LIVE STREAMING VIDEO DISPLAY METHOD AND APPARATUS, DEVICE, AND STORAGE MEDIUM

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of priority from the Chinese patent application No. 202111572649.7, entitled "LIVE STREAMING VIDEO DISPLAY METHOD AND APPARATUS, DEVICE, AND STORAGE MEDIUM " and filed on December 21, 2021, the contents of which are hereby incorporated by reference in their entirety into the present application.

TECHNICAL FIELD

The present disclosure relates to the field of data processing, in particular to a live streaming video display method and apparatus, device, and storage medium.

BACKGROUND

With the continuous development of live streaming technology, people's demands for functions relevant to live streaming channels are becoming increasingly diverse, especially for live streaming page presenting manners and contents closely related to people's watching experiences.

SUMMARY

The present disclosure provides a live streaming video display method, which can present, on a playing page for a live streaming video, relevant information of a second target object located closest to a current watching user , associated with a first target object, to enhance the effectiveness of information presentation on the live streaming page, thereby improving the user's watching experiences.

In a first aspect, the present disclosure provides a live streaming video display method, comprising: displaying a playing page for a live streaming video; obtaining a first target object currently presented in the live streaming video or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target object, and location information of a current watching user; determining a distance of a nearest second target object from the current watching user based on the location information of the current watching user and the location information respectively corresponding to the at least one

second target object associated with the first target object; wherein, the nearest second target object is one of the at least one second target object associated with the first target object located closest to a location of the current watching user; presenting, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object.

In an optional implementation, the method further comprises: when it is determined that an object currently presented in or associated with the live streaming video is switched from the first target object to a third target object, presenting, on the playing page of the live streaming video, a distance of a nearest fourth target object associated with the third target object from the current watching user and/or the nearest fourth target object.

In an optional implementation, the presenting, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object, comprises: presenting, on a first control preset on the playing page

of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object.

In an optional implementation, the method further comprises: in response to a triggering operation on the first control, presenting, on the playing page of the live streaming video, the distances of the at least one second target object associated with the first target object from the current watching user, and the location information of a corresponding second target object.

In an optional implementation, the presenting, on the playing page of the live streaming video, the distances of the at least one second target object associated with the first target object from the current watching user and the corresponding location information of the second target object, comprises: presenting, on the playing page of the live streaming video, the distances of the at least one second target object associated with the first target object from the current watching user, and the corresponding location information of the second target object in an ascending order of distance.

In an optional implementation, the presenting, on the

playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object, comprises: presenting, on a live room page or a preview page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object.

In an optional implementation, the method further comprises: presenting the number of the second target objects associated with the first target object on the playing page of the live streaming video.

In an optional implementation, the method further comprises: presenting, on the playing page of the live streaming video, a second target object corresponding to a user initiating the live streaming video and/or the distance of the second target object from the current watching user.

In a second aspect, the present disclosure provides a display apparatus for a live streaming video, comprising: a display module for displaying a playing page of the live streaming video; a first acquisition module for obtaining a first target object currently presented in or associated

with the live streaming video, and location information respectively corresponding to at least one second target object associated with the first target object, and location information of a current watching user; a first determination module for determining the distance of a nearest second target object from the current watching user based on the location information of the current watching user and the location information respectively corresponding to the at least one second target object associated with the first target object; wherein, the nearest second target object is a second target object located closest to a location of the current watching user among the at least one second target object associated with the first target object; a first presenting module for presenting, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object.

In a third aspect, the present disclosure provides a computer-readable storage medium with instructions stored therein which, when being executed on a terminal device, cause the terminal device to implement the method disclosed

herein.

In a fourth aspect, the present disclosure provides an device comprising: a memory, a processor, and a computer program stored in the memory and executable on the processor which, when being executed by the processor, implement the method disclosed herein.

In a fifth aspect, the present disclosure provides a computer program product comprising computer programs/instruction which, when executed by a processor, implement the method disclosed herein.

In a sixth aspect, the present disclosure provides a computer program comprising computer instructions which, when executed by a processor, implement the method disclosed herein.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings herein are incorporated into this description and form a part of this description, illustrating embodiments of the present disclosure and explaining the principles of the present disclosure together with this description.

In order to provide a clearer explanation of the

technical solutions in the embodiments of the present disclosure or the prior art, a brief introduction will be given below to the accompanying drawings required by the embodiments or the prior art. It is apparent for those skilled in the art that other drawings can be obtained based on these accompanying drawings without creative efforts.

