



(51) International Patent Classification:
H04L 29/06 (2006.01)

(21) International Application Number:
PCT/CN2016/102250

(22) International Filing Date:
17 October 2016 (17.10.2016)

(25) Filing Language: English

(26) Publication Language: English

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(54) Title: SHARING NETWORK CONTENT

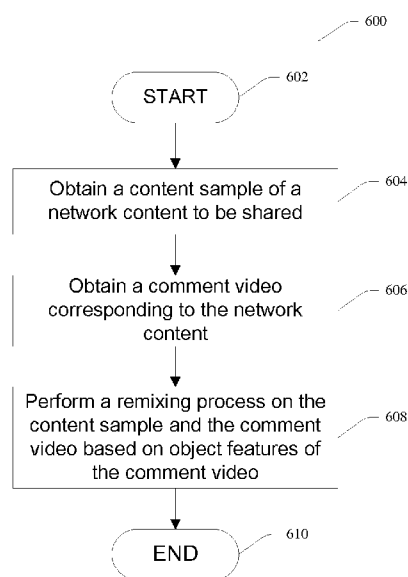


FIG.6

(57) Abstract: The present disclosure provides method, apparatus and system for sharing network content. A content sample of a network content to be shared may be obtained. A comment video corresponding to the network content may be obtained. A remixing process may be performed on the content sample and the comment video based on object features of the comment video.

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

SHARING NETWORK CONTENT

BACKGROUND

[0001] Network content sharing is very common nowadays. For example, upon receiving network contents from a network, a network user may be interested in one of the received network contents and desire to share the network content with other network users on the network, and thus the network user may submit the network content via relevant sharing applications or websites. Then said other users may access the shared network content through the sharing applications or websites. Here, the network contents may include various contents accessible by network users on the network, such as, video news, articles, movies, pictures, songs, etc. Usually, a hyperlink or screenshot of the shared network content may be shown by the sharing applications or websites to said other network users. In some circumstances, the network user desiring to share network contents may attempt to append some text comments to the shared network content so as to draw attention of said other network users.

SUMMARY

[0002] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. It is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter.

[0003] Embodiments of the present disclosure may provide method, apparatus and system for sharing network content.

[0004] In an aspect, the present disclosure provides a method for sharing network content. According to the method, a content sample of a network content to be shared may be obtained. A comment video corresponding to the network content may be obtained. A remixing process may be performed on the content sample and the comment video based on object features of the comment video.

[0005] In another aspect, the present disclosure provides an apparatus for sharing network content. The apparatus may comprise a content sample obtaining module, a comment video obtaining module and a remixing module. The content sample obtaining module may be configured for obtaining a content sample of a network

content to be shared. The comment video obtaining module may be configured for obtaining a comment video corresponding to the network content. The remixing module may be configured for performing a remixing process on the content sample and the comment video based on object features of the comment video.

[0006] In another aspect, the present disclosure provides a system for sharing network content. The system may comprise one or more processors and a memory. The memory may store computer-executable instructions that, when executed, cause the one or more processors to perform any operations of the methods according to various aspects of the present disclosure.

[0007] In another aspect, the present disclosure provides a non-transitory computer-readable medium. The non-transitory computer-readable medium may comprise instructions that, when executed, cause one or more processors to perform any operations of the methods according to various aspects of the present disclosure.

[0008] It should be noted that the above one or more aspects comprise the features hereinafter fully described and particularly pointed out in the claims. The following description and the drawings set forth in detail certain illustrative features of the one or more aspects. These features are only indicative of a few of the various ways in which the principles of various aspects may be employed, and this disclosure is intended to include all such aspects and their equivalents.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The disclosed aspects will hereinafter be described in connection with the appended drawings that are provided to illustrate and not to limit the disclosed aspects.

[0010] FIG.1 illustrates an exemplary application scenario for sharing network content.

[0011] FIG.2 illustrates an exemplary system architecture for sharing network content.

[0012] FIG.3A is a flowchart of an exemplary process for sharing network content according to an embodiment of the present disclosure.

[0013] FIG.3B is a flowchart of an exemplary process for sharing network content according to an embodiment of the present disclosure.

[0014] FIG.4A is a flowchart of an exemplary remixing process according to an embodiment of the present disclosure.

[0015] FIG.4B is a flowchart of an exemplary remixing process according to an embodiment of the present disclosure.

[0016] FIG.5 illustrates examples of screen display according to some implementations of the present disclosure.

[0017] FIG.6 is a flowchart of an exemplary method for sharing network content according to an embodiment of the present disclosure.

[0018] FIG.7 illustrates an exemplary apparatus for sharing network content according to an embodiment of the present disclosure.

[0019] FIG.8 illustrates an exemplary system for sharing network content according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0020] The present disclosure will now be discussed with reference to several example implementations. It is to be understood that these implementations are discussed only for enabling those skilled in the art to better understand and thus implement the embodiments of the present disclosure, rather than suggesting any limitations on the scope of the present disclosure.

[0021] The embodiments of the present disclosure may enable a network user to provide a personalized video comment on a network content to be shared. The presentation of a shared network content together with a comment video could effectively draw more attention of other network users, and provide all these network users with new user experience. According to the embodiments of the present disclosure, a network user has a capability of processing comment video and network content. Accordingly, the network user may take a preview of the processed comment video and network content at an earlier stage. This may facilitate to accelerate the whole sharing procedure. Moreover, a content server may process the comment video and the network content in parallel. This further accelerates the whole sharing procedure.

[0022] FIG.1 illustrates an exemplary application scenario 100 for sharing network content.

[0023] In FIG.1, a network 110 is applied for interconnecting various network entities, such as, client devices 120a and 120b, a content server 130 and a sharing server 140. It should be appreciated that all the network entities shown in FIG.1 are

exemplary, and depending on specific application requirements, any other network entities may be involved in the application scenario 100.

[0024] The network 110 may be any type of networks capable of interconnecting network entities. The network 110 may be a single network or a combination of different networks. In terms of coverage range, the network 110 may be a Local Area Network (LAN), a Metropolitan Area Network (MAN) or a Wide Area Network (WAN). In terms of carrying medium, the network 110 may be a wireline network or a wireless network. In terms of data switching techniques, the network 110 may be a circuit switching network, a packet switching network, or a message switching network.

[0025] The client devices 120a and 120b may be any type of electronic computing devices capable of connecting to the network 110, communicating with each other, assessing servers or websites on the network 110, processing data or signals, etc. For example, the client devices 120a and 120b may be desktops, laptops, tablets, smart phones, etc. Although only two client devices 120a and 120b are shown in FIG.1, it should be appreciated that a different number of client devices may connect to the network 110.

