CLAIMS

1. A user positioning method, comprising:

obtaining, by an audio signal playing terminal, identification information of an object associated with the audio signal playing terminal, by;

sending, by the audio signal playing terminal, an identification information obtaining request to a server, and

receiving the identification information that is allocated to the object associated with the audio signal playing terminal by the server in response to the identification information obtaining request;

watermarking, by the audio signal playing terminal, a to-be-played audio signal based on the identification information to obtain an audio signal having a watermark; and

playing, by the audio signal playing terminal, the audio signal having the watermark for a client terminal to collect the audio signal having the watermark and send the audio signal having the watermark or the identification information to the server to enable the server to obtain the identification information and determine a position of the object based on a correspondence between the identification information and the position of the object and thereby to determine a position of the client terminal.

2. The method according to claim 1, wherein the playing, by the audio signal playing terminal, the audio signal having the watermark for a client terminal to collect the audio signal having the watermark and send the audio signal having the watermark or the identification information to a server to enable the server to obtain the identification information and determine a position of the object based on a correspondence between the identification information and the position of the object and thereby to determine a position of the client terminal comprises:

playing, by the audio signal playing terminal, the audio signal having the watermark for the client terminal to collect the audio signal having the watermark and send the audio signal having the watermark to the server to enable the server to parse the audio signal to obtain the identification information and determine the position of the object based on the correspondence between the identification information and the position of the object and thereby to determine the position of the client terminal.

3. The method according to claim 1, wherein the playing, by the audio signal playing terminal, the audio signal having the watermark for a client terminal to collect the audio signal having the watermark and send the audio signal having the watermark or the identification information to a server to enable the server to obtain the identification information and determine a position of the object based on a correspondence between the identification information and the position of the object and thereby to determine a position of the client terminal comprises:

playing, by the audio signal playing terminal, the audio signal having the watermark for the client terminal to collect the audio signal having the watermark and parse the audio signal having the watermark to obtain the identification information, and send the identification information to the server to enable the server to obtain the identification information and determine the position of the object based on the correspondence between the identification information and the position of the object and thereby to determine the position of the client terminal.

4. The method according to claim 1, wherein the sending an identification information obtaining request is triggered by receiving, by the audio signal playing terminal, an information obtaining triggering instruction from the object associated with the audio signal playing terminal.

5. The method according to claim 1, wherein the sending an identification information obtaining request is triggered by determining, by the audio signal playing terminal, a change of a position of the audio signal playing terminal.

6. The method according to claim 1, wherein the identification information obtaining request includes identity information of the object associated with the audio signal playing terminal.

7. The method according to claim 1, wherein the watermarking, by the audio signal playing terminal, a to-be-played audio signal based on the identification information to obtain an audio signal having a watermark comprises:

sending, by the audio signal playing terminal, the to-be-played audio signal to a watermarking apparatus for the watermarking apparatus to watermark the to-be-played audio signal based on the identification information to obtain the audio signal having the watermark.

8. The method according to claim 7, wherein the server includes the watermarking apparatus.

9. A server, comprising: one or more processors and one or more non-transitory computer-readable memories coupled to the one or more processors and configured with instructions executable by the one or more processors to cause the server to perform operations comprising:

receiving an identification information obtaining request from an audio signal playing terminal associated with an object;

allocating the identification information to the object associated with the audio signal playing terminal in response to the identification information obtaining request;

receiving an audio signal having a watermark from a client terminal, wherein the watermark indicates the identification information of the object, and wherein the audio signal is obtained by the client terminal from the audio signal playing terminal associated with the object;

parsing the audio signal to obtain the identification information indicated by the watermark;

determining a position of the object based on the obtained identification information; and

determining a position of the client terminal based on the position of the object.

10. The server according to claim 9, wherein the operations further comprise: sending push information associated with the position of the client terminal to the client terminal.

11. The server according to claim 10, wherein the push information includes one or more of coupon information and discount information.

12. The server according to claim 9, wherein the server stores correspondence between identification information and positions of objects.

13. The server according to claim 12, wherein the determining a position of the object based on the obtained identification information further comprises:

determining the position of the object based on the stored correspondence between identification information and positions of objects.

14. A audio signal playing terminal, comprising: one or more processors and one or more non-transitory computer-readable memories coupled to the one or more processors and configured with instructions executable by the one or more processors to cause the audio signal playing terminal to perform operations comprising:

obtaining, by the audio signal playing terminal, identification information of an object associated with the audio signal playing terminal, by;

sending, by the audio signal playing terminal, an identification information obtaining request to a server, and

receiving the identification information that is allocated to the object associated with the audio signal playing terminal by the server in response to the identification information obtaining request;

watermarking, by the audio signal playing terminal, a to-be-played audio signal based on the identification information to obtain an audio signal having a watermark; and

playing, by the audio signal playing terminal, the audio signal having the watermark for a client terminal to collect the audio signal having the watermark and send the audio signal having the watermark or the identification information to the server to enable the server to obtain the identification information and determine a position of the object based on a correspondence between the identification information and the position of the object and thereby to determine a position of the client terminal.

15. The audio signal playing terminal according to claim 14, wherein the playing, by the audio signal playing terminal, the audio signal having the watermark for a client terminal to collect the audio signal having the watermark and send the audio signal having the watermark or the identification information to a server to enable the server to obtain the identification information and determine a position of the object based on a correspondence between the identification information and the position of the object and thereby to determine a position of the client terminal comprises:

playing, by the audio signal playing terminal, the audio signal having the watermark for the client terminal to collect the audio signal having the watermark and send the audio signal having the watermark to the server to enable the server to parse the audio signal to obtain the identification information and determine the position of the object based on the correspondence

between the identification information and the position of the object and thereby to determine the position of the client terminal.

16. The audio signal playing terminal according to claim 14, wherein the playing, by the audio signal playing terminal, the audio signal having the watermark for a client terminal to collect the audio signal having the watermark and send the audio signal having the watermark or the identification information to a server to enable the server to obtain the identification information and determine a position of the object based on a correspondence between the identification information and the position of the object and thereby to determine a position of the client terminal comprises:

playing, by the audio signal playing terminal, the audio signal having the watermark for the client terminal to collect the audio signal having the watermark and parse the audio signal having the watermark to obtain the identification information, and send the identification information to the server to enable the server to obtain the identification information and determine the position of the object based on the correspondence between the identification information and the position of the object and thereby to determine the position of the client terminal.

17. The audio signal playing terminal according to claim 14, wherein the sending an identification information obtaining request is triggered by receiving, by the audio signal playing terminal, an information obtaining triggering instruction from the object associated with the audio signal playing terminal.

18. The audio signal playing terminal according to claim 14, wherein the sending an identification information obtaining request is triggered by determining, by the audio signal playing terminal, a change of a position of the audio signal playing terminal.