Figure 1 is a flowchart of a live streaming video display method provided in embodiments of the present disclosure;

Figure 2 is a schematic view of a live streaming channel page provided in embodiments of the present disclosure;

Figure 3 is a schematic view of a playing page of a live streaming video provided in embodiments of the present disclosure;

Figure 4 is a structural schematic view of a display apparatus for a live streaming video provided in embodiments of the present disclosure;

Figure 5 is a structural schematic view of a display device for a live streaming video provided in embodiments of the present disclosure.

DETAILED DESCRIPTION

In order to better understand the above objectives, features, and advantages of the present disclosure, further descriptions of the disclosed solutions will be given below. It should be noted that if there are no conflicts, the embodiments disclosed herein and the features in the embodiments can be combined with each other.

Many specific details are elaborated in the following descriptions to facilitate a thorough understanding of the present disclosure, but the present disclosure may be implemented in other ways different from those described herein; obviously, the embodiments in this description are only a part of, rather than all of, the embodiments of the present disclosure.

Currently, there is an urgent technical problem that needs to be solved: how to meet the diverse demands of users for presenting a live streaming page, thereby improving their watching experiences.

In the prior art, some live rooms will give watching users an offline store shopping experience in live and provide a purchasing entrance such as a group buying link to watching users. In a case where the authorization of a

user’s geographical location is obtained, the current live streaming page will also present distance information between the streamer and a watching user. However, in some cases, there are multiple applicable stores for group buying products, and the presentation of the distance between the streamer and the watching user on the live streaming page may make the watching user think that the applicable stores for the group buying are far away. In order to enhance the effectiveness of information presentation on the live streaming page, the embodiments of the present disclosure provide a live streaming video display method.

Specifically, initially, a playing page of a live streaming video is displayed, and then a first target object currently presented in or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target object, and location information of a current watching user, are obtained. Further, based on the location information of the current watching user and the location information respectively corresponding to the at least one second target object

associated with the first target object, the distance of a nearest second target object from the current watching user is determined; wherein the nearest second target object is a second target object located closest to a location of the current watching user among the at least one second target object associated with the first target object. Next, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object is presented.

It can be seen that the embodiments of the present disclosure can present, on the playing page of the live streaming video, relevant information of the second target object associated with the first target object and located closest to the current watching user , to enhance the effectiveness of the information presentation on the live streaming page, thereby improving the users' watching experiences.

Based on this, the embodiments of the present disclosure provide a live streaming video display method. With reference to Figure 1, which is a flowchart of a live

streaming video display method provided in embodiments of the present disclosure, the method comprises the following steps.

S101: displaying a playing page of a live streaming video.

The playing page of the live streaming video in the embodiments of the present disclosure can be a live room page or a preview page of the live streaming video. The preview page of the live streaming video can be configured to present a preview screen of the live streaming video before entering the live room page.

S102: Obtaining a first target object currently presented in or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target object, and location information of a current watching user.

In the embodiments of the present disclosure, the first target object currently presented in the live streaming video can be the object being introduced in the live streaming video, such as a local service object or product object being introduced, for example, it can include food, etc. In addition, the first target object associated with

the live streaming video can be an object that sets a binding relationship with a live room corresponding to the live streaming video in advance, and in particular can also include a local service object or product object, etc.

In the embodiments of the present disclosure, during the process of presenting the live streaming video on the playing page of the live streaming video, the first target object currently presented in or associated with the live, such as object A, is obtained, and the location information respectively corresponding to at least one second target object associated with the first target object is obtained. For example, the at least one second target object associated with object A may include at least one store corresponding to object A. In addition, in a case where a user's geographical location authorization is obtained, the location information of the current watching user can also be obtained, wherein the location information in the present embodiment can be longitude and latitude coordinate information, etc.

S103: determining the distance of a nearest second target object from the current watching user based on the location information of the current watching user and the

location information respectively corresponding to the at least one second target object associated with the first target object.

The nearest second target object is a second target object located closest to a location of the current watching user among the at least one second target object associated with the first target object.

In the embodiments of the present disclosure, after the location information of the current watching user and the respective location information corresponding to each second target object associated with the first target object are obtained, the distances between the current watching user and each second target object are calculated respectively, and the second target object with the shortest distance to the current watching user is determined as the nearest second target object.

In the embodiments of the present disclosure, after the distances between the current watching user and each second target object are calculated, the distance of the nearest second target object from the current watching user is determined, that is, the shortest one among the distances between each second target object and the current watching

user.

S104: presenting, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object.

