

JPH0993527A VIDEO INDEX GENERATOR

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VIDEO INDEX GENERATOR

Abstract

PROBLEM TO BE SOLVED: To generate a video index by properly selecting again a representative image fetched at detection of a scene change. SOLUTION: At first, an input video image is stored in a video storage section 107, a scene change detection section 101 detects a scene change and fetches a representative image from an input video image at the detection and it is stored in a representative image storage section 104. Then a control section 111 gives an instruction to a video image reproduction section 108 and a video image before and after the scene change designated from the video storage section 107 is reproduced. The image with the highest value is selected among the reproduced video images by the operation and its still image is replaced and fetched from the image reception section 110 and the image is replaced with the representative image in the representative image storage section 104. A video index generating section 105 generates a video index from the replaced representative image group and a video index such as a video list is printed out by an index print section 113.

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[0001] TECHNICAL FIELD [0001] The present invention is, when the still image captured a scene change in the video as a clue to the representative image, separately from the video, was re-select a still image of any frame taken as a representative image above, it is related to the video indexing apparatus to realize the environment that you can create a video index consisting of a representative image re-select, video index system work, the video library industry, the video CD-ROM manufacturing, video production industry, electronic publishing work, such as those that may be utilized favorably in a wide range of industrial fields related to the service using the production and video index of the video index.

[0002] In a conventional video indexing apparatus, to clue the so-called scene change is a part of the video changes with time rapidly, adopted a still image of one frame taken at the time of the scene change detection as it is as a representative image ing. Skill to use the video index represented by a video library industry, its video assets and products, for the purpose of widely advertised to the customer, using the video index that appears in the printed display as a hard copy, video list We are considering an attempt to distribute as.

[0003] [SUMMARY OF THE INVENTION Incidentally, the representative image to be printed or displayed on the video list is not necessarily a picture at a scene change detection, an image rather representative of the entire cut or, in the scene the most high-value image in the middle, that is, beautiful, or powerful, or it is effective is an image of such precious moments.

[0004] However, the conventional index that is created by the video indexing apparatus is an image at the time of scene change detection, not necessarily a fact not in the image of high best value in a series of scene major problem It was.

[0005] The present invention is intended to solve the problems of the prior art, after re-select an arbitrary static image suitable frames captured from the image as a representative image, a high value was re-select a representative it is an object to provide a video index apparatus for realizing the environment to create a video index that consists of images.

[0006] To achieve the above object, according to an aspect of, the present invention, the video index of making video index the video containing scene change where a portion where the video changes with time rapidly in making apparatus, and means for displaying and means for detecting a scene change, said means for capturing a still image of one or more frames in the time of detection of a scene change, one or more frames of the still image captured Examples representative image, the scene and means for reproducing the before and after images of the change, and means for capturing a still image of one frame in the image obtained by the reproduction, and means for replacing a still image of one frame taken as one frame of the representative image, the using a video indexing system which is characterized in that.

[0007] In video indexing device described above, selection operation of a still image of one frame in of the video and displays an image means for reproducing video reproduced together to allow for the selection operation of the scene by the displayed representative image comprising means for enabling the means for reproducing the video plays before and after images of the representative image belongs scene change representing the selected scene means for enabling said selection operation, and the reproduced video It means for capturing a still image of one frame in the can, to the capture a still image of one frame selected by the means for enabling said selection operation is suitable in terms of improving the operability.

[0008] Also, in the video indexing apparatus having the above, it means to play before and after the image of the scene change, and control means for providing an input image from the outside on the basis of the time information at the time of detection of a scene change of the designation of a scene change it is to play before and after the image, which is advantageous for simplifying the configuration of the device.

[0009] In the present invention, to play the video of the scene change before and after its most valuable more than one frame of a still image from the video playback and can be selected, where the selected capture a still

image of one frame or more representative image by replacing, realizes change function of the representative image, to be able to create a video index of the video list or the like to be the most valuable image selected from among the scenes.

**[0010]** The following [the embodiment of the present invention, for example of the embodiment of the present invention will be described in detail with reference to the accompanying drawings.

**[0011]** 1 shows a configuration of an embodiment of the present invention in block diagram. Embodiment of the present embodiment, consists of the following sections.

**[0012]** (1) The scene change detector scene change detection unit 101, the input video signal and the time code is input from the outside. In the scene change detecting unit 101 constantly monitors a scene change where the input image is a temporally rapidly changing part, upon detecting a scene change, and outputs a detection signal to the representative image capturing unit 103, the time code information of that time, and outputs it to the scene change information storage unit 102. Methods for detecting scene changes, for example, (in the case of color image R, G, each of the luminance B) luminance between successive frames to or in close proximity determined by the statistical processing changes in, there is a value threshold examples such as the scene change has occurred is larger than is known. Therefore, the scene change detection unit 101 is provided with a means for storing one or more frames of the video relative to the input image.

