

METHOD, APPARATUS, ELECTRONIC DEVICE AND STORAGE MEDIUM FOR PROCESSING TRANSITION EFFECT

[0001] This application claims the benefit of Chinese Patent Application No. 202311285126.3, filed on September 28, 2023, and entitled “Method, Apparatus, Electronic Device and Storage Medium for Processing Transition Effect”, the entire content of which is incorporated herein by reference.

FIELD

[0002] Embodiments of the present disclosure relate to the field of computer technology, and in particular, to a method, apparatus, electronic device and storage medium for processing a transition effect.

BACKGROUND

[0003] Short video applications may not only have a video shooting function but also provide extended functions such as adding an effect, filter, and prop. For example, during audio/video editing, an overlay transition effect may be added between adjacent audio/video segments.

[0004] In related solutions, it is necessary to analyze the adjacent audio/video segments to be processed and generate the overlay transition effect between adjacent audio/video segments, which is time-consuming. Moreover, when configuring the overlay transition effect, it is usually necessary to overlay part of the content of the previous audio/video segment with the part of the content of the next audio/video segment to generate the overlay transition effect, resulting in a change in the duration of the audio/video segment after overlaying transition, affecting the audio/video editing and making it impossible to obtain an appropriate audio/video segment.

SUMMARY

[0005] The present disclosure provides a method, apparatus, electronic device and storage medium for processing a transition effect, so as to ensure that the total duration of media segments remains unchanged when the overlay transition effect is applied to two adjacent media segments.

[0006] In a first aspect, an embodiment of the present disclosure provides a method of processing a transition effect, the method including: determining a first media segment and a second media segment specified by a target transition task, the second media segment being positioned after and adjacent to the first media segment on a target editing track; determining a third media segment and a fourth media segment placed on the target editing track in response to a first operation of triggering an overlay transition effect on the target transition task, the third media segment comprising the first media segment and a first additional segment connected after the first media segment along a timeline, the fourth media segment comprising the second media segment and a second additional segment connected before the second media segment along the timeline, and positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered; and forming the overlay transition effect in an overlapping portion between the third media segment and the fourth media segment.

[0007] In a second aspect, an embodiment of the present disclosure further provides an apparatus for processing a transition effect, the apparatus including: a first determination module configured to determine a first media segment and a second media segment specified by a target transition task, the second media segment being positioned after and adjacent to the first media segment on a target editing track; a second determination module configured to determine a third media segment and a fourth media segment placed on the target editing track in response to a first operation of triggering an overlay transition effect on the target transition task, the third media segment comprising the first media segment and a first additional segment connected after the first media segment along a timeline, the fourth media segment comprising the second media segment and a second additional segment connected before the second media segment along the timeline, and positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered; a generation module configured to form the overlay transition effect in an overlapping portion between the third media segment and the fourth media segment.

[0008] In a third aspect, an embodiment of the present disclosure further provides an electronic device, including: at least one processor; and a memory communicatively connected to the at least one processor, where the memory stores a computer program executable by the at least one processor, and the computer program is executed by the at least one processor to enable the at least one processor to perform the method of processing a transition effect according to any one of the foregoing embodiments.

[0009] In a fourth aspect, an embodiment of the present disclosure further provides a computer-readable medium, where the computer-readable medium stores computer instructions, and the computer instructions, when executed by a processor, implement the method of processing a transition effect according to any one of the foregoing embodiments.

[0010] In the embodiments of the present disclosure, a target transition task for performing transition editing on media segments is created. By adding a first additional segment at the end of a first media segment that is adjacent and connected end-to-end to form a corresponding third media segment and adding a second additional segment at the beginning of a second media segment to form a corresponding fourth media segment, it is achieved that partial frames at the end of the third media segment corresponding to the first media segment and partial frames at the beginning of the fourth media segment corresponding to the second media segment may be overlapped, realizing the overlay transition effect where the frames of the previous media segment gradually fade out while the frames of the next media segment gradually appear and become clear, and since the positions of the first media segment and the second media segment on the target editing track remain unchanged, the total duration of the two adjacent media segments after applying the overlay transition effect may be maintained without change.

[0011] It should be understood that the content described in this section is not intended to identify key or important features of the embodiments of the present disclosure, nor is it intended to limit the scope of the present disclosure. Other features of the present disclosure will become readily understood from the following description.

BRIEF DESCRIPTION OF DRAWINGS

[0012] With reference to the accompanying drawings and the following detailed embodiments, the above and other features, advantages, and aspects of various embodiments of the present disclosure will become more apparent. Throughout the drawings, the same or similar reference numerals denote the same or similar elements. It should be understood that the drawings are schematic, and components and elements are not necessarily drawn to scale.

[0013] FIG. 1 is a schematic flowchart of a method of processing a transition effect according to an embodiment of the present disclosure;

[0014] FIG. 2a is a schematic diagram of an editing track interface applicable to embodiments of the present disclosure;

[0015] FIG. 2b is a schematic diagram of adding an overlay transition effect between adjacent media segments applicable to embodiments of the present disclosure;

[0016] FIG. 2c is a schematic diagram of another editing track interface applicable to embodiments of the present disclosure;

[0017] FIG. 2d is a schematic diagram of a configuration for overlaying a transition effect in an editing track interface applicable to embodiments of the present disclosure;

[0018] FIG. 2e is a schematic diagram of an interface effect of an overlay transition effect applicable to embodiments of the present disclosure;

[0019] FIG. 3 is a schematic flowchart of another method of processing a transition effect provided by embodiments of the present disclosure;

[0020] FIG. 4 is a schematic diagram of comparison of media segments in a transition effect processing applicable to embodiments of the present disclosure;

[0021] FIG. 5a is a schematic diagram of a configuration for a curve speed change in a transition effect processing applicable to embodiments of the present disclosure;

[0022] FIG. 5b is a schematic diagram of an impact of a curve speed change in a transition effect processing applicable to embodiments of the present disclosure;

[0023] FIG. 6 is a structural schematic diagram of an apparatus for transition effect processing provided by embodiments of the present disclosure;

[0024] FIG. 7 is a structural schematic diagram of an electronic device for implementing a method of processing a transition effect provided by embodiments of the present disclosure.

DETAILED DESCRIPTION

[0025] Embodiments of the present disclosure will be described in more detail below with reference to the accompanying drawings. Although some embodiments of the present disclosure are shown in the drawings, it is to be understood that the present disclosure may be implemented in various forms, and should not be construed as limited to the embodiments set forth herein, on the contrary, these embodiments are provided to enable a more thorough and complete understanding of the present disclosure. It should be understood that the drawings and embodiments of the present disclosure are for illustrative purposes only and are not intended to limit the scope of the present disclosure.

[0026] It should be understood that the steps recited in the method implementations of the present disclosure may be performed in different orders, and/or in parallel. Further, the method implementations may include additional steps and/or omit performing the illustrated steps. The scope of the present disclosure is not limited in this respect.

[0027] As used herein, the term “including” and variations thereof are open-ended, i.e., “including but not limited to”. The term “based on” is “based at least in part on”. The term “one embodiment” means “at least one embodiment”; the term “another embodiment” means “at least one further embodiment”; the term “some embodiments” means “at least some embodiments”. The relevant definitions of other terms will be given below.