[0026] The content server 130 may be any type of servers that maintain and provide network contents to other network entities. The content server 130 may be, such as, a video server, a news server, a portal website server, etc. For example, when receiving a request from the client device 120a, the content server 130 may transmit requested network content to the client device 120a, thus enabling the client device 120a to access network contents maintained by the content server 130. The content server 130 may be associated with a relevant application or website, and thus client devices may communicate with the content server 130 through running the application or visiting the website.

[0027] The sharing server 140 may be any type of servers capable of providing network content sharing services, such as, a Social Network Service (SNS) server. For example, the sharing server 140 may present a shared network content initiated by a user of the client device 120a to other users.

[0028] It should be appreciated that, although only the content server 130 and the sharing server 140 are shown in FIG.1, the application scenario 100 may involve any other servers. These servers may combine with each other or separate from each other

in any approaches.

[0029] FIG.2 illustrates an exemplary system architecture 200 for sharing network content. It is shown in FIG.2 that a client device 22 and a content server 24 connect to the network 110. However, it should be appreciated that any other network entities might be involved in the system architecture 200. The client device 22 and the content server 24 in FIG.2 may correspond to the client device 120a or 120b and the content server 130 in FIG.1 respectively.

[0030] The client device 22 may include at least one of a communication interface 220, a processor 222, a memory 224, a video processor 226, a display device 228, an input device 230, a camera 232, a microphone 234, a loudspeaker 236, etc.

[0031] The communication interface 220 may transmit information to or receive information from other network entities via the network 110. The processor 222 may include one or more general processors that execute program instructions. The memory 224 may include RAM, ROM, or any other type of dynamic or static storage devices that store data or program instructions. The video processor 226 may be a special processor for performing video process. The display device 228 may present information to a user through a display screen. The input device 230 may include one or more of a keyboard, a pointing device, an electronic pen, a touchscreen, or other devices for user input. The camera 232 may be used for taking photos or shooting videos. The microphone 234 and the loudspeaker 236 may be used for implementing audio input and output.

[0032] The content server 24 may include at least one of a communication interface 240, a processor 242, a memory 244, a video processor 246, a content storage device 248, etc.

[0033] The communication interface 240 may transmit information to or receive information from other network entities via the network 110. The processor 242 may include one or more general processors that execute program instructions. The memory 244 may include RAM, ROM, or any other type of dynamic or static storage devices that store information or program instructions. The video processor 246 may be a special processor for performing video process. The content storage device 248 may store network contents, and may be based on, such as, a local or cloud storage.

[0034] The above components in the client device 22 and the content server 24 are exemplary, and depending on specific application requirements, the client device

22 and the content server 24 may also include any other components. Moreover, the client device 22 and the content server 24 shown in the system architecture 200 may be configured for cooperatively implementing embodiments of the present disclosure described in details below.

[0035] FIG.3A is a flowchart of an exemplary process 300a for sharing network content according to an embodiment of the present disclosure. It is shown in FIG.3A that a client device 32 and a content server 34 are involved in the process 300a. However, it should be appreciated that, depending on specific application requirements, any other network entities may be involved in the process 300a.

[0036] At 310, the client device 32 may access network contents of the content server 34. The content server 34 may transfer the network contents to the client device 32 in response to a request from the client device 32. For example, in the case that the content server 34 is associated with a website, if a user of the client device 32 is browsing the website and clicks on a link of a certain network content, the clicking operation may be deemed by the content server 34 as a request for accessing the network content, and accordingly the content server 34 may transmit the network content to the client device 32. Alternatively, the content server 34 may transfer the network contents to the client device 32 initiatively. For example, when the user of the client device 32 is browsing a website associated with the content server 34 or running an application associated with the content server 34, the content server 34 may initiatively push network contents to the client device 32. Besides the above examples, any other approaches may also be adopted for implementing the accessing of the network contents maintained by the content server 34.

[0037] The received network contents may be displayed or presented by the client device 32 to the user. For example, if a received network content is a news video, the client device 32 may play the news video through a display device and a loudspeaker. Moreover, for example, if a received network content is an article, the client device 32 may display the article on the display device.

[0038] Among the received network contents, the user of the client device 32 may be interested in a certain network content, and may desire to share this network content with other users via, such as, a social network.

[0039] In this case, at 312, the client device 32 may extract a content sample from the network content that is to be shared. Here, the content sample indicates

representative information extracted from the network content. The content sample may be a thumbnail of the network content. In the case that the network content is a video, the content sample may also be a video segment of the network content. Various approaches may be adopted for extracting the content sample from the network content.

[0040] In some implementations, the content sample may be extracted manually by the user of the client device 32 from the network content. For example, if the network content is a video, the user may select a frame or a segment from the video when watching the video on the client device 32, and utilize the selected frame or segment as the content sample.

[0041] In other implementations, the content sample may be extracted automatically by the client device 32 from the network content. The client device 32 may randomly extract the content sample from the network content. Alternatively, the client device 32 may extract the content sample based on certain criteria that intend to utilize a more representative and more informative portion of the network content as the content sample. For example, if the network content is an article, the client device 32 may utilize a thumbnail of the article as the content sample. While if the network content is a video, the client device 32 may determine a key frame from the video as the content sample. For example, if the network content is a news video, the key frame may be the first frame after a scene transition. If the network content is a short film, the key frame may be a frame which contains one or more human faces. Any other criteria may be adopted for determining the key frame. Moreover, if the network content is a video, the client device 32 may also extract a video segment from the video as the content sample.

[0042] At 314, the client device 32 may shoot a comment video, and meanwhile perform a remixing process.

[0043] According to the embodiments of the present disclosure, the user of the client device 32 may provide a personalized video comment on the network content to be shared. When sharing the network content, such a comment video may effectively draw more attention of other network users, and improve user experience. In an implementation, the user may utilize a camera and a microphone of the client device 32 to shoot the comment video in which the user may, for example, make comments on the network content by words, expressions or gestures. The comment video may

focus on a certain object, such as, the face of the user, the body of the user, or any other objects. The comment video may also contain scene changes, such as, changes between different persons, changes between a person and a background, or changes between a person and other object.

[0044] In an implementation, during shooting the comment video, the client device 32 may perform a remixing process. For example, the client device 32 may remix the content sample and the comment video. Through shooting and remixing at the same time, the present disclosure can accelerate the whole sharing process.

[0045] Various approaches may be adopted for performing the remixing process at 314. FIG.4A is a flowchart of an exemplary remixing process according to an embodiment of the present disclosure.

