CLAIMS

1. A picture annotation method, comprising:

converting, into a video image, multiple pictures in a ~~received~~ set of pictures to be annotated ~~into a video image~~;

performing video annotation on the video image to obtain an annotation result of the video image; and

using the annotation result of the video image as an annotation result of each picture in the set of pictures to be annotated according to a correspondence between a video frame in the video image and a picture in the set of pictures to be annotated,

wherein the using the annotation result of the video image comprises:

splitting the video image into multiple frames corresponding to the set of pictures, after the video annotation is performed on the video image;

acquiring an annotation result of a video frame corresponding to each picture from the annotation result of the video image according to a correspondence between a video frame in the split video image and each picture in the set of pictures to be annotated; and

associating the annotation result of the video frame corresponding to each picture with the corresponding picture.

2. The method of claim 1, wherein the performing video annotation on the video image comprises:

acquiring an annotation sample video frame in the video image; and,

using the annotation sample video frame as a video annotation sample to, ~~and~~ perform~~ing~~ video annotation on another video frame in the video image, to obtain the annotation result of the video image.

3. The method of claim 2, wherein the acquiring thean annotation sample video frame in the video image comprises:

acquiring an annotation sample picture in the set of pictures to be annotated; and

acquiring a video frame corresponding to the annotation sample picture in the video image and regarding it as the annotation sample video frame.

4. The method of claim 2, wherein the acquiring thean annotation sample video frame in the video image comprises:

after converting the pictures in the set of pictures to be annotated into the video image, receiving a video annotation request, and annotating a specified video frame in the video image; and

acquiring the annotated specified video frame and regarding it as the annotation sample video frame.

5. The method of claim 2, wherein the using the annotation sample video frame as thea video annotation sample to, and performing video annotation on another video frame in the video image comprises:

acquiring an annotation object in the annotation sample video frame, and using the annotation object as a tracking target; and

according to the tracking target, acquiring the tracking target from another video frame in the video image, and generatingestablishing an annotation at a location of the tracking target.

6. The method of claim 2, wherein the using the annotation sample video frame as thea video annotation sample to, and performing video annotation on another video frame in the video image comprises:

annotating an adjacent video frame of the annotation sample video frame by using an optical flow method; and

, using the annotated video frame as a new annotation sample video frame to, and annotateing an adjacent video frame of the new annotation sample video frame, until annotation ofto the video image is completed.

~~7. The method of claim 1, wherein the using the annotation result as an annotation result of each picture in the set of pictures to be annotated according to a correspondence between a video frame in the video image and a picture in the set of pictures to be annotated comprises:~~

~~splitting the annotated video image;~~

~~acquiring an annotation result of a video frame corresponding to each picture from the annotation result of the video image according to a correspondence between a video frame in the split video image and each picture in the set of pictures to be annotated; and~~

~~associating the annotation result of the video frame corresponding to each picture with the corresponding picture.~~

78. The method of claim 1, wherein before converting multiple pictures in thea ~~received~~ set of pictures to be annotated into thea video image, the method further comprises:

receiving a set of pictures to be processed, wherein the set of pictures to be processed comprises at least one group of multiple pictures obtained by continuous photographing; and

receiving a picture annotation request, wherein the picture annotation request comprises the set of pictures to be annotated, and the set of pictures to be annotated is a group of continuously photographed multiple pictures in the set of pictures to be processed.

89. The method of claim 17, wherein before converting multiple pictures in thea ~~received~~ set of pictures to be annotated into thea video image, the method further comprises:

determining whether the multiple pictures in the set of pictures to be annotated are a group of continuously photographed pictures, and if so, converting the multiple pictures in the set of pictures to be annotated into thea video image.

910. The method of claim 11, wherein after the associating the annotation result with the corresponding picture, the method further comprises:

saving each annotation result and an association between the annotation result and a picture; and

when an annotated picture display request is received, acquiring a standard result corresponding to a picture in the annotated picture display request according to the association between the picture and the annotation result, and displaying the annotation result at a corresponding location of the corresponding picture.

10. A picture annotation device, comprising:

a processor; and

a memory storing instructions executable by the processor,

wherein the processor is configured to:

convert, into a video image, multiple pictures in a set of pictures to be annotated;

perform video annotation on the video image to obtain an annotation result of the video image; and

use the annotation result of the video image as an annotation result of each picture in the set of pictures to be annotated according to a correspondence between a video frame in the video image and a picture in the set of pictures to be annotated,

wherein, in using the annotation result of the video image, the processor is further configured to:

split the video image into multiple frames corresponding to the set of pictures, after the video annotation is performed on the video image;

acquire an annotation result of a video frame corresponding to each picture from the annotation result of the video image according to a correspondence between a video frame in the split video image and each picture in the set of pictures to be annotated; and

associate the annotation result of the video frame corresponding to each picture with the corresponding picture.

11. The device of claim 10, wherein the processor is further configured to:

acquire an annotation sample video frame in the video image; and

use the annotation sample video frame as a video annotation sample to perform video annotation on another video frame in the video image, to obtain the annotation result of the video image.

12. The device of claim 11, wherein the processor is further configured to:

acquire an annotation sample picture in the set of pictures to be annotated; and

acquire a video frame corresponding to the annotation sample picture in the video image as the annotation sample video frame.