[0028] It should be noted that the concepts such as “first” and “second” mentioned in this disclosure are merely used to distinguish different apparatuses, modules, or units, and are not intended to limit the order of functions performed by the apparatuses, modules, or units or the mutual dependency relationship.

[0029] It should be noted that the modification of “a” and “a plurality of” mentioned in the present disclosure are illustrative and not limiting, and those skilled in the art should understand that unless clearly indicated otherwise in the context, they should be understood as “one or more”.

[0030] The names of messages or information interacted between multiple devices in implementations of the present disclosure are for illustrative purposes only and are not intended to limit the scope of such messages or information.

[0031] It can be understood that, before the technical solutions disclosed in the embodiments of the present disclosure are used, the types of personal information related to the present disclosure, the usage scope, the usage scenario and the like should be notified to the user in an appropriate manner according to the relevant laws and regulations and obtain the authorization of the user.

[0032] For example, in response to receiving an active request from a user, prompt information is sent to the user to explicitly prompt the user that the requested operation will need to acquire and use the personal information of the user. Therefore, the user can autonomously select whether to provide personal information to software or hardware executing the operation of the technical solution of the present disclosure according to the prompt information.

[0033] As an optional but non-limiting implementation, in response to receiving the active request from the user, the manner of sending the prompt information to the user may be, for example, a pop-up window, and the prompt information may be presented in a text manner in the pop-up window. In addition, the pop-up window may further carry a selection control for the user to select “agree” or “not agree” to provide personal information to the electronic device.

[0034] It is to be understood that the above notification and user authorization acquisition process is merely illustrative, and does not constitute a limitation on implementations of the present disclosure, and other manners of meeting related laws and regulations may also be applied to implementations of the present disclosure.

[0035] It is to be understood that the data involved in the technical solution (including but not limited to the data itself, the acquisition or use of the data) should follow the requirements of the corresponding laws and regulations and related regulations.

[0036] FIG. 1 is a schematic flowchart of a method of processing a transition effect provided by embodiments of the present disclosure. The embodiments are applicable to scenarios where an overlay transition effect is

added between two adjacent media segments. The method may be executed by an apparatus for processing a transition effect, which can be implemented in software and/or hardware, and is typically integrated into an electronic device with network communication capabilities, including but not limited to mobile terminals, Personal Computer (PC) clients, or servers.

[0037] As shown in FIG. 1, the method of processing a transition effect according to an embodiment of the present disclosure may include the following processes:

[0038] At S110, a first media segment and a second media segment specified by a target transition task are determined. The second media segment is positioned after and adjacent to the first media segment on a target editing track.

[0039] Referring to FIG. 2a, a plurality of media segments is presented on the target editing track of an editing interface, and the media segments may be audio segments or video segments. Each media segment presented on the target editing track may be a media segment obtained after cropping or a media segment not cropped. When a transition effect needs to be added between two adjacent media segments, a target transition task may be created, and the first media segment 201 and the second media segment 202 specified by the target transition task are determined, so that a transition effect is provided when switching from the first media segment 201 to the second media segment 202 by performing the target transition task.

[0040] Referring to FIG. 2a, the first media segment 201 and the second media segment 202 may be selected from the plurality of media segments presented on the target editing track and be cropped and may be two adjacent media segments on the target editing track. The second media segment 202 is positioned after the first media segment 201 on the target editing track, and the end of the first media segment 201 is connected to the start of the second media segment 202.

[0041] At S120, a third media segment and a fourth media segment placed on the target editing track is determined in response to a first operation of triggering an overlay transition effect on the target transition task. The third media segment includes the first media segment and a first additional segment connected after the first media segment along a timeline. The fourth media segment includes the second media segment and a second additional segment connected before the second media segment along the timeline. Positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered.

[0042] Referring to FIG. 2a, an overlay transition effect is triggered for the first media segment 201 and the second media segment 202 specified by the target transition task, so that the overlay transition effect is provided when switching from a frame corresponding to the first media segment 201 to a frame corresponding to the second media segment 202. Since when configuring the overlay transition effect, it is usually a process where the frame of the previous media segment is overlaid with the frame of the next media segment, the frame of the previous media segment gradually fades out, and the frame of the next media segment gradually appears, this leads to a change in the total duration of the media segments after the overlay transition, which affects the editing of the media segments.

[0043] For this reason, referring to FIG. 2b, when triggering the addition of the overlay transition effect to the first media segment 201 and the second media segment 202 specified by the target transition task, instead of simply overlaying a partial segment of the first media segment 201 near its end and a partial segment of the

second media segment 202 near its start, a first additional segment 205 is connected after the first media segment along the timeline corresponding to the target editing track. The first additional segment 205 and the original first media segment 201 together form a third media segment corresponding to the first media segment. Meanwhile, a second additional segment 204 is connected before the second media segment 202 along the timeline corresponding to the target editing track. The second additional segment 204 and the original second media segment 202 together form a fourth media segment corresponding to the second media segment.

[0044] Optionally, there is a sequential connection relationship in terms of frame continuity between the first additional segment 205 and the segment at the end position of the first media segment, and there is a sequential connection relationship in terms of frame continuity between the second additional segment 204 and the segment at the start position of the second media segment.

[0045] Meanwhile, referring to FIG. 2a and FIG. 2c, for the first media segment in the third media segment and the second media segment in the fourth media segment, the positions of the first media segment and the second media segment on the target editing track remain unchanged all the time before and after the first operation of triggering the overlay transition effect for the target transition task. That is, the first additional segment 205 is connected after the end position of the first media segment placed on the target editing track, and the second additional segment 204 is connected before the start position of the second media segment 202 placed on the target editing track, so as to ensure that the total duration of the media segments remains unchanged before and after the overlay transition effect is applied.

[0046] Optionally, the first additional segment is determined based on a cropped segment that is cropped after the first media segment when forming the first media segment by cropping, and the second additional segment is determined based on a cropped segment that is cropped before the second media segment when forming the second media segment by cropping.

[0047] As an optional but non-limiting implementation, the first operation for triggering the overlay transition effect on the target transition task includes a triggering operation on the identification of the overlay transition effect selected in the transition effect selection area corresponding to the target transition task. The transition effect selection area corresponding to the target transition task is presented when the identification of the target transition task is triggered, and the identification of the target transition task is configured to be presented at the connection position of the two adjacent media segments selected on the target editing track.

[0048] Referring to FIG. 2d, the identification of the target transition task corresponding to the first media segment 201 and the second media segment 202 is added at the adjacent position of the adjacent first media segment 201 and second media segment 202 presented on the target editing track. In response to the triggering operation on the identification of the target transition task corresponding to the first media segment 201 and the second media segment 202, the transition effect selection area corresponding to the target transition task is presented. A plurality of identifications of transition effects are provided in the transition effect selection area, such as a push transition effect, a fade-to-black transition effect, and a dissolve transition effect (which may also be referred to as an overlay transition effect). The first operation may specifically be a triggering operation on the identification of the overlay transition effect selected in the transition effect selection area corresponding to the target transition task.