**[0013]** (2) In the scene change information storage unit scene change information storage unit 102, and stores the time code information from the scene change detection unit 101. Further, it outputs the time code information stored in the control unit 111.

**[0014]** (3) In the representative image capturing portion representing the image capturing unit 103, the scene change detection signal from the scene change detection unit 101 is input from the input video signal, for example, even if one frame (one frame or more after representative images of matter not) uptake, the representative image data received, and outputs the representative image storing section 104.

**[0015]** (4) In the representative image storing section representative image storing section 104, when the stores the representative image data from the representative image capturing unit 103, the image data replacement of replacing the image capturing unit 110 is sent, replaced the store replaces the representative image data in the image data. Further, the stored representative image group, and outputs it to the video index generator 105.

**[0016]** (5) In the video index generator video index generator 105, according to video index generation command from the control unit 111 generates a video index composed of representative image group stored in the representative image storing section 104, the display unit 109 as well as output to the index printing section 113.

**[0017]** (6) In the image capturing unit image capturing unit 106, it captures the input video signal, and outputs the video data to the video storage unit 107.

**[0018]** (7) In the video storage unit image storage unit 107, and stores the image data from the image capturing section 106. Further, the image data stored, and outputs it to the video reproduction unit 108.

**[0019]** (8) The video playback unit video reproduction unit 108, in accordance with video playback command from the control unit 111, and reproduces the video information stored in the image storage unit 107, and sends to the display unit 109 and replace the image capturing unit 110.

**[0020]** (9) In the display unit display unit 109, the reproduction image from the video reproduction unit 108, video index generated by the video index generator 105, and displays an operation panel and button information or the like from the control unit 111.

**[0021]** (10) In the replaced image capturing section replaced by the image capture unit 110, from among the playback video to be displayed by the video playback operation, it captures the image replaced in accordance with the image capture instruction replaced from the control section 111, to the representative image storage unit 104 by performing the replacement of the corresponding representative image, and outputs the new representative images that have been replaced.

**[0022]** (11) In the control unit the control unit 111, in accordance with the operation information from the operation input unit 112, and sends the scene change information stored in the video reproduction command and a scene change storage unit 102 to the video reproduction unit 108, replaces the image capturing unit to 110 representative image replaced sends a command, further, send the video index generation instruction to the video index generating unit 105. Further, the display unit 109 outputs information such as an operation panel and buttons required for operation.

**[0023]** (12) In the operation input unit operating the input unit 112, an input device such as a mouse or keyboard to input operation information to the control unit 111.

**[0024]** (13) In the index printing section index printing unit 113 prints an image index generated by the video index generator 105.

**[0025]** Hereinafter, an example of a video indexing operation will be described using an example of a video indexing operation screen of FIG.

**[0026]** 2, the screen 201 of the display, playback image display window 202, the video index display window 203, the operation panel 204, and the image selection button 205 replaced is displayed. In this example, the button seven that are displayed on the operation panel 204, from the left, fast reverse, reverse reproduction, feed reverse frame, stop, forward frame advance forward reproduction, the fast forward, It represents respectively.

**[0027]** First of all, from the video index display window 203, a representative image that you want to change, selected using a mouse or the like. This operation is performed playback preparation of the image stored in the image storage unit 107, the reproduction in the video display window 202, ready display of the frame images corresponding to the representative image selected is made.

**[0028]** Then, when the operator performs an operation such as reproduction by selecting each button with the mouse or the like of the operation panel 204, a video playback command and the scene change information stored in the scene-change storage unit 102 the video reproduced from the control unit 111 part 108 is sent f, the video reproduction unit 108 reproduces the front and rear images of the scene change which is representative image selected belongs from the video storage unit 107. Each frame image of the reproduced video is displayed on the reproduced image display window 202 on the display screen 201 of the display unit 109.

**[0029]** Then, the operator searches for optimum image as a representative image from among the regenerated displayed frame image. By operating the operation panel 204, from the image, and stops in a state in which an optimum image as a representative image displayed on the reproduced image display window 202. The operator, after confirming that the image displayed on the reproduced image display window 202 is suitable as a representative image, and selects the image selection button 205 replaced by a mouse or the like. This operation, image capture command replaces the image capturing unit 110 displaced from the control unit 111 is sent, images captured by the instruction is replaced with the representative image, and stored again in the representative image storing section 104. At the same time, video index generation instruction to the video index generator 105 is sent, correction of the video index is performed.

**[0030]** The above is the description of the present embodiment. Note that in the embodiment of the present embodiment, a representative image, an example of replacing a still image of one frame captured is also conceivable to replace one of the two or more still images in the scene. This replaces the still image so as to perform the execution replacement did on select multiple, it can be realized by changing the operation procedures.

