method, comprising:

setting a physical property of a target effect object, wherein the physical property comprises a gravity parameter of the target effect object;

determining a current position and a target position of the target effect object;

determining a floating force parameter based on the current position and the target position; and

controlling the target effect object to float to display a floating animation effect of the target effect object, based on the physical property and the floating force parameter and according to a kinematic model, comprising: detecting in real-time whether a head of a target user moves, and controlling the target effect object to follow the head of the target user to float, in response to detecting a head movement of the target user, based on the physical property and a new floating force parameter and according to the kinematic model, wherein the new floating force parameter is determined by a disturbance force parameter generated by the head movement of the target user, wherein the kinematic model is configured to analyze a

motion state of an object with the physical property under a floating force indicated by the floating force parameter.

2. The effect display method according to claim 1, wherein the physical property further comprises: linear damping and angular damping.

3. The effect display method according to claim 1 or 2, wherein the determining a target position of the target effect object comprises:

determining a mouth position in an acquired facial image as an initial position of the target effect object; and

determining the target position of the target effect object based on the initial position and a preset offset.

4. The effect display method according to any of claims 1 to 3, wherein the floating force parameter comprises a floating force direction and a floating force magnitude, the floating force direction is obtained by a difference between the current position and the target position, the floating force magnitude is preset and the current position is the position of the target effect object in a current video frame.

5. The effect display method according to claim 4, wherein the current position is determined by at least one

of the following parameters:

a floating force applied to the target effect object in a previous video frame;

a first collision force generated by a face collision in the previous video frame; or

a second collision force generated by an effect border collision in the previous video frame.

6. The effect display method according to any of claims 1 to 5, further comprising:

controlling the target effect object to rotate at an angular velocity, when controlling the target effect object to float, based on the physical property and the floating force parameter and according to the kinematic model.

7. The effect display method according to claim 6, wherein a process of determining the angular velocity comprises:

obtaining a current angle of the target effect object in the current video frame;

taking a difference of the current angle and a preset angle as an angle difference; and

determining the angular velocity based on the angle difference and a preset velocity value.

8. The effect display method according to claim 1, wherein the new floating force parameter is determined by using the following method:

determining a new target position based on the current position, a preset offset, and the disturbance force parameter; and

determining the new floating force parameter based on the current position and the new target position.

9. The effect display method according to claim 1, wherein the disturbance force parameter generated by the head movement of the target user is determined by using the following method:

obtaining a first head position of the target user in a current video frame and second head positions of the target user in N video frames before the current video frame, wherein N is a positive integer;

determining differences of the first head position and the second head positions as a position difference vector;

determining a numerical value corresponding to the position difference vector as a magnitude of the disturbance force; and

determining a direction of the position difference

vector as a direction of the disturbance force.

10. The effect display method according to claim 1, further comprising, before the detecting in real-time whether the head of the target user moves:

determining a number of the target effect object; and

in response to the number of the target effect object reaching a preset number, detecting in real-time whether the head of the target user moves.

11. The effect display method according to any of claims 1 to 10, further comprising:

detecting whether a mouth of a target user has completed a specified action based on an acquired facial image;

displaying an effect object in an initial state in response to the mouth of the target user completing the specified action;

obtaining a keeping duration of completing the specified action by the mouth;

adjusting a display state of the effect object based on the keeping duration; and

generating the target effect object in response to the keeping duration reaching a preset duration.

12. The effect display method according to claim 11,

further comprising:

displaying the effect object in a current state in response to the keeping duration not reaching the preset duration and the mouth of the target user has not completed the specified action; and

displaying prompt information, wherein the prompt information is configured to prompt the target user to continue completing the specified action.

13. The effect display method according to claim 11, further comprising:

blending a pre-acquired MatCap map and a pre-acquired PBR material map to obtain a final blended map; and

adding a transparency effect and a lighting effect to the final blended map to obtain the effect object.

14. The effect display method according to claim 13, wherein the MatCap map comprises a MatCap candy map, a MatCap detail map, and a MatCap highlight map and the blending the pre-acquired MatCap map and the pre-acquired PBR material map to obtain the final blended map comprises:

blending the PBR material map with the MatCap detail map to obtain a first blended map;

blending the first blended map with the MatCap highlight

map to obtain a second blended map; and

blending the second blended map with the MatCap candy map to obtain the final blended map.

15. An effect display apparatus, comprising:

a physical property setting module configured to set a physical property of a target effect object, wherein the physical property comprises a gravity parameter of the target effect object;

a position determining module configured to determine a current position and a target position of the target effect object;

a floating force parameter determining module configured to determine a floating force parameter based on the current position and the target position; and

a floating control module configured to control the target effect object to float to display a floating animation effect of the target effect object, based on the physical property and the floating force parameter and according to a kinematic model, comprising: detecting in real-time whether a head of a target user moves, and controlling the target effect object to follow the head of the target user to float, in response to detecting a head

movement of the target user, based on the physical property and a new floating force parameter and according to the kinematic model, wherein the new floating force parameter is determined by a disturbance force parameter generated by the head movement of the target user, wherein the kinematic model is used to analyze a motion state of an object with the physical property under a floating force indicated by the floating force parameter.

16. An electronic device, comprising:

one or more processors; and

a storage device for storing one or more programs, wherein when the one or more programs are executed by the one or more processors, cause the one or more processors to implement the effect display method according to any of claims 1 to 14.

17. A computer-readable storage medium, in which a computer program is stored, wherein the program, when executed by a processor, cause the processor to implement the effect display method according to any of claims 1 to 14.

18. A computer program product, comprising: a computer program or instruction that, when executed by a processor,

cause the processor to implement the effect display method according to any of claims 1 to 14.

19. A computer program, comprising: instructions that, when executed by a processor, cause the processor to implement the effect display method according to any of claims 1 to 14.