[0049] Referring to FIG. 2d, optionally, the first operation of triggering the overlay transition effect on the target transition task also includes an operation of configuring and triggering a transition duration in the transition effect selection area corresponding to the target transition task. For example, a transition duration adjuster is further configured in the transition effect selection area. Adjusting the progress on the transition duration adjuster may adjust the transition duration between the first media segment and the second media segment, so that the duration of the overlay transition effect formed between the third media segment corresponding to the first media segment and the fourth media segment corresponding to the second media segment is equal to a target transition duration, or the duration of the overlapping portion between the third media segment corresponding to the first media segment and the fourth media segment corresponding to the second media segment is equal to the target transition duration.

[0050]As an optional but non-limiting implementation, determining the first media segment and the second media segment specified by the target transition task includes the following steps:

[0051]Present at least two media segments on the target editing track and determine the first media segment and the second media segment specified by the target transition task in response to a second operation of triggering the target transition task on the selected two media segments adjacent among the at least two media segments.

[0052]Referring to FIG. 2c, in response to an operation of adding media materials from the material library, at least two media materials corresponding to the adding operation are obtained and the display is switched to the editing interface. A target editing track is presented in the editing interface, and at least two media segments formed based on the at least two media materials corresponding to the adding operation are placed on the target editing track. The media segments may be audio segments or video segments. Further, the adjacent first media segment and second media segment on the target editing track are selected, a second operation of triggering the target transition task is performed on the selected two media segments, and the first media segment and the second media segment specified by the target transition task corresponding to the second operation are determined.

[0053]Optionally, the second operation of triggering the target transition task on the adjacent two media segments selected among the at least two media segments includes a triggering operation on the identification of the target transition task for the adjacent two media segments selected on the target editing track; the identification of the target transition task is configured to be presented at the connection position of the adjacent two media segments selected on the target editing track.

[0054]Referring to FIG. 2d, an identification of the target transition task corresponding to the first media segment 201 and the second media segment 202 is added at the adjacent position of the adjacent first media segment 201 and second media segment 202 presented on the target editing track. The second operation is a triggering operation on the identification of the target transition task corresponding to the adjacent first media segment 201 and second media segment 202 selected on the target editing track. When the triggering operation is performed on the identification of the target transition task, the transition effect selection area corresponding to the target transition task is displayed.

[0055]At S130, the overlay transition effect is formed in an overlapping portion between the third media segment and the fourth media segment.

[0056] Optionally, when positioning and displaying the overlapping portion between the third media segment and the fourth media segment on the target editing track, the overlay transition effect is presented in the overlapping portion between the third media segment and the fourth media segment. For example, when the play head position is positioned to the overlapping portion between the third media segment and the fourth media segment on the target editing track, the overlay transition effect is presented in the overlapping portion between the third media segment and the fourth media segment on the target editing track.

[0057] Optionally, when the play head position is positioned within a first predetermined time range of the third media segment on the target editing track, the overlay transition effect is presented at the play head position on the target editing track, where the first predetermined time range is determined based on the time of the overlapping portion between the third media segment and the fourth media segment; when the play head position is positioned within a second predetermined time range of the fourth media segment on the target editing track, the overlay transition effect is presented at the play head position on the target editing track, where the second predetermined time range is determined based on the time of the overlapping portion between the fourth media segment and the third media segment.

[0058] Referring to FIG. 2b and FIG. 2e, on the target editing track, a first part of the overlay transition effect is presented in the overlapping portion between the second additional segment 204 in the fourth media segment and the first media segment 201, and a second part of the overlay transition effect is presented in the overlapping portion between the first additional segment 205 in the third media segment and the second media segment 202. The first part of the overlay transition effect and the second part of the overlay transition effect together form the overlay transition effect between the first media segment 201 and the second media segment 202. For example, when the play head is moved to a position on the first media segment close to the second media segment on the target editing track, the frame of the second additional segment 204 connected before the first media segment faintly appears on the frame of the first media segment 201 in FIG. 2e.

[0059] On the basis of the above embodiments, optionally, after the overlay transition effect is formed in the overlapping portion between the third media segment and the fourth media segment, the method further includes:

[0060] Generate a target output result based on the third media segment and the fourth media segment, the target output result being a draft preview before a media segment is exported or a target video after the media segment is exported.

[0061] Referring to FIG. 2b and FIG. 2e, a preview area is displayed on the editing interface, and a preview player in the preview area may be used to preview and play the draft preview before exporting corresponding to the third media segment and the fourth media segment presented on the target editing track. When the time range corresponding to the overlapping portion between the third media segment and the fourth media segment is previewed and played using the preview player in the preview area, the overlay transition effect is presented. Referring to FIG. 2b and FIG. 2e, in response to a video export operation for the third media segment and the fourth media segment, the third media segment and the fourth media segment on the target editing track are synthesized into video segments in the order of the timeline corresponding to the target editing track, and the target video with the overlay transition effect presented in the overlapping portion between the third media segment and the fourth media segment is exported.

[0062] In the technical solution of the embodiment of the present disclosure, the target transition task for transition editing of media segments is created. A corresponding third media segment is formed by adding the first additional segment at the end of the adjacent and end-to-end connected first media segment, and a corresponding fourth media segment is formed by adding the second additional segment at the start of the second media segment. This enables the partial frames at the end of the third media segment corresponding to the first media segment to be overlaid with the partial frames at the start of the fourth media segment corresponding to the second media segment, so that the overlay transition effect is achieved where the frame of the previous media segment gradually fades out while the frame of the next media segment gradually appears and becomes clear. Meanwhile, since the positions of the first media segment and the second media segment on the target editing track remain unchanged, the total duration of the two adjacent media segments may be kept unchanged after the overlay transition effect is applied.

[0063] FIG. 3 is a schematic flowchart of another method of processing a transition effect according to an embodiment of the present disclosure.

[0064] As shown in FIG. 3, the method of processing a transition effect according to an embodiment of the present disclosure may include the following processes:

[0065] S310: Determine the first media segment and the second media segment specified by the target transition task, the second media segment being positioned after and adjacent to the first media segment on the target editing track.

[0066] S320: Determine the target transition duration corresponding to the target transition task in response to a first operation of triggering an overlay transition effect on the target transition task.

[0067] S330: Extract, from a first media material, a media segment starting from a start point toward an end point of the first media segment based on the target transition duration and a duration of the first media segment, to obtain the third media segment placed on the target editing track, the first media material being an uncropped media segment used when forming the first media segment by cropping, the third media segment including the first media segment and the first additional segment connected after the first media segment.

[0068] Referring to FIG. 4, a second media material 206 corresponding to the first media segment is determined. The first media material 206 is an uncropped media segment used when forming the first media segment by cropping. In the first media material 206, the extract of the media segment is performed from the start point toward the end point of the first media segment 201 (such as the direction from left to right in the first media material 206 in FIG. 4), and the media segment is supplemented after the first media segment by extracting the media segment on the first media material 206, so that the first additional segment 205 may be connected after the first media segment 201 to obtain the third media segment 208 including the first media segment 201 and the first additional segment 205 connected after the first media segment.