[0046] At 410, the client device 32 may detect object features from the comment video. The object features may comprise various features of the object in the comment video. In some implementations, the object features may comprise at least one of object position, object size, object contour, object orientation, etc. For example, if the upper part of the body of the user is shown in the comment video, the client device 32 may detect a position of the face, such as, being at the upper part or lower part of the screen, at the left side or right side of the screen, etc. The client device 32 may detect a size of the upper part of the body of the user, such as, occupying less than a half of the screen, occupying almost the whole screen, etc. The client device 32 may detect a contour of the upper part of the body of the user, and thus can discriminate the user from the background. The client device 32 may also detect an orientation of the upper part of the body of the user, such as, vertical, inclined, etc.

[0047] The embodiments of the present disclosure may adopt any detecting techniques for detecting object features from the comment video, and are not limited to any specific detecting technique.

[0048] At 412, the client device 32 may determine, based on the object features, a region of the comment video for placing the content sample. According to the embodiments of the present disclosure, the content sample may be overlaid over a region of the comment video. A size and a position of the region need to be selected such that the object in the comment video or a main body of the object can avoid the content sample and the object is still a dominant element in the screen. This can be achieved by determining the region based on the detected object features. For

example, if the object is located at the lower part of the screen, the region may be determined as locating at the upper part of the screen. For example, if the object has a big size and occupies almost the whole screen, the region may be determined as locating inside the object but keeping away from the face of the object. For example, if the object is located at the left side of the screen and there is a relative big blank area to the right of the object, the region may be determined as locating to the right of the object and having a relative big size.

[0049] Besides the above examples, the region of the comment video for placing the content sample may also be determined based on the object features in any other approaches.

[0050] At 414, the client device 32 may overlay the content sample in the region of the comment video determined at 412, so as to obtain a remixed content sample and comment video. For example, a thumbnail or video segment of the network content may be placed in the region of the comment video for placing the content sample.

[0051] In an implementations, the overlaying operation at 414 may further include replacing a background of the comment video. For example, if a contour of the object in the comment video is detected at 410, the contour information may be used for discriminating the object from the background, and thus the background may be replaced by other colors, images, etc.

[0052] Moreover, in some implementations, if a status of the object in the comment video is changing with time, the remixing process in FIG.4A may also be performed dynamically.

[0053] In this case, at 410, the client device 32 may detect realtime object features with the changing of the object. At 412, the client device 32 may determine the region in real time so as to adapt for the changing of the object. For example, if the object is moving from the left side of the screen to the right side of the screen, the region may correspondingly moving from the right side of the screen to the left side of the screen. At 414, the client device 32 may perform the overlaying operation adaptively to the changing of the region.

[0054] FIG.5 illustrates examples of screen display according to some implementations of the present disclosure. It should be appreciated that the screen displays 510, 520 and 530 in FIG.5 are only some examples facilitating to understand

the remixing process according to some implementations of the present disclosure, and many other screen displays may occur in other implementations.

[0055] In screen display 510, the object 512 is located at the lower part of the screen, and the content sample 514 is located in a region at the upper part of the screen. In screen display 520, the object 522 is located at the left side of the screen, and the content sample 524 is located at the right side of the screen and has a relative big size. In screen display 530, the object 532 has a big size and occupies a large portion of the screen, and the content sample 534 is located inside the main body of the object but keeps away from the face of the object 532.

[0056] Moreover, assuming the objects 512, 522 and 532 are the same object in a comment video, the screen displays 510, 520 and 530 in FIG.5 may also be used for illustrating a circumstance that the status of the object is changing. For example, in the comment video, if the status of the object is changed from 512 to 522, the presentation of the content sample may be changed from 514 to 524 accordingly; then if the status of the object is changed from 522 to 532, the presentation of the content sample may be changed from 524 to 534 accordingly.

[0057] Return back to FIG.3A, at 316, the client device 32 may send the content sample extracted at 312 and the comment video shot at 314 to the content server 34.

[0058] At 318, the client device 32 may present a preview of the remixed content sample and comment video obtained at 314 to the user of the client device 32. For example, the client device 32 may utilize the display device and the loudspeaker to play the remixed content sample and comment video. During presenting the preview, the comment video is playing, and the content sample may be shown in the region determined at 412 simultaneously. If the content sample is a video segment, the video segment may be played in the region determined at 412 while the comment video is playing. As shown in FIG.3A, the presenting of the preview at 318 can be performed immediately after the shooting and remixing operations at 314, that is, the user can take a preview at an earlier stage, thus further accelerating the whole sharing process.

[0059] When the content server 34 receives the content sample and the comment video from the client device 32 at 316, the content server 34 may perform a remixing process at 320. For example, at 320, the content server 34 may remix the content sample, the comment video and the network content to obtain a shared video. As shown in FIG.3A, the remixing process at the content server 34 may be performed

during the client device 32 is presenting the preview to the user, thus further facilitating to reduce the time to share the network content.

[0060] Various approaches may be adopted for performing the remixing process at 320. FIG.4B is a flowchart of an exemplary remixing process according to an embodiment of the present disclosure.

[0061] At 420, the content server 34 may detect object features from the comment video in a similar way as the detecting operation at 410 in FIG.4A.

[0062] At 422, the content server 34 may determine, based on the object features, a region of the comment video for placing the content sample in a similar way as the determining operation at 412 in FIG.4A.

[0063] At 424, the content server 34 may overlay the content sample in the region of the comment video determined at 422 in a similar way as the overlaying operation at 414 in FIG.4A. Through the overlaying operation at 424, a first video may be obtained as the remixed content sample and comment video.

[0064] At 426, the content server 34 may concatenate the first video obtained at 424 with the network content to obtain a shared video. Here, the network content was previously provided to the client device 32, and the comment video is shot by the user of the client device 32 with respect to this network content. The content server 34 may retrieve the network content from, such as, a content storage device therein, for performing the concatenating operation at 426.

[0065] In an implementation, the concatenating operation at 426 may indicate appending the network content at the end of the first video. That is, when presenting the shared video, the network content may be played immediately after the play of the first video.

[0066] In another implementation, the content server 34 may apply a transition effect between the first video and the network content. As an example for the transition effect, at the end of the first video, the network content may emerge from the region of the comment video that is used for placing the content sample, and gradually occupy the whole screen. It shall be appreciated that any other transition effects may be applied by the content server 34.

[0067] Moreover, in some implementations, if a status of the object in the comment video is changing with time, the remixing process in FIG.4B may also be performed dynamically. For example, the detecting operation 420, the determining

operation at 422 and the overlying operation at 424 may be performed in a similar way as the operations 410, 412 and 414 in the dynamically-performed remixing process in FIG.4A as mentioned above.

