

JP2003257161A INFORMATION EDITING DEVICE, INFORMATION EDITING METHOD, PROGRAM FOR EDITING INFORMATION, AND INFORMATION RECORDING MEDIUM

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INFORMATION EDITING DEVICE, INFORMATION EDITING METHOD, PROGRAM FOR EDITING INFORMATION, AND INFORMATION RECORDING MEDIUM

Abstract

PROBLEM TO BE SOLVED: To provide an information editing device capable of preventing a thumbnail image indicating the contents of recording information recorded in an information recording medium from being accidentally changed by an erroneous operation by a user or the like. SOLUTION: The information editing device is provided with a decision means 8 for deciding the permission of the change of the thumbnail image on the basis of change permission information indicating permission of the change of the thumbnail image indicating the contents of the recording information recorded in the recording medium 1. When it is decided that the change is not allowed by the decision means 8, the change of the thumbnail image is inhibited. COPYRIGHT: (C)2003,JPO

Description (PatentsApplication2002-107158)

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[Document Name]Description

[Title of the invention]Information editing apparatus, information editing method, an information editing program, and information recording medium

[Claim(s)]

[Claim 1]An information editing apparatus for editing a reproduction mode of recording information including at least image information and recorded on a recording medium, the information editing apparatus comprising: a determination unit configured to determine whether or not a thumbnail image indicating content of the recording information recorded on the recording medium can be changed based on change propriety information indicating whether or not the thumbnail image can be changed Prohibit a change of the thumbnail image when the determination unit determines that the change is not allowed.

[Claim 2]The information editing apparatus according to claim 1, further comprising: a generation circuit that generates a display signal for displaying a warning indicating that the thumbnail image cannot be changed when the determination unit determines that the thumbnail image cannot be changed.

[Claim 3]The information editing apparatus according to claim 1, further comprising a changing unit configured to change the thumbnail image when the determining unit determines that the thumbnail image can be changed.

[Claim 4]An information editing method for editing a reproduction mode of recording information including at least image information and recorded on a recording medium, the information editing method comprising: a determination step of determining whether or not a thumbnail image indicating

content of the recording information recorded on the recording medium can be changed based on change propriety information indicating whether or not the thumbnail image can be changed Prohibiting the change of the thumbnail image when it is determined in the determining step that the change is not allowed.

[Claim 5]The information editing method according to claim 4, further comprising: a generation step of generating a display signal for displaying a warning that the thumbnail image cannot be changed when the determination unit determines that the thumbnail image cannot be changed.

[Claim 6]The information editing method according to claim 4, further comprising: a changing step of changing the thumbnail image when the determining unit determines that the thumbnail image can be changed.

[Claim 7]A program for causing a computer included in an information editing apparatus that edits a reproduction mode of recorded information recorded on a recording medium including at least image information to function as: A determination unit configured to determine whether or not a thumbnail image indicating content of recording information recorded in the recording medium can be changed based on change propriety information indicating whether or not the thumbnail image can be changed Wherein the information editing program causes the computer functioning as the determination unit to prohibit the change of the thumbnail image when it is determined by the determination unit that the change is not allowed.

[Claim 8]The information editing program according to claim 7, wherein the information editing program causes the computer to function as generating means for generating a display signal for displaying a warning that the thumbnail image cannot be changed when the determining means determines that the thumbnail image cannot be changed.

[Claim 9]The information editing program according to claim 7, further causing the computer to function as changing means for changing the thumbnail image when the determining means determines that the thumbnail image can be changed.

[Claim 10]An information recording medium on which the information editing program according to any one of claims 7 to 9 is recorded.

[Detailed description of the invention]

[0001]

[Technical field to which the invention belongs]The present invention relates to a technical field of an

information editing apparatus, an information editing method, an information editing program, and an information recording medium, and more particularly, to a technical field of an information editing apparatus, an information editing method, an information editing program, and an information recording medium for editing a reproduction mode of recorded information recorded on a recording medium including at least image information.

[0002]

[Prior art]A conventional information editing apparatus of this type is disclosed in Japanese Patent Laid-Open No. 353375 / 2000. The information editing device for editing a reproduction mode of recording information including one or more images and recorded on an optical disk selects a part which is a part of the recording information and includes one or more images from the recording information. A reproduction timing of a selected part is designated, an image included in the part is extracted as a representative image indicating the part, and the designated reproduction timing and the extracted representative image are recorded on an optical disk as a play list separately from recording information.