[0069] S340: Extract, from a second media material, a media segment starting from an end point toward a start point of the second media segment based on the target transition duration and a duration of the second media segment, to obtain the fourth media segment placed on the target editing track, the second media material being an uncropped media segment used when forming the second media segment by cropping, the fourth media segment including the second media segment and a second additional segment connected before the second

media segment, and positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered.

[0070] Referring to FIG. 4, the second media material 207 corresponding to the second media segment is determined, where the second media material 207 is the uncropped media segment used when forming the second media segment through cropping. In the second media material 207, a media segment is extracted from the end point of the second media segment 202 toward the start point (for example, the direction from right to left of the sixth media segment 207 in FIG. 4). By extracting the media segment from the second media material 207, the media segment is supplemented before the second media segment, so that the second additional segment 204 may be connected before the second media segment 202, resulting in the fourth media segment 209 including the second media segment 202 and the second additional segment 204 connected before the second media segment.

[0071] Optionally, the duration of the first additional segment in the third media segment is equal to half of the target transition duration, and the duration of the second additional segment in the fourth media segment is equal to half of the target transition duration. Optionally, the duration of the first additional segment in the third media segment is less than half of the target transition duration, the duration of the second additional segment in the fourth media segment is greater than half of the target transition duration, and the sum of the durations of the first additional segment and the second additional segment is equal to the target transition duration. Optionally, the duration of the first additional segment in the third media segment is greater than half of the target transition duration, the duration of the second additional segment in the fourth media segment is less than half of the target transition duration, and the sum of the durations of the first additional segment and the second additional segment is equal to the target transition duration.

[0072] Optionally, the third media segment placed on the target editing track may be represented by the start time and end time of the first media segment on the target editing track, and the start time and end time of the third media segment relative to the first media material. The first media material is the uncropped media segment used when forming the first media segment by cropping. The fourth media segment placed on the target editing track may be represented by the start time and end time of the second media segment on the target editing track, and the start time and end time of the fourth media segment relative to the second media material. The second media material is the uncropped media segment used when forming the second media segment by cropping.

[0073] As an optional but non-limiting implementation, the first additional segment is determined based on the first cropped segment, where the first cropped segment is the media segment cropped after the first media segment when forming the first media segment by cropping the first media material, and the first media material is the uncropped media segment used when forming the first media segment by cropping.

[0074] Optionally, the duration of the first additional segment connected after the first media segment is a first predetermined duration, and the duration of the second additional segment connected before the second media segment is a second predetermined duration. The sum of the first predetermined duration and the second predetermined duration is equal to the target transition duration, and the first predetermined duration and the second predetermined duration may be the same or different. On this basis, when the duration of the first cropped segment is greater than or equal to the first predetermined duration, the first additional segment includes a partial media segment from the first cropped segment. In this case, the duration of the media segment extracted after

the end of the first media segment from the first media material is greater than or equal to the first predetermined duration, and it is sufficient to use only the first cropped segment to supplement the media segment after the first media segment.

[0075] Optionally, the duration of the first additional segment connected after the first media segment is a first predetermined duration, and the duration of the second additional segment connected before the second media segment is a second predetermined duration. The sum of the first predetermined duration and the second predetermined duration is equal to the target transition duration, and the first predetermined duration and the second predetermined duration may be the same or different. On this basis, when the duration of the first cropped segment is less than the first predetermined duration, the first additional segment includes all media segments in the first cropped segment and the ending frame in the first cropped segment. In this case, the duration of the media segment extracted after the end of the first media segment from the first media material is less than the first predetermined duration, indicating that using only the first cropped segment is insufficient to fully supplement the media segment after the first media segment. Therefore, it is necessary to further supplement with the ending frame in the first cropped segment.

[0076] Referring to FIG. 2b, taking the first predetermined duration equal to the second predetermined duration as an example, when the duration of the first cropped segment is less than the first predetermined duration (half of the target transition duration), the second additional segment 204 includes the first cropped segment and the ending frame of the first cropped segment as a static frame. The duration of the second additional segment is equal to half of the target transition duration, where the duration of the second additional segment satisfies the following: $T_{\text{static}} = (T_{\text{transition}}/2) - T_{\text{trim}}$, where T_{static} represents the duration of the ending frame of the first cropped segment as a static frame, $T_{\text{transition}}$ represents half of the duration of the second additional segment, and T_{trim} represents the duration of the first cropped segment. Both the transition duration and the duration of the cropped first cropped segment may be obtained from the user interface (UI) layer. Therefore, when adjusting the transition duration, the UI layer may calculate and adjust the frames in real time, and finalize the adjustment when the user releases the adjustment control.

[0077] As an optional but non-limiting implementation, the second additional segment is determined based on the second cropped segment, where the second cropped segment is the media segment cropped before the second media segment when forming the second media segment by cropping the second media material, and the second media material is the uncropped media segment used when forming the second media segment by cropping.

[0078] Optionally, the duration of the first additional segment connected after the first media segment is a first predetermined duration, and the duration of the second additional segment connected before the second media segment is a second predetermined duration. The sum of the first predetermined duration and the second predetermined duration is equal to the target transition duration, and the first predetermined duration and the second predetermined duration may be the same or different. On this basis, when the duration of the second cropped segment is greater than or equal to the second predetermined duration, the second additional segment includes of a partial media segment from the second cropped segment. In this case, the duration of the media segment cropped before the start of the second media segment from the second media material is greater than or equal to the second predetermined duration, and it is sufficient to use only the second cropped segment to supplement the media segment before the second media segment.

[0079] Optionally, the duration of the first additional segment connected after the first media segment is a first predetermined duration, and the duration of the second additional segment connected before the second media segment is a second predetermined duration. The sum of the first predetermined duration and the second predetermined duration is equal to the target transition duration, and the first predetermined duration and the second predetermined duration may be the same or different. On this basis, when the duration of the second cropped segment is less than the second predetermined duration, the second additional segment is composed of all media segments in the second cropped segment and the starting frame in the second cropped segment. In this case, the duration of the media segment cropped before the start of the second media segment from the second media material is less than the second predetermined duration, indicating that using only the second cropped segment is insufficient to fully supplement the media segment before the second media segment. Therefore, it is necessary to further supplement with the starting frame in the second cropped segment.

[0080] Optionally, when the duration of the first cropped segment is zero, the first additional segment only includes a static frame extracted from the first media segment, where the first cropped segment is the media segment cropped after the first media segment when forming the first media segment by cropping the first media material. When the duration of the second cropped segment is zero, the second additional segment only includes a static frame extracted from the second media segment, where the duration of the second cropped segment is the media segment cropped before the second media segment when forming the second media segment by cropping the second media material.

[0081] Optionally, the calculation of the start time TrimIn of the third media segment relative to the first media material and the start time TrimIn of the fourth media segment relative to the second media material is as follows:

[0082] The start time TrimIn of the third media segment relative to the first media material: directly calculated using $\text{source_time_range().start() * speed()}$.