As the current watching user is interested in the first target object currently presented in or associated with the live streaming video, he/she will be more likely to concern about a second target object associated with the first target object located relatively close to him/her, and the location information thereof. Therefore, in the embodiments of the present disclosure, the distance of the nearest second target object from the current watching user is presented on the playing page of the live streaming video to help the provision of effective information related to the first target object to the current watching user.

In addition, in the embodiments of the present disclosure, the second target object located closest to the current watching user can also be presented on the playing page of the live streaming video, so that the current watching user can perceive the nearest second target object.

In addition, in the embodiments of the present

disclosure , the number of the second target objects associated with the first target object can be presented on the playing page of the live streaming video, so that the watching user can make a selection from a plurality of second target objects.

In addition, in the embodiments of the present disclosure, the address information respectively corresponding to each second target object associated with the first target object, the distance thereof from the current watching user, and so on can also be presented on the playing page of the live streaming video.

In an optional implementation, the playing page of the live streaming video can be a live room page, as shown in Figure 2 which is a schematic view of a live room page of a live streaming video provided in embodiments of the present disclosure, wherein the distance of the nearest second target object from the current watching user is presented on the live room page. More specifically, the embodiments of the present disclosure do not limit the position of presenting the distance of the nearest second target object from the current watching user.

In another optional implementation, the distance of the

nearest second target object from the current watching user and/or the nearest second target object can be presented on a first control 201 preset on the playing page of the live streaming video. As shown in Figure 2 above, the distance of the nearest second target object from the current watching user is presented on the first control 201.

In a practical application, by triggering the first control 201, the distances of the at least one second target object associated with the first target object from the current watching user, and the corresponding location information of the second target object, can be presented on the playing page of the live streaming video.

Figure 3 shows a schematic view of a playing page of a live streaming video provided in embodiments of the present disclosure. Upon receiving a triggering operation on the first control shown in Figure 2 above, a semi-popup window is displayed on the playing page of the live streaming video, and the respective distances between the current watching user and each second target object associated with the first target object, as well as the location information of each second target object, are presented on

this semi-popup window. The location information of the second target object can be the address information of the second target object, etc. In addition, the name of each second target object can also be presented on the semi-popup window.

In an optional implementation, in order to improve the efficiency of the current watching user in locating the nearest second target object on the page shown in Figure 3, the distances between the current watching user and each second target object, and the corresponding location information of the second target object, can be presented in an ascending order of distance, so that the second target object with the shortest distance to the current watching user can be located at the first place of the semi-popup window.

In the live streaming video display method provided in the embodiments of the present disclosure, firstly, a playing page of a live streaming video is displayed, and then a first target object currently presented in the live streaming video or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target

object, and location information of the current watching user are obtained. Further, the distance of the nearest second target object from the current watching user is determined based on the location information of the current watching user and the location information respectively corresponding to the at least one second target object associated with the first target object; wherein, the nearest second target object is a second target object located closest to a location of the current watching user among the at least one second target object associated with the first target object. Next, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object is presented. It can be seen that the embodiments of the present disclosure can present, on the playing page of the live streaming video, the relevant information of the second target object associated with the first target object located closest to the current watching user, to enhance the effectiveness of the information presentation on the live streaming page, thereby improving the users' watching experiences.

In an optional implementation, a second target object

corresponding to a target streamer and/or the distance of the second target object from the current watching user can also be presented on the playing page of the live streaming video, wherein the target streamer is the user who initiates the live streaming video.

In a practical application, the target streamer can initiate a live streaming video at any one of the second target objects associated with the first target object. At this time, on the playing page of the live streaming video, the current watching user of the live streaming video can browse the distance of the second target object where the target streamer is located from the current watching user, as well as the address information, the name of the second target object, etc.

In an optional implementation, since the same live streaming video can be associated with or present multiple objects, when it is determined that an object currently presented in or associated with the live streaming video is switched from the first target object to a third target object, the distance of a nearest fourth target object associated with the third target object from the current watching user, and/or the nearest fourth target object can

be presented on the playing page of the live streaming video. Specifically, the address information, the name, etc. of the nearest fourth target object can also be presented on the playing page of the live streaming video.

For example, if the object currently presented in the live streaming video is switched from object A to object B, then the distance between the current watching user and a nearest store associated with object B, as well as the address information, the name, etc. of the nearest store can be presented on the playing page of the live, so that the current watching user can perceive the location information of the object currently presented in the live streaming video in real time.

It should be noted that the user’s location information in the embodiments of the present disclosure is obtained and used under the premise of obtaining user’s location authorization and complying with relevant laws and regulations.

Based on the same inventive concept as the above embodiments, the embodiments of present disclosure further provide a display apparatus for a live streaming video.