**[0031]** Further, in the embodiment of the present embodiment, temporarily storing the image, an example is shown for generating the index while again play the stored video, the video is not necessarily accumulated in the apparatus, the representative image the on the basis of the corresponding time code to control the video deck, etc. to provide the input image, it is also possible to carry out the index generation.

**[0032]** As it is clear from the description above, according to the present invention, according to the present invention, a representative image captured by the detection of the scene change, and reproduces the scene change before and after the image of the specified scene appropriate image from among the since as replaced by selecting the customer from among the video assets such as video library, an effect that facilitates the work of selecting the desired video and scene can be expected.

**[0033]** Brief description of the drawings

**[0034]** Is a block diagram illustrating an embodiment of an embodiment of a video indexing apparatus according to FIG 1 the present invention.

**[0035]** Is a diagram illustrating an example of an operation screen of the video indexing apparatus according to embodiment of FIG. 2 described above.

**[0036]** Description of the code

**[0037]** 101 ... scene change detection unit 102 ... scene change information storage unit 103 ... representative image capturing section 104 ... representative image storing section 105 ... the video index generating unit 106 ... image capturing section 107 ... the video storage section 108 ... the video playback unit 109 ... display unit 110 ... replaced by an image capture unit 111 ... control section 112 ... the operation input section 113 ... the index printing section 201 ... display screen 202 ... Played a video display window 203 ... video index display window 204 ... operation panel 205 ... replaced by the image selection button

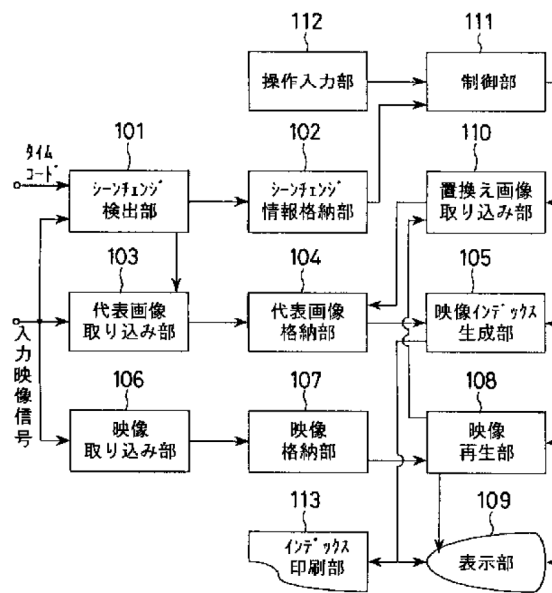
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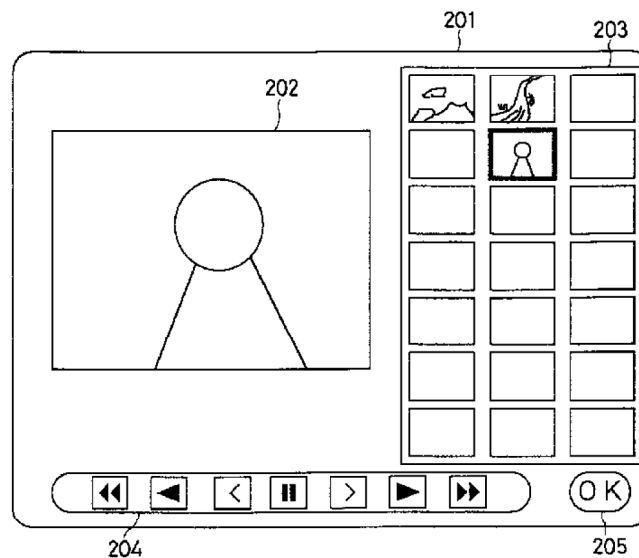
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1. 1 frame in the video indexing apparatus of making video index the video containing scene change where image is a portion that changes temporally rapidly, means for detecting a scene change, upon detection of the scene change means for capturing or more still images, means for displaying one or more frames of the still image captured Examples representative image, and means for reproducing the before and after images of the scene change, the one frame in the image obtained by the reproduction It means for capturing a still image, video indexing apparatus according to claim a static image of the one frame captured by; and a means for replacing one frame of the representative image.
2. Comprising means for enabling operation of selecting a still image of one frame in of the video by the displayed representative image by displaying an image in which the means for reproducing video reproduced together to allow for the selection operation of the scene, means for reproducing said image, the reproduced before and after the image of the representative image belongs scene change representative of the selected means for enabling selection operation scene, a still image of one frame in the image obtained by the reproduction capturing means, according to claim 1 video indexing device, wherein the capturing still image of one frame selected by the means for enabling said selection operation.
3. It means for reproducing the front and back of the video of the scene change, and characterized in that by controlling the means for providing an input image from the outside to play before and after the image of the specified scene change based on the time information at the time of detection of a scene change video indexing apparatus according to claim 1 or claim 2 wherein the.

【図1】



【図2】



フロントページの続き

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