[0083] The start time TrimIn of the fourth media segment relative to the first media material: (1) when the target transition start time between the first media segment and the second media segment is less than the start time of the second media material, the duration of the second cropped segment cropped from the second media material is less than half of the target transition duration, requiring static frame supplementation. The start time of the third media segment relative to the first media material is represented by the following relationship: $D_{\text{TrimIn}} = T_{\text{startTransition}} - (T_{\text{startTarget}} - f(t)T_{\text{startSource}})$; (2) when the target transition start time between the first media segment and the second media segment is greater than or equal to the start time of the second media material, the duration of the second cropped segment cropped from the second media material is greater than or equal to half of the target transition duration, not requiring static frame supplementation. The start time of the third media segment relative to the first media material is represented by the following relationship: $D_{\text{TrimIn}} = T_{\text{startTransition}} - (T_{\text{startTarget}} - f(t)T_{\text{startSource}})$.

[0084] Optionally, the calculation of the end time TrimOut of the third media segment relative to the first media material and the end time TrimOut of the fourth media segment relative to the second media material is as follows:

[0085] The end time TrimOut of the third media segment relative to the first media material is as follows:

$$\text{[0086]} D_{\text{TrimOut}} = f(t)T_{\text{startSource}} + T_{\text{durationSource}} + T_{\text{durationTransition}}/2$$

[0087] The end time TrimOut of the fourth media segment relative to the second media material is as follows:

$$\text{[0088]} D_{\text{TrimOut}} = f(t)T_{\text{startSource}} + T_{\text{durationSource}}$$

[0089]The speed change coefficient $f(t)$: during curve speed change, this $f(t)$ value is the reciprocal of the speed change value at the critical point of non-transition; during regular speed change, this $f(t)$ value is the reciprocal of the speed change value.

[0090] S350: Form the overlay transition effect in an overlapping portion between the third media segment and the fourth media segment.

[0091]As an optional but non-limiting implementation, generating the target output result based on the third media segment and the fourth media segment includes the following steps A1-A3:

[0092]Step A1: In response to a third operation of triggering speed change configuration for the first media segment in the third media segment on the target editing track, add a first curve speed change to the first media segment in the third media segment and add an end point speed change corresponding to the first curve speed change to the first additional segment in the third media segment.

[0093]Optionally, the third operation includes a triggering operation on the identification for speed change configuration corresponding to the first media segment in the third media segment on the target editing track. The identification for speed change configuration corresponding to the first media segment is presented based on the selection operation of the first media segment in the third media segment on the target editing track.

[0094]Referring to FIG. 5a, the identification for speed change configuration corresponding to the first media segment is presented based on the selection operation of the first media segment 201 in the third media segment on the target editing track, such as identifications of regular speed change and curve speed change. Further, a triggering operation is performed on the identification for speed change configuration corresponding to the first media segment 201 in the third media segment on the target editing track.

[0095]Referring to FIG. 5b, the first media segment in the third media segment is displayed, and a first curve speed change is added to the first media segment in the third media segment. For the first additional segment connected after the first media segment, the end point speed of the first curve speed change used by the first media segment before the transition is added, and the speed change is applied to the first additional segment connected after the first media segment. The first curve speed change acts on the first media segment. After cropping or extending, the first curve speed change acts on the first media segment in the third media segment. After adding the transition, a cropped part and a static frame part of the extended part are generated, and the speed change rate of the first additional segment in the extended part is the end point speed value of the first curve speed change.

[0096]Step A2: In response to a fourth operation of triggering speed change configuration for the second media segment in the fourth media segment on the target editing track, add a second curve speed change to the second media segment in the fourth media segment and add a start point speed change corresponding to the second curve speed change to the second additional segment in the fourth media segment.

[0097]Optionally, the fourth operation includes a triggering operation on the identification for speed change configuration corresponding to the second media segment in the fourth media segment on the target editing track. The identification for speed change configuration corresponding to the second media segment is presented based on the selection operation of the second media segment in the fourth media segment on the target editing track.

[0098]Referring to FIG. 5b, the second media segment in the fourth media segment is displayed, and a second curve speed change is added to the second media segment in the fourth media segment. For the second additional

segment connected before the second media segment, the start point speed of the second curve speed change used by the second media segment before the transition is added, and the speed change is applied to the second additional segment connected before the second media segment. The second curve speed change acts on the second media segment; after cropping or extending, the second curve speed change acts on the second media segment in the fourth media segment. After adding the transition, a cropped part and a static frame part of the extended part are generated, and the speed change rate of the second additional segment in the extended part is the start point speed value of the second curve speed change.

[0099]Step A3: Generate the target output result based on the third media segment, the speed change corresponding to the third media segment, the fourth media segment, and the speed change corresponding to the fourth media segment. The target output result is a draft preview before the media segments are exported or a target video after the media segments are exported.

[0100]Optionally, the speed change panel proportionally adjusts the extended additional segment according to the corresponding duration. The start point (left endpoint) of the extended second additional segment or the end point (right endpoint) of the first additional segment cannot be adjusted. No speed change point can be added between the start point (left endpoint) of the second additional segment and the start point of the second media segment; adjusting the speed change rate of the start point of the second media segment can change the speed change rate of the left endpoint of the second additional segment, and the start point of the second additional segment is recalculated according to the new speed change rate. No speed change point can be added between the end point (right endpoint) of the first additional segment and the end point of the first media segment; adjusting the speed change of the end point of the first media segment can change the speed change rate of the right endpoint of the first additional segment, and the end point of the first additional segment is recalculated according to the new rate.

[0101]As an optional but non-limiting implementation, before generating the target output result based on the third media segment, the speed change corresponding to the third media segment, the fourth media segment, and the speed change corresponding to the fourth media segment, the method further includes: performing keying, flicker removal, noise reduction, anti-shake processing, and motion tracking on the first additional segment and the second additional segment.

[0102]In the technical solution of the embodiments of the present disclosure, the target transition task for transitioning editing of media segments is created. By adding the first additional segment to the end of the adjacent and end-to-end connected first media segment, the corresponding third media segment is formed. By adding the second additional segment to the start of the second media segment, the corresponding fourth media segment is formed. This enables the partial frames at the end of the third media segment corresponding to the first media segment and the partial frames at the start of the fourth media segment corresponding to the second media segment to be overlaid. The overlay transition effect is achieved where the frame of the previous media segment gradually fades out while the frame of the next media segment gradually appears and becomes clear. Meanwhile, since the positions of the first media segment and the second media segment on the target editing track remain unchanged, the total duration of the two adjacent media segments may be maintained after the overlay transition effect is applied.

[0103] FIG. 6 is a structural schematic diagram of an apparatus for processing a transition effect provided by an embodiment of the present disclosure. The embodiment of the present disclosure is applicable to the case of adding an overlay transition effect between two adjacent media segments. The apparatus for processing a transition effect may be implemented in the form of software and/or hardware, and is generally integrated in any electronic device with network communication functions, which can be a mobile terminal, a PC, or a server, etc.

[0104] As shown in FIG. 6, the apparatus for processing a transition effect according to an embodiment of the present disclosure may include the following: a first determination module 610, a second determination module 620, and a generation module 630.

