

CLAIMS

What is claimed is:

1. An identity authentication method, applied to a virtual reality device, wherein the method comprises:

5 initiating, by the virtual reality device, an identity authentication procedure of a user, wherein the identity authentication procedure of the user is for at least one of account login, information inquiry, information modification, or online payment;

 providing, by the virtual reality device through a virtual reality user interface, the user with a plurality of scene options;

10 receiving, by the virtual reality device through the virtual reality user interface, a first user selection of a scene option from the plurality of scene options;

 after receiving the first user selection of the scene option, displaying, by the virtual reality device through the virtual reality user interface, multiple virtual reality articles in a virtual reality scene corresponding to the scene option selected by the

15 user;

 receiving, by the virtual reality device through the virtual reality user interface, a second user selection of a plurality of candidate virtual reality articles from the displayed multiple virtual reality articles in a particular selection sequence, wherein a particular candidate virtual reality article is selected multiple times in the particular

20 selection sequence;

 generating, by the virtual reality device, selection operation information of the user for the displayed multiple virtual reality articles based on the received second user selection of the plurality of candidate virtual reality articles in the particular selection sequence;

25 determining, by the virtual reality device, whether the scene option selected by the user is a predefined standard scene associated with the identity authentication procedure and the selection operation information matches predefined standard selection operation information, wherein determining whether the scene option selected by the user is the predefined standard scene associated with the identity

30 authentication procedure includes comparing the scene option selected by the user with a plurality of predefined standard scenes, wherein the plurality of predefined standard scenes include at least two of a predefined standard scene associated with the

account login, a predefined standard scene associated with the information inquiry, a predefined standard scene associated with the information modification, or a predefined standard scene associated with the online payment, and wherein determining whether the selection operation information matches the predefined
5 standard selection operation information includes comparing the particular selection sequence with a predefined selection sequence in the predefined standard selection operation information;

determining, by the virtual reality device, that the identity authentication procedure of the user succeeds in response to determining that the scene option
10 selected by the user is the predefined standard scene associated with the identity authentication procedure and the selection operation information matches the predefined standard selection operation information; and

in response to determining that the identity authentication procedure of the user succeeds, allowing, by the virtual reality device, the user to perform at least one of the
15 account login, the information inquiry, the information modification, or the online payment.

2. The method according to claim 1, wherein the multiple virtual reality articles are at least one of:

a plurality of candidate virtual reality articles indicated by the predefined
20 standard selection operation information; or

the plurality of candidate virtual reality articles indicated by the predefined standard selection operation information and one or more distracting virtual reality articles not indicated by the predefined standard selection operation information.

3. The method according to claim 2, wherein the one or more distracting virtual
25 reality articles are different from the plurality of candidate virtual reality articles in a predetermined dimension, and wherein the predetermined dimension comprises at least one of the following:

an article category, an article specification, a spatial posture, or a relative position relationship with another virtual reality article.

30 4. The method according to claim 1, wherein generating the selection operation information of the user for the displayed multiple virtual reality articles comprises: determining one or more virtual reality articles selected by the user, and adding the one or more virtual reality articles to the selection operation information.

5. The method according to claim 4, wherein generating the selection operation

information of the user for the displayed multiple virtual reality articles further comprises: determining a selection sequence of the user for the one or more virtual reality articles, and adding the selection sequence to the selection operation information; and

5 wherein determining that the identity authentication procedure of the user succeeds comprises: in response to determining that the one or more virtual reality articles selected by the user are consistent with one or more candidate virtual reality articles indicated by the predefined standard selection operation information and the selection sequence is consistent with a predefined standard sequence of the one or
10 more candidate virtual reality articles indicated by the predefined standard selection operation information, determining that the selection operation information matches the predefined standard selection operation information and determining that the identity authentication procedure of the user succeeds.

6. The method according to claim 1, wherein determining that the identity
15 authentication procedure of the user succeeds comprises:

 in response to determining that the selection operation information is the same as the predefined standard selection operation information, determining that the selection operation information matches the predefined standard selection operation information and determining that the identity authentication procedure of the user
20 succeeds; or

 in response to determining that the selection operation information comprises consecutive-selection operation information of the user for several virtual reality articles and the consecutive-selection operation information is the same as the predefined standard selection operation information, determining that the selection
25 operation information matches the predefined standard selection operation information and determining that the identity authentication procedure of the user succeeds.

7. The method according to claim 1, wherein the plurality of scene options correspond to multiple predefined virtual reality scenes, wherein each predefined
30 virtual reality scene is associated with an initiation process of the identity authentication procedure of the user, and wherein the method further comprises determining a scene option selected by the user; and

 wherein displaying the multiple virtual reality articles comprises: in a virtual reality scene corresponding to the scene option selected by the user, only displaying

virtual reality articles pre-associated with the displayed virtual reality scene; and

wherein determining that the selection operation information matches the predefined standard selection operation information comprises: determining that the selection operation information matches the predefined standard selection operation information pre-associated with the displayed virtual reality scene.

8. The method according to claim 1, wherein displaying the multiple virtual reality articles comprises:

displaying same virtual reality articles in each virtual reality scene selected by the user.

9. The method according to claim 1, wherein displaying the multiple virtual reality articles comprises:

in each virtual reality scene selected by the user, separately displaying virtual reality articles pre-associated with the selected virtual reality scene.

10. A non-transitory, computer-readable medium storing one or more instructions executable by a computer system to perform the method according to any one of claims 1 to 9.

11. A computer-implemented system, comprising:

one or more computers; and

one or more computer memory devices interoperably coupled with the one or more computers and having tangible, non-transitory, machine-readable media storing one or more instructions that, when executed by the one or more computers, perform the method according to any one of claims 1 to 9.

12. An identity authentication apparatus, applied to a virtual reality device, wherein the apparatus comprises a plurality of modules for performing the method of any one of claims 1 to 9.