Referring to Figure 4 which is a structural schematic view of a display apparatus for a live streaming video provided in embodiments of the present disclosure, the apparatus comprises: a display module 401 for displaying a playing page of a live streaming video; a first acquisition module 402 for obtaining a first target object currently presented in or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target object, and location information of a current watching user; a first determination module 403 for determining the distance of a nearest second target object from the current watching user based on the location information of the current watching user and the location information respectively corresponding to the at least one second target object associated with the first target object; wherein, the nearest second target object is a second target object located closest to a location of the current watching user among the at least one second target object associated with the first target object; a first presenting module 404 for presenting the distance of the nearest second target object from the current watching user and/or

the nearest second target object on the playing page of the live streaming video.

In an optional implementation, the apparatus further comprises: a second presenting module for presenting the distance of a nearest fourth target object associated with a third target object from the current watching user and/or the nearest fourth target object on the playing page of the live streaming video when it is determined that an object currently presented in or associated with the live streaming video is switched from the first target object to a third target object.

In an optional implementation, the first presenting module is specifically configured to present the distance of the nearest second target object from the current watching user and/or the nearest second target object on a first control preset on the playing page of the live streaming video.

In an optional implementation, the apparatus further comprises: a third presenting module for presenting, in response to a triggering operation on the first control, the distances of the at least one second target object associated with the first target object from the current

watching user, as well as the corresponding location information of the second target object on the playing page of the live streaming video.

In an optional implementation, the third presenting module is specifically configured to present, in an ascending order of distance, the distances of the at least one second target object associated with the first target object from the current watching user, as well as the corresponding location information of the second target object, on the playing page of the live streaming video.

In an optional implementation, the first presenting module is specifically configured to present the distance of the nearest second target object from the current watching user and/or the nearest second target object on a live room page or a preview page of the live streaming video.

In an optional implementation, the apparatus further comprises: a fourth presenting module for presenting the number of the second target objects associated with the first target object on the playing page of the live streaming video.

In an optional implementation, the apparatus further

comprises: a fifth presenting module for presenting a second target object corresponding to a target streamer and/or the distance of the second target object from the current watching user on the playing page of the live streaming video; wherein the target streamer includes a user who initiates the live streaming video.

In the display apparatus for a live streaming video provided in the embodiments of the present disclosure, firstly, a playing page of a live streaming video is displayed, and then a first target object currently presented in or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target object, and location information of the current watching user are obtained. Further, the distance of the nearest second target object from the current watching user is determined based on the location information of the current watching user and the location information respectively corresponding to the at least one second target object associated with the first target object; wherein, the nearest second target object is a second target object located closest to a location of the current watching user

among the at least one second target object associated with the first target object. Next, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object is presented. It can be seen that the embodiments of the present disclosure can present, on the playing page of the live streaming video, the relevant information of the second target object associated with the first target object located closest to the current watching user, to enhance the effectiveness of the information present on the live streaming page, thereby improving the users' watching experiences.

In addition to the above-mentioned method and device, the embodiments of the present disclosure further provide a computer-readable storage medium with instructions stored therein which, when being executed on a terminal device, cause the terminal device to implement the live streaming video display method as described in the embodiments of the present disclosure.

The embodiments of the present disclosure further provide a computer program product comprising computer

programs/instructions which, when executed by a processor, implement the live streaming video display method as described in the embodiments of the present disclosure.

In addition, the embodiments of the present disclosure further provide a display device for a live streaming video, as shown in Figure 5, which may comprise: a processor 501, a memory 502, an input apparatus 503, and an output apparatus 504. The number of the processors 501 in the display device for a live streaming video can be one or more, while Figure 5 shows an example having one processor. In some embodiments disclosed herein, the processor 501, the memory 502, the input apparatus 503, and the output apparatus 504 can be connected via a bus or other means, whereas Figure 5 shows an example of being connected via a bus.

The memory 502 can be used to store software programs and modules, and the processor 501 can execute the software programs and modules stored in the memory 502 to perform various functional applications and data processing of the display device for a live streaming video. The memory 502 may mainly include a program store and a data store, wherein

the program store can store an operating system, an application program required by at least one function, etc. Furthermore, the memory 502 may include a high-speed random access memory and may further include a non-volatile memory, such as at least one disk storage device, flash memory device, or other volatile solid-state storage device. The input apparatus 503 can be used to receive input numerical or character information, and generate signal inputs related to user settings and functional control of the display device for a live streaming video.