[0105] The first determination module 610 is configured to determine a first media segment and a second media segment specified by a target transition task, where the second media segment being positioned after and adjacent to the first media segment on a target editing track.

[0106] The second determination module 620 is configured to determine a third media segment and a fourth media segment placed on the target editing track in response to a first operation of triggering an overlay transition effect on the target transition task, the third media segment including the first media segment and a first additional segment connected after the first media segment along a timeline, the fourth media segment including the second media segment and a second additional segment connected before the second media segment along the timeline, and positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered.

[0107] The generation module 630 is configured to form the overlay transition effect in an overlapping portion between the third media segment and the fourth media segment.

[0108] Based on the above embodiment, optionally, after forming the overlay transition effect in the overlapping portion between the third media segment and the fourth media segment, a target output result is generated based on the third media segment and the fourth media segment, the target output result being a draft preview before a media segment is exported or a target video after the media segment is exported.

[0109] On the basis of the above embodiments, optionally, determining the first media segment and the second media segment specified by the target transition task includes: presenting at least two media segments on the target editing track; and determining the first media segment and the second media segment specified by the target transition task in response to a second operation of triggering the target transition task on two adjacent media segments selected among the at least two media segments.

[0110] Based on the above embodiments, optionally, the second operation includes a triggering operation on an identification of the target transition task for two adjacent media segments selected on the target editing track; and the identification of the target transition task is configured to be presented at a connection position of the two adjacent media segments selected on the target editing track.

[0111] On the basis of the above embodiment, optionally, the first operation includes a triggering operation on an identification of the overlay transition effect selected in a transition effect selection area corresponding to the target transition task.

[0112] Based on the above embodiments, optionally, the first operation further includes an operation of configuring and triggering a transition duration in the transition effect selection area corresponding to the target transition task.

[0113] On the basis of the above embodiments, optionally, the determining the third media segment and the fourth media segment placed on the target editing track includes: determining a target transition duration corresponding to the target transition task; extracting, from a first media material, a media segment starting from a start point toward an end point of the first media segment based on the target transition duration and a duration of the first media segment, to obtain the third media segment placed on the target editing track, the first media material being an uncropped media segment used when forming the first media segment by cropping; and extracting, from a second media material, a media segment starting from an end point toward a start point of the second media segment based on the target transition duration and a duration of the second media segment, to obtain the fourth media segment placed on the target editing track, the second media material being an uncropped media segment used when forming the second media segment by cropping.

[0114] Based on the above embodiments, optionally, the first additional segment is determined based on a first cropped segment, the first cropped segment is a media segment cropped after the first media segment when forming the first media segment by cropping the first media material, the second additional segment is determined based on a second cropped segment, and the second cropped segment is a media segment cropped before the second media segment when forming the second media segment by cropping the second material.

[0115] On the basis of the above embodiments, optionally, in response to a duration of the first cropped segment being greater than or equal to a first predetermined duration, the first additional segment comprises a partial media segment of the first cropped segment; in response to the duration of the first cropped segment being less than the first predetermined duration, the first additional segment comprises an entire media segment of the first cropped segment and an ending frame of the first cropped segment; in response to a duration of the second cropped segment being greater than or equal to the second predetermined duration, the second additional segment comprises a partial media segment of the second cropped segment; in response to the duration of the second cropped segment being less than the second predetermined duration, the second additional segment comprises an entire media segment of the second cropped segment and a starting frame of the second cropped segment; and wherein a sum of the first predetermined duration and the second predetermined duration is equal to the target transition duration.

[0116] On the basis of the above embodiments, optionally, generating the target output result based on the third media segment and the fourth media segment includes: adding a first curve speed change to the first media segment in the third media segment and adding an end-point speed change corresponding to the first curve speed change to the first additional segment in the third media segment in response to a third operation of triggering a speed change configuration on the first media segment in the third media segment on the target editing track; adding a second curve speed change to the second media segment in the fourth media segment and adding a start-point speed change corresponding to the second curve speed change to the second additional segment in the fourth media segment in response to a fourth operation of triggering a speed change configuration on the second media segment in the fourth media segment on the target editing track; generating the target output result based on the third media segment, a speed change corresponding to the third media segment, the fourth media segment, and a speed change corresponding to the fourth media segment.

[0117] Based on the above embodiments, optionally, the third operation includes a triggering operation on an identification for a speed change configuration presented corresponding to the first media segment in the third

media segment on the target editing track, and the identification for the speed change configuration presented corresponding to the first media segment is presented based on a selection operation on the first media segment in the third media segment on the target editing track; the fourth operation includes a triggering operation on an identification for the speed change configuration presented corresponding to the second media segment in the fourth media segment on the target editing track, and the identification for the speed change configuration presented corresponding to the second media segment is presented based on a selection operation on the second media segment in the fourth media segment on the target editing track.

[0118] In the technical solution of the embodiments of the present disclosure, the target transition task for transitioning editing of media segments is created. By adding the first additional segment to the end of the adjacent and end-to-end connected first media segment, the corresponding third media segment is formed. By adding the second additional segment to the start of the second media segment, the corresponding fourth media segment is formed. This enables the partial frames at the end of the third media segment corresponding to the first media segment and the partial frames at the start of the fourth media segment corresponding to the second media segment to be overlaid. The overlay transition effect is achieved where the frame of the previous media segment gradually fades out while the frame of the next media segment gradually appears and becomes clear. Meanwhile, since the positions of the first media segment and the second media segment on the target editing track remain unchanged, the total duration of the two adjacent media segments may remain unchanged after the overlay transition effect is applied.

[0119] The apparatus for processing a transition effect provided by the embodiments of the present disclosure may perform the method of processing a transition effect provided by any embodiment of the present disclosure, and has functional modules and beneficial effects corresponding to perform the method.

[0120] It should be noted that the units and modules included in the foregoing apparatus are only divided according to the function logic, but are not limited to the foregoing division, as long as the corresponding functions can be implemented; in addition, the specific names of the functional units are merely for ease of distinguishing, and are not intended to limit the protection scope of the embodiments of the present disclosure.

[0121] FIG. 7 is a schematic structural diagram of an electronic device according to an embodiment of the present disclosure. FIG. 7 is a structural schematic diagram of an electronic device (such as the terminal device or server in FIG. 7) suitable for implementing the embodiments of the present disclosure. The terminal device in the embodiments of the present disclosure may include, but is not limited to, a mobile terminal such as a mobile phone, a notebook computer, a digital broadcast receiver, a PDA (personal digital assistant), a PAD (tablet computer), a PMP (portable multimedia player), an in-vehicle terminal (for example, an in-vehicle navigation terminal), and a fixed terminal such as a digital TV, a desktop computer, or the like. The electronic device shown in FIG. 7 is merely an example, and should not impose any limitation on the functions and scope of use of the embodiments of the present disclosure.

[0122] As shown in FIG. 7, the electronic device 500 may include a processing device (for example, a central processing unit, a graphics processor, etc.) 501, which may perform various appropriate actions and processing according to a program stored in a read-only memory (ROM) 502 or a program loaded into a random access memory (RAM) 503 from a storage device 508. In the RAM 503, various programs and data required by the operation of the electronic device 500 are also stored. The processing device 501, the ROM 502, and the RAM

503 are connected to each other through a bus 504. An edit/output (I/O) interface 505 is also connected to the bus 504.