13. The device of claim 11, wherein the processor is further configured to:

after converting the pictures in the set of pictures to be annotated into the video image, receive a video annotation request, and annotate a specified video frame in the video image; and

acquire the annotated specified video frame as the annotation sample video frame.

14. The device of claim 11, wherein the processor is further configured to:

acquire an annotation object in the annotation sample video frame as a tracking target; and

acquire the tracking target from another video frame in the video image, and generate an annotation at a location of the tracking target.

15. The device of claim 11, wherein the processor is further configured to:

annotate an adjacent video frame of the annotation sample video frame by using an optical flow method; and

use the annotated video frame as a new annotation sample video frame to annotate an adjacent video frame of the new annotation sample video frame, until annotation of the video image is completed.

16. The device of claim 10, wherein before converting multiple pictures in the set of pictures to be annotated into the video image, the processor is further configured to:

receive a set of pictures to be processed, wherein the set of pictures to be processed comprises at least one group of multiple pictures obtained by continuous photographing; and

receive a picture annotation request, wherein the picture annotation request comprises the set of pictures to be annotated, and the set of pictures to be annotated is a group of continuously photographed multiple pictures in the set of pictures to be processed.

17. The device of claim 10, wherein before converting multiple pictures in the set of pictures to be annotated into the video image, the processor is further configured to:

determine whether the multiple pictures in the set of pictures to be annotated are a group of continuously photographed pictures, and if so, convert the multiple pictures in the set of pictures to be annotated into the video image.

18. A non-transitory computer-readable storage medium having stored therein instructions that, when executed by a processor of a device, cause the device to perform a picture annotation method, the method comprising:

converting, into a video image, multiple pictures in a set of pictures to be annotated;

performing video annotation on the video image to obtain an annotation result of the video image; and

using the annotation result of the video image as an annotation result of each picture in the set of pictures to be annotated according to a correspondence between a video frame in the video image and a picture in the set of pictures to be annotated,

wherein the using the annotation result of the video image comprises:

splitting the video image into multiple frames corresponding to the set of pictures, after the video annotation is performed on the video image;

acquiring an annotation result of a video frame corresponding to each picture from the annotation result of the video image according to a correspondence between a video frame in the split video image and each picture in the set of pictures to be annotated; and

associating the annotation result of the video frame corresponding to each picture with the corresponding picture.

~~11. A picture annotation apparatus, comprising:~~

~~a video conversion module configured to convert multiple pictures in a received set of pictures to be annotated into a video image;~~

~~a video annotation module configured to perform video annotation on the video image to obtain an annotation result; and~~

~~an annotation association module configured to use the annotation result as an annotation result of each picture in the set of pictures to be annotated according to a correspondence between a video frame in the video image and a picture in the set of pictures to be annotated.~~

~~12. The apparatus of claim 11, wherein the video annotation module is specifically configured to:~~

~~acquire an annotation sample video frame in the video image, use the annotation sample video frame as a video annotation sample, and perform video annotation on another video frame in the video image to obtain the annotation result.~~

~~13. The apparatus of claim 12, wherein the video annotation module is specifically configured to:~~

~~acquire an annotation sample picture in the set of pictures to be annotated; and~~

~~acquire a video frame corresponding to the annotation sample picture in the video image and regard it as the annotation sample video frame.~~

~~14. The apparatus of claim 12, wherein the video annotation module is specifically configured to:~~

~~after the video conversion module converts the pictures in the set of pictures to be annotated into the video image, receive a video annotation request, and annotate a specified video frame in the video image; and~~

~~acquire the annotated specified video frame and regard it as the annotation sample video frame.~~

~~15. The apparatus of claim 12, wherein the video annotation module is specifically configured to:~~

~~acquire an annotation object in the annotation sample video frame, and use the annotation object as a tracking target; and~~

~~according to the tracking target, acquire the tracking target from another video frame in the video image, and establish an annotation at a location of the tracking target.~~

~~16. The apparatus of claim 12, wherein the video annotation module is specifically configured to:~~

annotate an adjacent video frame of the annotation sample video frame by using an optical flow method, use the annotated video frame as a new annotation sample video frame, and annotate an adjacent video frame of the new annotation sample video frame until annotation to the video image is completed.

17. The apparatus of claim 11, wherein the apparatus further comprises a picture receiving module configured to:

receive a set of pictures to be processed, wherein the set of pictures to be processed comprises at least one group of multiple pictures obtained by continuous photographing; and

receive a picture annotation request, wherein the picture annotation request comprises the set of pictures to be annotated, and the set of pictures to be annotated is a group of continuously photographed multiple pictures in the set of pictures to be processed.

18. The apparatus of claim 17, wherein the video conversion module is further configured to:

determine whether the multiple pictures in the set of pictures to be annotated are a group of continuously photographed pictures, and if so, convert the multiple pictures in the set of pictures to be annotated into a video image.

19. A picture annotation data processing device, comprising at least one processor and a memory for storing processor-executable instructions which, when executed by the processor, implement the method of any one of claims 1 to 10.

20. A picture annotation system, comprising at least one processor and a memory for storing processor-executable instructions which, when executed by the processor, implement the method of any one of claims 1 to 10, and return an annotation result to a user terminal.