Specifically in the present embodiment, the processor 501 will load executable files corresponding to one or more processes of application programs into the memory 502 according to the following instructions, and the processor 501 will run the application programs stored in the memory 502, thereby realizing various functions of the aforementioned display device for a live streaming video.

It should be noted that, relational terms such as "first" and "second" herein are only used to distinguish one entity or operation from another entity or operation, and do not necessarily require or imply any actual relationship or order between these entities or operations.

Moreover, the terms "comprise", "include", or any other variation thereof are intended to encompass nonexclusive inclusion, such that a process, method, item, or device including a series of elements not only includes the mentioned elements, but also includes other elements that are not explicitly listed, or also includes elements inherent to such process, method, item, or device. If without further limitations, the elements limited by the statement "comprising a..." do not exclude the existence of other identical elements in the process, method, item, or device that includes said elements.

All above are only specific implementations of the present disclosure, which enable those skilled in the art to understand or implement this disclosure. Various modifications to these embodiments will be apparent to those skilled in the art, and the general principles defined herein can be implemented in other embodiments without departing from the spirit or scope of this disclosure. Therefore, this disclosure will not be limited to the embodiments described herein, but will conform to the broadest scope consistent with the principles and novel features disclosed herein.

WHAT IS CLAIMED IS:

1. A live streaming video display method, comprising:

displaying a playing page of a live streaming video;

obtaining a first target object currently presented in or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target object, and location information of a current watching user;

determining a distance of a nearest second target object from the current watching user based on the location information of the current watching user and the location information respectively corresponding to the at least one second target object associated with the first target object, wherein the nearest second target object is a second target object closest to a location of the current watching user among the at least one second target object associated with the first target object;

presenting, on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object.

2. The method according to claim 1, further comprising:

when it is determined that an object currently presented in or associated with the live streaming video is switched from the first target object to a third target object, presenting the distance of a nearest fourth target object associated with the third target object from the current watching user and/or the nearest fourth target object on the playing page of the live streaming video.

3. The method according to claim 1, wherein the presenting the distance of the nearest second target object from the current watching user and/or the nearest second target object on the playing page of the live streaming video, comprises:

Presenting, on a first control preset on the playing page of the live streaming video, the distance of the nearest second target object from the current watching user and/or the nearest second target object.

4. The method according to claim 1, further comprising:

In response to a triggering operation on the first

control, presenting the distances of the at least one second target object associated with the first target object from the current watching user, and the corresponding location information of the second target object, on the playing page of the live streaming video.

5. The method according to claim 4, wherein the presenting the distances of the at least one second target object associated with the first target object from the current watching user and the corresponding location information of the second target object on the playing page of the live streaming video, comprises:

presenting the distances of the at least one second target object associated with the first target object from the current watching user, and the corresponding location information of the second target object, on the playing page of the live streaming video, in an ascending order of distance.

6. The method according to claim 1, wherein the presenting the distance of the nearest second target object from the current watching user and/or the nearest second

target object on the playing page of the live streaming video, comprises:

Presenting the distance of the nearest second target object from the current watching user and/or the nearest second target object on a live room page or a preview page of the live streaming video.

7. The method according to claim 1, further comprising:

presenting the number of the second target object associated with the first target object on the playing page of the live streaming video.

8. The method according to claim 1, further comprising:

presenting a second target object corresponding to a user initiating the live streaming video and/or the distance of the second target object from the current watching user on the playing page of the live streaming video.

9. A display apparatus for a live streaming video, comprising:

a display module for displaying a playing page of the

live streaming video;

a first acquisition module for obtaining a first target object currently presented in or associated with the live streaming video, location information respectively corresponding to at least one second target object associated with the first target object, and location information of a current watching user;

a first determination module for determining the distance of a nearest second target object from the current watching user based on the location information of the current watching user and the location information respectively corresponding to the at least one second target object associated with the first target object; wherein the nearest second target object is a second target object located closest to a location of the current watching user among the at least one second target object associated with the first target object;

a first presenting module for presenting the distance of the nearest second target object from the current watching user and/or the nearest second target object on the playing page of the live streaming video.

10. A computer-readable storage medium with instructions stored thereon which, when being executed on a terminal device, cause the terminal device to implement the method as claimed in any one of claims 1-8.

11. A device, comprising: a memory, a processor, and a computer program stored in the memory and executable on the processor which, when executed by the processor, implement the method as claimed in any one of claims 1-8.

12. A computer program product, comprising: computer programs/instructions which, when executed by a processor, implement the method as claimed in any one of claims 1-8.

13. A computer program, comprising computer instructions which, when executed by a processor, implement the method as claimed in any one of claims 1-8.