[0068] Return back to FIG.3A, at 322, a process for confirming sharing may be performed between the client device 32 and the content server 34. In an implementation, if the user of the client device 32 is satisfied with the preview presented at 318, the client device 32 may send a sharing confirmation to the content server 34, so as to inform the content server 34 that the user approves to submit the shared video. The sharing confirmation may be sent by the client device 32 initiatively. Alternatively, the sharing confirmation may be sent by the client device 32 in response to a query from the client server 34. In this case, after performing the remixing process at 320, the content server 34 may send a query to the client device 32 to ask the user whether to submit the shared video, and then receive a confirmation from the client device 32.

[0069] If a sharing confirmation is received at 322, the content server 34 may submit the shared video to a sharing server at 324. For example, the content server 34 may post the shared video to a SNS server which may further provide the shared video to other users.

[0070] It should be appreciated that all the operations in the process 300a and the sequence orders thereof are exemplary, and the present disclosure should cover all other equivalent operations and all other sequence orders under the same or similar concepts.

[0071] For example, in some implementations, the client device 32 may also send information about the region of the comment video for placing the content sample to the content server 34. Thus, the content server 34 may directly utilize the region information in the remixing process at 320, without the need of performing the detecting operation at 420 and the determining operation at 422 in FIG.4B. In this case, the remixing process at 320 may comprise overlaying, based on the received region information, the content sample in the region of the comment video to obtain the first video, and concatenating the first video with the network content to obtain the shared video.

[0072] Moreover, although it is shown in FIG.3A that the content sample and the comment video are sent at 316 after the shooting or remixing operation at 314 and

before the presenting operation at 318, the sending operation 316 may also be performed at other timings. For example, the content sample and the comment video may be sent during the shooting or remixing operation at 314. In this case, such as, a streaming technique may be adopted for performing the sending operation. Moreover, in some cases, the content sample and the comment video may also be sent during presenting the preview at 318.

[0073] FIG.3B is a flowchart of an exemplary process 300b for sharing network content according to an embodiment of the present disclosure.

[0074] The operations in the process 300b are similar as those in the process 300a in FIG.3A except that the operation 314 in FIG.3A is replaced by operations 315 and 317 in FIG.3B.

[0075] At 315, the client device 32 may shoot a comment video in a similar way as the shooting operation at 314.

[0076] At 316, the client device 32 may send the content sample extracted at 312 and the comment video shot at 315 to the content server 34.

[0077] At 317, the client device 32 may perform a remixing process in a similar way as the remixing process performed at 314.

[0078] It can be seen that, the shooting operation and the remixing process in FIG.3B are performed sequentially, instead of in parallel. That is, the remixing process may be performed after the comment video has been shot.

[0079] According to the process 300b, the content server 34 may perform a remixing process at 320 during the client device 32 is performing a remixing process at 317 and/or presenting a preview at 318.

[0080] It should be appreciated that all the operations in the process 300b and the sequence orders thereof are exemplary, and the present disclosure should cover all other equivalent operations and all other sequence orders under the same or similar concepts.

[0081] For example, although it is shown in FIG.3B that the content sample and the comment video are sent at 316 after the shooting operation at 315 or before performing the remixing process at 317, the sending operation 316 may also be performed at other timings. For example, the content sample and the comment video may be sent during the shooting operation at 314, during performing the remixing process at 317, after performing the remixing process at 317, or during presenting the

preview at 318. Moreover, the extracting operation at 312 and the shooting operation at 315 may also exchange order with each other.

[0082] FIG.6 is a flowchart of an exemplary method 600 for sharing network content according to an embodiment of the present disclosure. The method 600 may be implemented by a client device or a content server. The client device may has a structure similar as that of the client device 22 shown in FIG.2, and the content server may has a structure similar as that of the content server 24 shown in FIG.2. For example, a processor, a video processor or a combination of processor and video processor in the client device or the content server may be configured for performing operations in the method 600. Moreover, depending on implementation requirements, other relevant components in the client device or the content server may also be involved in the performing of the operations in the method 600.

[0083] The method 600 starts at 602 and proceeds to 604. At 604, a content sample of a network content to be shared may be obtained. The network content may be received by the client device from the content server. The obtaining operation at 604 may be performed by the client device in a similar way as the extracting operation at 312 in FIGs.3A and 3B. Alternatively, the obtaining operation at 604 may comprise receiving the content sample by the content server from the client device, as indicated by the transferring at 316 in FIGs.3A and 3B.

[0084] At 606, a comment video corresponding to the network content may be obtained. The obtaining operation at 606 may comprise shooting the comment video by the client device, as indicated by the shooting operation at 314 in FIG.3A or 315 in FIG.3B. Alternatively, the obtaining operation at 606 may comprise receiving the comment video by the content server from the client device, as indicated by the transferring at 316 in FIGs.3A and 3B.

[0085] At 608, a remixing process may be performed on the content sample and the comment video based on object features of the comment video. The remixing process at 608 may be performed by the client device in a similar way as the operation of performing a remixing process as indicated at 314 in FIG.3A or at 317 in FIG.3B. Alternatively, the remixing process at 608 may be performed by the content server in a similar way as the operation of performing a remixing process at 320 in FIGs.3A and 3B.

[0086] Moreover, the method 600 may also include any of the operations by the

client device or the content server as described above in connection with FIGs.3A, 3B, 4A and 4B.

[0087] FIG.7 illustrates an exemplary apparatus 700 for sharing network content according to an embodiment of the present disclosure. In an implementation, the apparatus 700 may be configured for performing the operations of the method 600 in FIG.6.

[0088] The apparatus 700 may comprise a content sample obtaining module 702, a comment video obtaining module 704 and a remixing module 706. The content sample obtaining module 702 may be configured for obtaining a content sample of a network content to be shared. For example, the content sample obtaining module 702 may perform the operation 604 in the method 600. The comment video obtaining module 704 may be configured for obtaining a comment video corresponding to the network content. For example, the comment video obtaining module 704 may perform the operation 606 in the method 600. The remixing module 706 may be configured for performing a remixing process on the content sample and the comment video based on object features of the comment video. For example, the remixing module 706 may perform the operation 608 in the method 600. Moreover, the apparatus 700 may also comprise any other modules configured for performing any operations of the methods for sharing network content according to the embodiments of the present disclosure as mentioned above.

[0089] FIG.8 illustrates an exemplary system 800 for sharing network content according to an embodiment of the present disclosure.

[0090] The system 800 may comprise one or more processors 802. The system 800 may further comprise a memory 804 that is connected with the one or more processors 802. The memory 804 may store computer-executable instructions that, when executed, cause the one or more processors 802 to perform any operations of the methods for sharing network content according to the embodiments of the present disclosure as mentioned above.