[0123] Generally, the following devices may be connected to the I/O interface 505: an input device 506 including, for example, a touch screen, a touchpad, a keyboard, a mouse, a camera, a microphone, an accelerometer, a gyroscope, etc. ; an output device 507 including, for example, a liquid crystal display (LCD), a speaker, a vibrator, etc.; a storage device 508 including, for example, a magnetic tape, a hard disk, etc.; and a communication device 509. The communication device 509 may allow the electronic device 500 to communicate wirelessly or wired with other devices to exchange data. While FIG. 7 shows an electronic device 500 having various devices, it should be understood that it is not required to implement or have all illustrated devices. More or fewer devices may alternatively be implemented or provided.

[0124] In particular, according to embodiments of the present disclosure, the process described above with reference to the flowchart may be implemented as a computer software program. For example, embodiments of the present disclosure include a computer program product including a computer program embodied on a non-transitory computer readable medium, the computer program including program code for performing the method shown in the flowchart. In such embodiments, the computer program may be downloaded and installed from the network through the communication device 509, or installed from the storage device 508, or from the ROM 502. When the computer program is executed by the processing apparatus 501, the foregoing functions defined in the method of the embodiments of the present disclosure are performed.

[0125] The names of messages or information exchanged between multiple devices in embodiments of the present disclosure are for illustrative purposes only and are not intended to limit the scope of such messages or information.

[0126] The electronic device provided by the embodiments of the present disclosure and the method for processing a transition effect provided by the above embodiments belong to the same inventive concept, and technical details not described in detail in this embodiment may refer to the foregoing embodiments, and this embodiment has the same beneficial effects as the foregoing embodiments.

[0127] An embodiment of the present disclosure provides a computer storage medium having a computer program stored thereon, the program, when executed by a processor, implements the method of processing a transition effect provided in the above embodiments.

[0128] It should be noted that the computer-readable medium described above may be a computer readable signal medium, a computer readable storage medium, or any combination of the foregoing two. The computer-readable storage medium may be, for example, but not limited to, an electrical, magnetic, optical, electromagnetic, infrared, or semiconductor system, device, or device, or any combination thereof. More specific examples of computer-readable storage media may include, but are not limited to, an electrical connection having one or more wires, a portable computer diskette, a hard disk, a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), an optical fiber, a portable compact disk read-only memory (CD-ROM), an optical storage device, a magnetic storage device, or any suitable combination of the foregoing. In the present disclosure, a computer-readable storage medium may be any tangible medium containing or storing a program that may be used by or in connection with an instruction execution system, apparatus, or device. In the present disclosure, a computer readable signal medium may

include a data signal propagated in baseband or as part of a carrier, where the computer readable program code is carried. Such propagated data signals may take a variety of forms including, but not limited to, electromagnetic signals, optical signals, or any suitable combination of the foregoing. The computer readable signal medium may also be any computer readable medium other than a computer readable storage medium that may send, propagate, or transmit a program for use by or in connection with an instruction execution system, apparatus, or device. The program code embodied on the computer-readable medium may be transmitted with any suitable medium, including, but not limited to: wires, optical cables, RF (radio frequency), and the like, or any suitable combination of the foregoing.

[0129] In some implementations, the client, server may communicate using any currently known or future developed network protocol, such as HyperText Transfer Protocol (HTTP), and may be interconnected with any form or medium of digital data communication (e.g., a communication network). Examples of communication networks include local area networks (LANs), wide area networks (WANs), internets (e.g., the Internet), and peer-to-peer networks (e.g., ad hoc peer-to-peer networks), as well as any currently known or future developed networks.

[0130] The computer-readable medium described above may be included in the electronic device; or may be separately present without being assembled into the electronic device.

[0131] The computer readable medium carries one or more programs, and when the one or more programs are executed by the electronic device, the electronic device is caused to: determine a first media segment and a second media segment specified by a target transition task, the second media segment being positioned after and adjacent to the first media segment on a target editing track; determine a third media segment and a fourth media segment placed on the target editing track in response to a first operation of triggering an overlay transition effect on the target transition task, the third media segment including the first media segment and a first additional segment connected after the first media segment along a timeline, the fourth media segment including the second media segment and a second additional segment connected before the second media segment along the timeline, and positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered; and form the overlay transition effect in an overlapping portion between the third media segment and the fourth media segment.

[0132] Computer program code for performing the operations of the present disclosure may be written in one or more programming languages, including, but not limited to, object-oriented programming languages such as Java, Smalltalk, C++, and conventional procedural programming languages, such as the “C” language or similar programming languages. The program code may execute entirely on a user computer, partially on a user computer, as a stand-alone software package, partially on a user computer, partially on a remote computer, or entirely on a remote computer or server. In the case of a remote computer, the remote computer may be connected to the user computer through any kind of network, including a local area network (LAN) or a wide area network (WAN), or may be connected to an external computer (e.g., connected through the Internet using an Internet service provider).

[0133] The flowcharts and block diagrams in the figures illustrate architecture, functionality, and operation of possible implementations of systems, methods, and computer program products according to various embodiments of the present disclosure. In this regard, each block in the flowchart or block diagram may represent

a module, program segment, or portion of code that includes one or more executable instructions for implementing the specified logical function. It should also be noted that in some alternative implementations, the functions noted in the blocks may also occur in a different order than that illustrated in the figures. For example, two consecutively represented blocks may actually be performed substantially in parallel, which may sometimes be performed in the reverse order, depending on the functionality involved. It is also noted that each block in the block diagrams and/or flowcharts, as well as combinations of blocks in the block diagrams and/or flowcharts, may be implemented with a dedicated hardware-based system that performs the specified functions or operations, or may be implemented in a combination of dedicated hardware and computer instructions.

[0134] The units involved in the embodiments of the present disclosure may be implemented in software, or may be implemented in hardware. For example, the first obtaining unit may be further described as “obtaining at least two units of Internet Protocol addresses”.

[0135] The functions described above may be performed, at least in part, by one or more hardware logic components. For example, without limitation, exemplary types of hardware logic components that may be used include: field programmable gate arrays (FPGAs), application specific integrated circuits (ASICs), application specific standard products (ASSPs), system-on-a-chip (SOCs), complex programmable logic devices (CPLDs), and the like.

[0136] In the context of the present disclosure, a machine-readable medium may be a tangible medium that may contain or store a program for use by or in connection with an instruction execution system, apparatus, or device. The machine-readable medium may be a machine-readable signal medium or a machine-readable storage medium. The machine-readable medium may include, but is not limited to, electronic, magnetic, optical, electromagnetic, infrared, or semiconductor systems, devices, or devices, or any suitable combination of the foregoing. More specific examples of machine-readable storage media may include electrical connections based on one or more lines, portable computer disks, hard disks, random access memory (RAM), read-only memory (ROM), erasable programmable read-only memory (EPROM or Flash memory), optical fibers, portable compact disc read-only memory (CD-ROM), optical storage devices, magnetic storage devices, or any suitable combination of the foregoing.

