CLAIMS

WHAT IS CLAIMED IS:

1. An omnidirectional media playback method, comprising:

obtaining viewpoint looping information associated to a current viewpoint from omnidirectional media data; and

looping the current viewpoint according to the viewpoint looping information, wherein the viewpoint looping information comprises: a maximum number of loops, loop start time and loop activation time, and

wherein the maximum number of loops is configured to indicate the maximum number of loops that an OMAF player shall perform on the current viewpoint, the loop start time is configured to indicate time in an omnidirectional media timeline of the current viewpoint at which playout of the current viewpoint shall restart when a loop is performed, and the loop activation time is configured to indicate time in the omnidirectional media timeline of the current viewpoint at which the loop shall be initiated.

2. The method in accordance with claim 1, wherein the viewpoint looping information comprises: a destination viewpoint configured to indicate a viewpoint ID of the destination viewpoint of a viewpoint switching that shall occur at the end of the playout of the current viewpoint once the maximum number of loops has been reached, and the method further comprises:

switching to the destination viewpoint at the end of the playout of the current viewpoint once the maximum number of loops has been reached.

3. The method in accordance with claim 1, further comprising:

obtaining viewpoint switching information associated to the current viewpoint from omnidirectional media data, wherein the viewpoint switching information comprises: a destination viewpoint configured to indicate the destination viewpoint of the current viewpoint switching to; and

switching to the destination viewpoint at the end of the playout of the current viewpoint once the maximum number of loops has been reached.

4. The method in accordance with claim 2 or 3, wherein if a value of the maximum number is set to a predefined value or if an element of maximum number of loops is no present in the viewpoint looping information, the maximum number of loops is infinite.

5. The method in accordance with claim 2 or 3, wherein if the loop start time is not present in the viewpoint looping information, the playout shall start at the beginning of the omnidirectional media timeline of the current viewpoint.

6. The method in accordance with claim 2 or 3, wherein if the loop activation time is not present in the viewpoint looping information, a loop shall occur at the end of the omnidirectional media timeline of the current viewpoint.

7. The method in accordance with any one of claims 1-6, wherein the viewpoint looping information is defined as an ISO Base Media File Format (ISOBMFF) structure.

8. A device for omnidirectional media playback, comprising:

an obtaining unit configured to obtain viewpoint looping information associated to a current viewpoint from omnidirectional media data; and

a playback unit configured to loop the current viewpoint according to the viewpoint looping information,

wherein the viewpoint looping information comprises: a maximum number of loops, loop start time and loop activation time, and

wherein the maximum number of loops is configured to indicate the maximum number of loops that an OMAF player shall perform on the current viewpoint, the loop start time is configured to indicate time in an omnidirectional media timeline of the current viewpoint at which playout of the current viewpoint shall restart when a loop is performed, and the loop activation time is configured to indicate time in the omnidirectional media timeline of the current viewpoint at which the loop shall be initiated.

9. The device in accordance with claim 8, wherein the viewpoint looping information further comprises: a destination viewpoint configured to indicate a viewpoint ID of the destination viewpoint of a viewpoint switching that shall occur at the end of playout of the current viewpoint once the maximum number of loops has been reached, and the playback

unit is configured to switch to the destination viewpoint at the end of the playout of the current viewpoint once the maximum number of loops has been reached.

10. The device in accordance with claim 8, wherein the obtaining unit is configured to obtain viewpoint switching information associated to the current viewpoint from omnidirectional media data and the viewpoint switching information comprises: a destination viewpoint configured to indicate the destination viewpoint of the current viewpoint switching to, and the playback unit is configured to switch to the destination viewpoint at the end of playout of the current viewpoint once the maximum number of loops has been reached.

11. The device in accordance with claim 9 or 10, wherein if a value of the maximum number is set to a predefined value or if the element of maximum number of loops is no present in the viewpoint looping information, the maximum number of loops is infinite.

12. The device in accordance with claim 9 or 10, wherein if the loop start time is not present in the viewpoint looping information, the playout shall start at the beginning of the omnidirectional media timeline of the current viewpoint.

13. The device in accordance with claim 9 or 10, wherein if the loop activation time is not present in the viewpoint looping information, a loop shall occur at the end of the omnidirectional media timeline of the current viewpoint.

14. The device in accordance with any one of claims 8-13, wherein the viewpoint looping information is defined as an ISO Base Media File Format (ISOBMFF) structure.

15. A terminal device, comprising:

a processor;

a memory configured to store instructions executable by the processor,

wherein the processor is configured to perform the steps of any one of the method according to claims 1-7.

16. A non-transitory computer readable storage medium having instructions stored thereon that, when executed by a processor, implement the steps of any one of the method according to claims 1 to 7.