[0091] The embodiments of the present disclosure may be embodied in a non-transitory computer-readable medium. The non-transitory computer-readable medium may comprise instructions that, when executed, cause one or more processors to perform any operations of the methods for sharing network content according to the embodiments of the present disclosure as mentioned above.

[0092] It should be appreciated that all the operations in the methods described above are merely exemplary, and the present disclosure is not limited to any operations in the methods or sequence orders of these operations, and should cover all other equivalents under the same or similar concepts.

[0093] It should also be appreciated that all the modules in the apparatuses described above may be implemented in various approaches. These modules may be implemented as hardware, software, or a combination thereof. Moreover, any of these modules may be further functionally divided into sub-modules or combined together.

[0094] Processors have been described in connection with various apparatuses and methods. These processors may be implemented using electronic hardware, computer software, or any combination thereof. Whether such processors are implemented as hardware or software will depend upon the particular application and overall design constraints imposed on the system. By way of example, a processor, any portion of a processor, or any combination of processors presented in the present disclosure may be implemented with a microprocessor, microcontroller, digital signal processor (DSP), a field-programmable gate array (FPGA), a programmable logic device (PLD), a state machine, gated logic, discrete hardware circuits, and other suitable processing components configured to perform the various functions described throughout the present disclosure. The functionality of a processor, any portion of a processor, or any combination of processors presented in the present disclosure may be implemented with software being executed by a microprocessor, microcontroller, DSP, or other suitable platform.

[0095] Software shall be construed broadly to mean instructions, instruction sets, code, code segments, program code, programs, subprograms, software modules, applications, software applications, software packages, routines, subroutines, objects, threads of execution, procedures, functions, etc. The software may reside on a computer-readable medium. A computer-readable medium may include, by way of example, memory such as a magnetic storage device (e.g., hard disk, floppy disk, magnetic strip), an optical disk, a smart card, a flash memory device, random access memory (RAM), read only memory (ROM), programmable ROM (PROM), erasable PROM (EPROM), electrically erasable PROM (EEPROM), a register, or a removable disk. Although memory is shown separate from the processors in the various aspects presented throughout the present disclosure, the memory may be internal to the

processors (e.g., cache or register).

[0096] The previous description is provided to enable any person skilled in the art to practice the various aspects described herein. Various modifications to these aspects will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other aspects. Thus, the claims are not intended to be limited to the aspects shown herein. All structural and functional equivalents to the elements of the various aspects described throughout the present disclosure that are known or later come to be known to those of ordinary skill in the art are expressly incorporated herein by reference and are intended to be encompassed by the claims.

WHAT IS CLAIMED IS:

1. A method for sharing network content, comprising:
obtaining a content sample of a network content to be shared;
obtaining a comment video corresponding to the network content; and
performing a remixing process on the content sample and the comment video based on object features of the comment video.
2. The method of claim 1, wherein the content sample is a thumbnail or a video segment of the network content.
3. The method of claim 1, wherein the object features comprise at least one of object position, object size, object contour and object orientation.
4. The method of claim 1, wherein the obtaining the content sample comprises:
extracting the content sample from the network content.
5. The method of claim 4, wherein the obtaining the comment video comprises:
shooting the comment video that contains comments on the network content.
6. The method of claim 5, wherein the remixing process is performed during shooting the comment video or after shooting the comment video.
7. The method of claim 4, wherein the performing the remixing process comprises:
detecting the object features from the comment video;
determining, based on the object features, a region of the comment video for placing the content sample; and
overlaying the content sample in the region of the comment video to obtain a first video.
8. The method of claim 7, further comprising:
sending information about the region of the comment video to a content server

providing the network content.

9. The method of claim 7, further comprising:

presenting a preview of the first video.

10. The method of claim 9, further comprising:

during or before presenting the preview, sending the content sample and the comment video to a content server providing the network content.

11. The method of claim 4, further comprising:

during or before performing the remixing process, sending the content sample and the comment video to a content server providing the network content.

12. The method of claim 1, wherein the obtaining the content sample comprises:

receiving the content sample of the network content from a client device.

13. The method of claim 12, wherein the obtaining the comment video comprises:

receiving the comment video that contains comments on the network content from the client device.

14. The method of claim 12, wherein the performing the remixing process comprises:

detecting the object features from the comment video;

determining, based on the object features, a region of the comment video for placing the content sample;

overlaying the content sample in the region of the comment video to obtain a first video; and

concatenating the first video with the network content to obtain a shared video.

15. The method of claim 12, further comprising:

receiving information about a region of the comment video for placing the

content sample from the client device, and

wherein the performing the remixing process comprises:

overlaying the content sample in the region of the comment video to obtain a first video; and

concatenating the first video with the network content to obtain a shared video.