[0137] The above description is merely an illustration of the preferred embodiments of the present disclosure and the principles of the applied technology. It should be understood by those skilled in the art that the disclosure in the present disclosure is not limited to the technical solutions of the specific combination of the above technical features, and should also cover other technical solutions formed by any combination of the above technical features or their equivalent features without departing from the above disclosed concept. For example, the above features are the technical solutions formed by mutually replacing technical features disclosed in the present disclosure (but not limited to).

[0138] Further, while operations are depicted in a particular order, this should not be understood to require that these operations be performed in the particular order shown or in sequential order. In certain circumstances, multitasking and parallel processing may be advantageous. Likewise, while several specific implementation details are included in the discussion above, these should not be construed as limiting the scope of the present disclosure. Certain features described in the context of separate embodiments may also be implemented in combination in a single embodiment. Conversely, the various features described in the context of a single

embodiment may also be implemented in multiple embodiments either individually or in any suitable sub-combination.

[0139] Although the present subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the specific features or acts described above. Rather, the specific features and acts described above are merely exemplary forms of implementing the claims.

CLAIMS

1. A method of processing a transition effect, comprising:
 - determining a first media segment and a second media segment specified by a target transition task, the second media segment being positioned after and adjacent to the first media segment on a target editing track;
 - determining a third media segment and a fourth media segment placed on the target editing track in response to a first operation of triggering an overlay transition effect on the target transition task, the third media segment comprising the first media segment and a first additional segment connected after the first media segment along a timeline, the fourth media segment comprising the second media segment and a second additional segment connected before the second media segment along the timeline, and positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered; and
 - forming the overlay transition effect in an overlapping portion between the third media segment and the fourth media segment.
2. The method of claim 1, wherein the method further comprises: after forming the overlay transition effect in the overlapping portion between the third media segment and the fourth media segment,
 - generating a target output result based on the third media segment and the fourth media segment, the target output result being a draft preview before a media segment is exported or a target video after the media segment is exported.
3. The method of claim 1, wherein determining the first media segment and the second media segment specified by the target transition task comprises:
 - presenting at least two media segments on the target editing track; and
 - determining the first media segment and the second media segment specified by the target transition task in response to a second operation of triggering the target transition task on two adjacent media segments selected among the at least two media segments.
4. The method of claim 3, wherein the second operation comprises a triggering operation on an identification of the target transition task for two adjacent media segments selected on the target editing track;
 - the identification of the target transition task is configured to be presented at a connection position of the two adjacent media segments selected on the target editing track.
5. The method of claim 1, wherein the first operation comprises a triggering operation on an identification of the overlay transition effect selected in a transition effect selection area corresponding to the target transition task.
6. The method of claim 5, wherein the first operation further comprises an operation of configuring and triggering a transition duration in the transition effect selection area corresponding to the target transition task.

7. The method of claim 1, wherein determining the third media segment and the fourth media segment placed on the target editing track comprises:

determining a target transition duration corresponding to the target transition task;

extracting, from a first media material, a media segment starting from a start point toward an end point of the first media segment based on the target transition duration and a duration of the first media segment, to obtain the third media segment placed on the target editing track, the first media material being an uncropped media segment used when forming the first media segment by cropping; and

extracting, from a second media material, a media segment starting from an end point toward a start point of the second media segment based on the target transition duration and a duration of the second media segment, to obtain the fourth media segment placed on the target editing track, the second media material being an uncropped media segment used when forming the second media segment by cropping.

8. The method of claim 7, wherein the first additional segment is determined based on a first cropped segment, the first cropped segment is a media segment cropped after the first media segment when forming the first media segment by cropping the first media material, the second additional segment is determined based on a second cropped segment, and the second cropped segment is a media segment cropped before the second media segment when forming the second media segment by cropping the second material.

9. The method of claim 8, wherein

in response to a duration of the first cropped segment being greater than or equal to a first predetermined duration, the first additional segment comprises a partial media segment of the first cropped segment;

in response to the duration of the first cropped segment being less than the first predetermined duration, the first additional segment comprises an entire media segment of the first cropped segment and an ending frame of the first cropped segment;

in response to a duration of the second cropped segment being greater than or equal to the second predetermined duration, the second additional segment comprises a partial media segment of the second cropped segment;

in response to the duration of the second cropped segment being less than the second predetermined duration, the second additional segment comprises an entire media segment of the second cropped segment and a starting frame of the second cropped segment; and

wherein a sum of the first predetermined duration and the second predetermined duration is equal to the target transition duration.

10. The method of claim 7, wherein in response to a duration of the first cropped segment being zero, the first additional segment comprises only a still frame extracted from the first media segment, and in response to a duration of the second cropped segment being zero, the second additional segment comprises only a still frame extracted from the second media material.

11. The method of claim 1, wherein generating the target output result based on the third media segment and the fourth media segment comprises:

adding a first curve speed change to the first media segment in the third media segment and adding an end-point speed change corresponding to the first curve speed change to the first additional segment in the third media segment in response to a third operation of triggering a speed change configuration on the first media segment in the third media segment on the target editing track;

adding a second curve speed change to the second media segment in the fourth media segment and adding a start-point speed change corresponding to the second curve speed change to the second additional segment in the fourth media segment in response to a fourth operation of triggering a speed change configuration on the second media segment in the fourth media segment on the target editing track;

generating the target output result based on the third media segment, a speed change corresponding to the third media segment, the fourth media segment, and a speed change corresponding to the fourth media segment.

12. The method of claim 11, wherein the third operation comprises a triggering operation on an identification for a speed change configuration presented corresponding to the first media segment in the third media segment on the target editing track, and the identification for the speed change configuration presented corresponding to the first media segment is presented based on a selection operation on the first media segment in the third media segment on the target editing track; and

the fourth operation comprises a triggering operation on an identification for the speed change configuration presented corresponding to the second media segment in the fourth media segment on the target editing track, and the identification for the speed change configuration presented corresponding to the second media segment is presented based on a selection operation on the second media segment in the fourth media segment on the target editing track.

13. An apparatus for processing a transition effect, comprising:

a first determination module configured to determine a first media segment and a second media segment specified by a target transition task, the second media segment being positioned after and adjacent to the first media segment on a target editing track;

a second determination module configured to determine a third media segment and a fourth media segment placed on the target editing track in response to a first operation of triggering an overlay transition effect on the target transition task, the third media segment comprising the first media segment and a first additional segment connected after the first media segment along a timeline, the fourth media segment comprising the second media segment and a second additional segment connected before the second media segment along the timeline, and positions of the first media segment and the second media segment on the target editing track remaining unchanged when the first operation is triggered;

a generation module configured to form the overlay transition effect in an overlapping portion between the third media segment and the fourth media segment.

14. An electronic device, comprising:

one or more processors, and
a storage device, configured to store one or more programs,
when the one or more programs are executed by the one or more processors, the one or more processors are caused to implement the method of processing a transition effect according to any of claims 1-12.

15. A storage medium comprising computer-executable instructions, wherein the computer-executable instructions, when executed by a computer processor, are configured to perform the method of processing a transition effect according to any of claims 1-12.