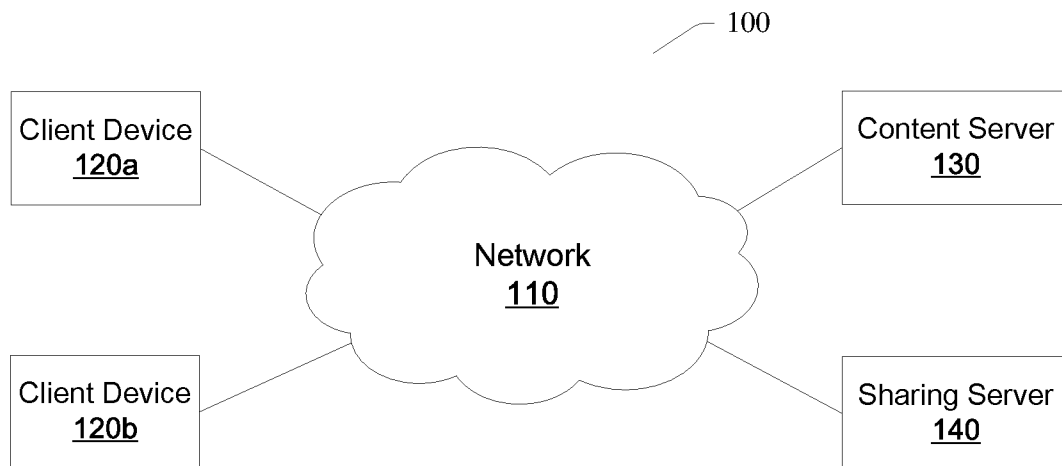
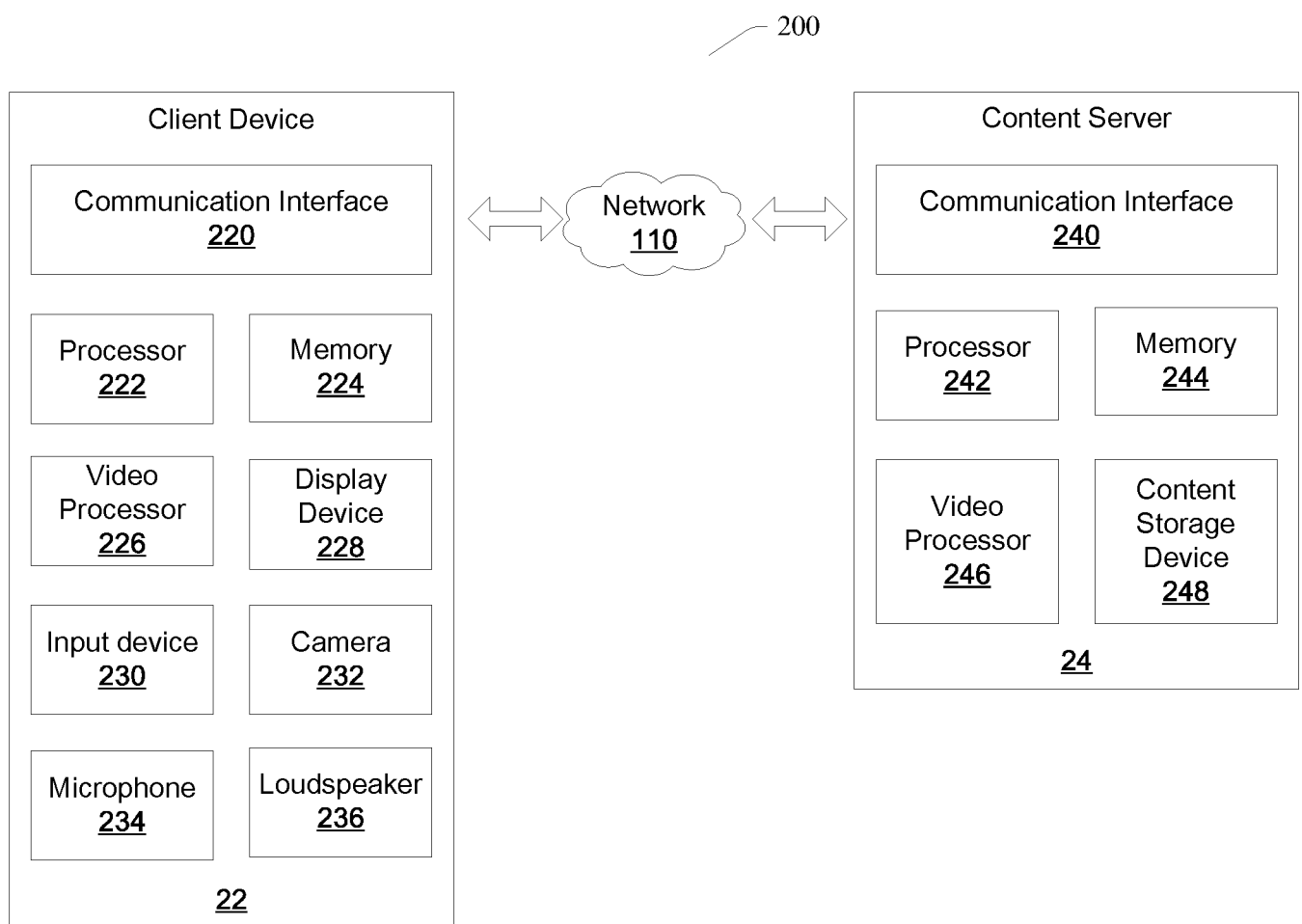
16. The method of claim 14 or 15, wherein the concatenating comprises:
applying a transition effect between the first video and the network content.

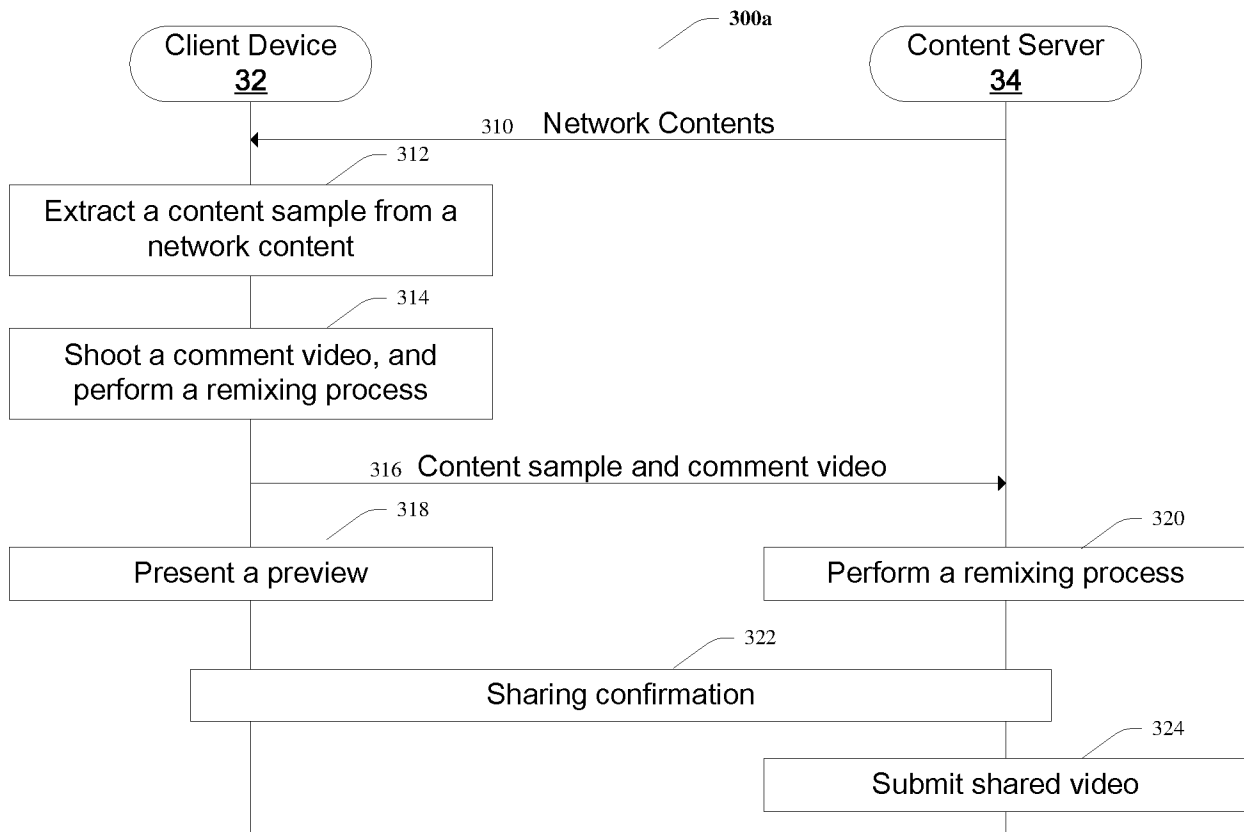
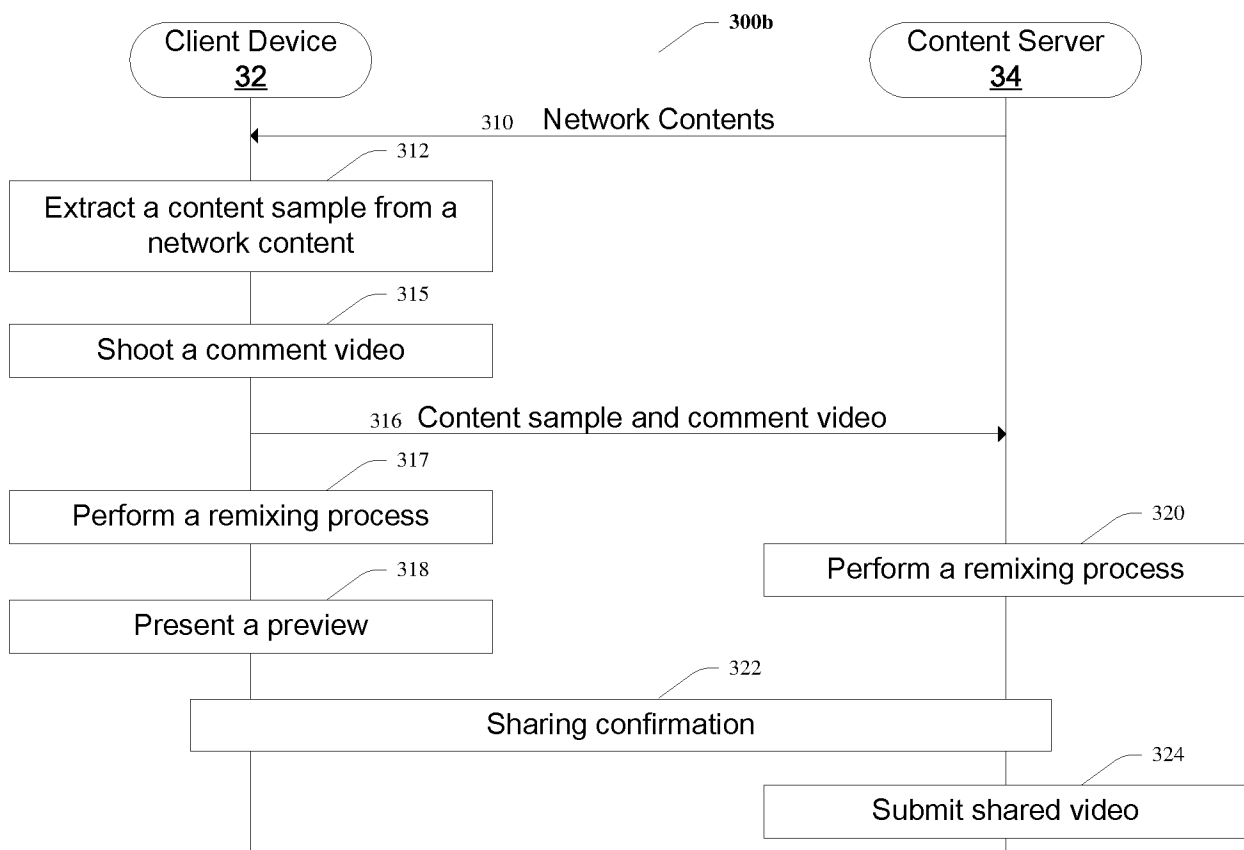
17. The method of claim 14 or 15, further comprising:
receiving a sharing confirmation from the client device; and
submitting the shared video to a sharing server.

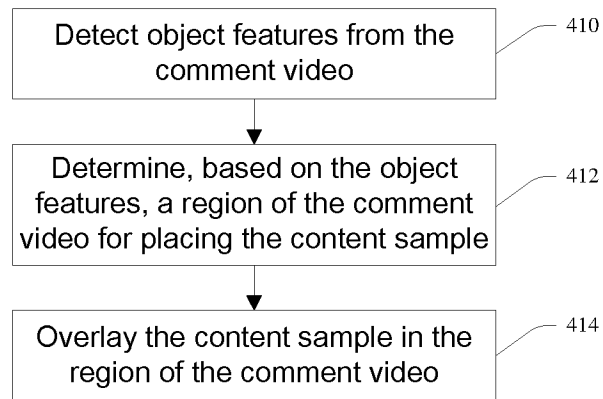
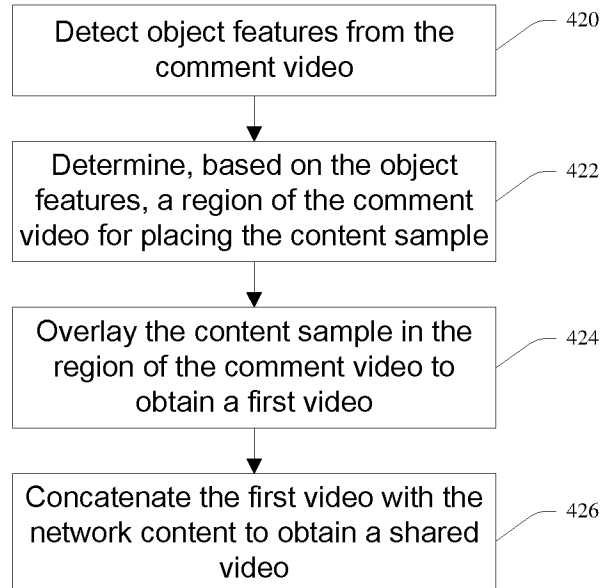
18. The method of claim 1, wherein the remixing process is performed dynamically.

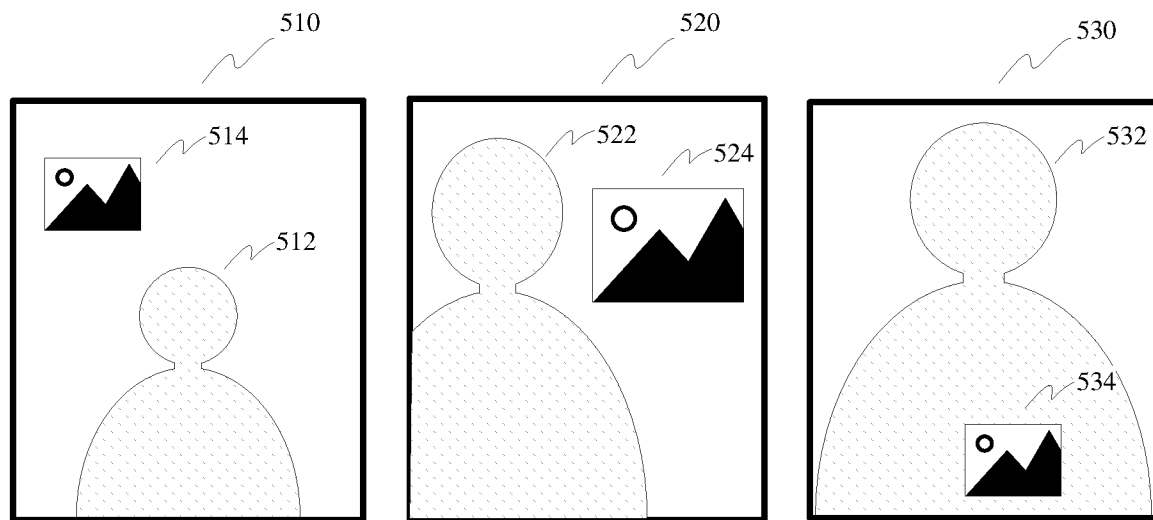
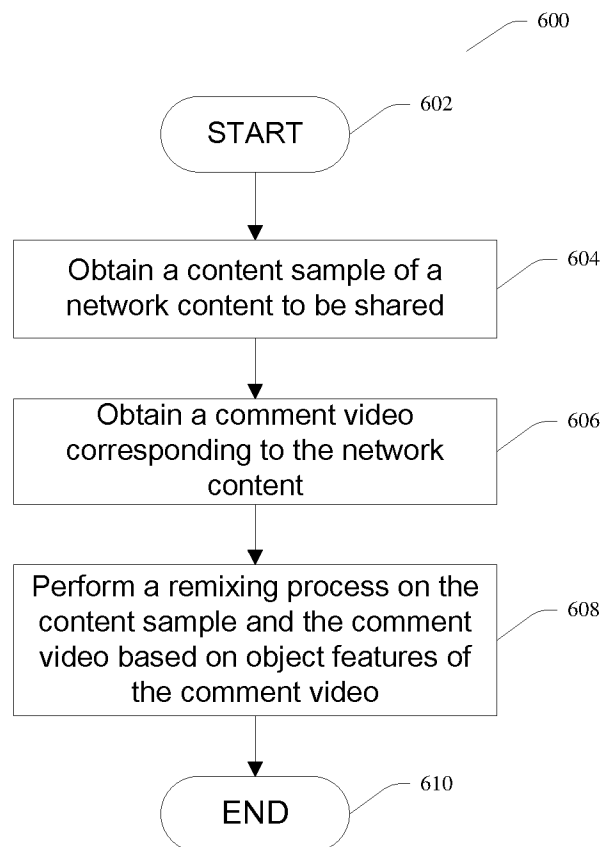
19. An apparatus for sharing network content, comprising:
a content sample obtaining module, for obtaining a content sample of a network content to be shared;
a comment video obtaining module, for obtaining a comment video corresponding to the network content; and
a remixing module, for performing a remixing process on the content sample and the comment video based on object features of the comment video.

20. A system for sharing network content, comprising:
one or more processors; and
a memory, storing computer-executable instructions that, when executed, cause the one or more processors to perform the method according to claims 1-18.

**FIG. 1****FIG. 2**

**FIG.3A****FIG.3B**

**FIG. 4A****FIG. 4B**

**FIG. 5****FIG. 6**

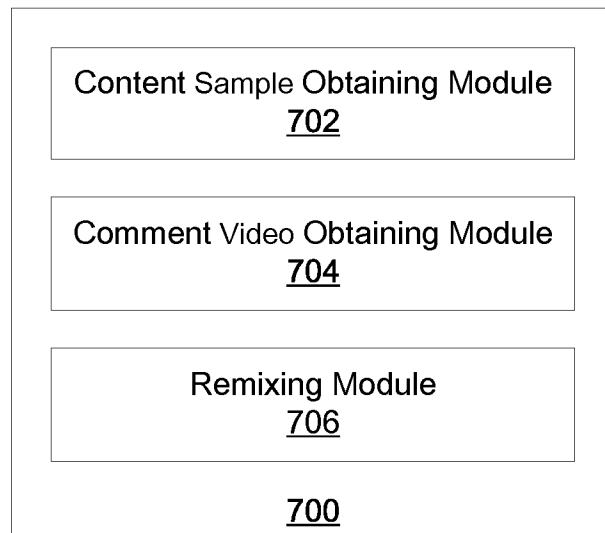


FIG. 7

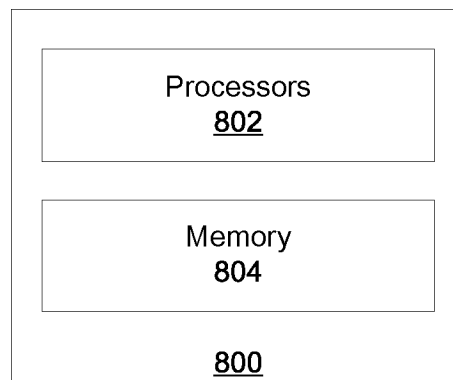


FIG. 8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2016/102250

A. CLASSIFICATION OF SUBJECT MATTER

H04L 29/06(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04W; H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNABS, CNTXT, CNKI, VEN: share, content, video, thumbnail, network, clip, sample, feature, shoot, remix

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 103747362 A (GUANGZHOU HUADUO NETWORK TECHNOLOGY CO., LTD.) 23 April 2014 (2014-04-23) description paragraphs [0071] to [0129]	1-20
A	CN 103686396 A (LETV ZHIXIN ELECTRONICS TECHNOLOGY TIANJIN CO., LTD.) 26 March 2014 (2014-03-26) the whole document	1-20
A	WO 2014064321 A1 (NOKIA CORP) 01 May 2014 (2014-05-01) the whole document	1-20

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

Date of the actual completion of the international search

16 June 2017

Date of mailing of the international search report

10 July 2017

Name and mailing address of the ISA/CN

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2016/102250

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
CN	103747362	A	23 April 2014	CN	103747362	B	08 February 2017
CN	103686396	A	26 March 2014	CN	103686396	B	22 February 2017
WO	2014064321	A1	01 May 2014	US	2015208000	A1	23 July 2015