[0003]That is, in the format of the conventional information editing apparatus, information indicating a reproduction position of recording information is recorded on an optical disc as a recording medium, and a thumbnail image indicating the content of the recording information (hereinafter, also referred to as content) recorded on the optical disc is generated from the recording information.

[0004]

[Problem to be solved by the invention]However, in the above-described conventional information editing apparatus, in the method of designating the thumbnail image of the content recorded on the optical disc, although the thumbnail image can be reset, means for clearly indicating that the thumbnail image cannot be reset is not provided. Therefore, in the conventional information editing apparatus, there is a possibility that the thumbnail image set by the user or the content holder is inadvertently changed by an erroneous operation or the like of the user.

[0005]The present invention has been made in view of the above circumstances, and it is an object of the present invention to provide an information editing apparatus, an information editing method, an information editing program, and an information recording medium capable of preventing a thumbnail image indicating the content of recorded information from being inadvertently changed.

[0006]

[Means for solving the problem]According to an aspect of the present invention, there is provided an information editing apparatus for editing a reproduction mode of recorded information including at least

image information and recorded on a recording medium, the information editing apparatus comprising: The information recording and reproducing device is provided with a judging means for judging the propriety of the change of the thumbnail image on the basis of change propriety information showing the propriety of the change of the thumbnail image showing the contents of recording information recorded in the recording medium, and the change of the thumbnail image is prohibited when the change is judged to be impossible by the judging means.

[0007]With this configuration, by prohibiting the change of the thumbnail image when it is determined by the determination unit that the change is not possible based on the change possibility information indicating whether or not the change of the thumbnail image is possible, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0008]According to a second aspect of the present invention, in the information editing apparatus according to the first aspect, the information editing apparatus further includes a generation circuit that generates a display signal for displaying a warning that the thumbnail image cannot be changed when the determination unit determines that the thumbnail image cannot be changed.

[0009]With this configuration, in the second aspect of the present invention, when it is determined by the determination unit that the thumbnail image cannot be changed, a warning indicating that the thumbnail image cannot be changed is displayed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[0010]According to a third aspect of the present invention, in the information editing apparatus according to the first aspect, the information editing apparatus further includes a changing unit for changing the thumbnail image when the determining unit determines that the thumbnail image can be changed.

[0011]With this configuration, in the third aspect of the present invention, by changing the thumbnail image when it is determined by the determination unit that the thumbnail image can be changed, it is possible for the user to select protection or non-protection of the thumbnail image, and it is possible to improve the setting operability of the thumbnail image by the user.

[0012]According to a fourth aspect of the present invention, there is provided an information editing method for editing a reproduction mode of recorded information recorded on a recording medium including at least image information, the information editing method comprising: The method includes a determination step of determining whether or not the thumbnail image can be changed on the basis of change propriety information indicating whether or not the thumbnail image indicating the content of the recording information recorded in the recording medium can be changed, and when it is determined in

the determination step that the thumbnail image cannot be changed, the change of the thumbnail image is prohibited.

[0013]With this configuration, in the fourth aspect of the present invention, by prohibiting the change of the thumbnail image when it is determined that the change is not possible in the determination step based on the change possibility information indicating whether or not the change of the thumbnail image is possible, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0014]In order to solve the above problem, according to a fifth aspect of the present invention, in the information editing method according to the fourth aspect, the information editing method further includes a generation step of generating a display signal for displaying a warning that the thumbnail image cannot be changed when the determination unit determines that the thumbnail image cannot be changed.

[0015]With this configuration, in the fifth aspect of the present invention, when it is determined in the determination step that the thumbnail image cannot be changed, a warning indicating that the thumbnail image cannot be changed is displayed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[0016]In order to solve the above problem, according to a sixth aspect of the present invention, in the information editing method according to the fourth aspect, the information editing method further includes a changing step of changing the thumbnail image when the determining unit determines that the thumbnail image can be changed.

[0017]With this configuration, in the sixth aspect of the present invention, when it is determined in the determination step that the thumbnail image can be changed, by changing the thumbnail image, it is possible for the user to select protection or non-protection of the thumbnail image, and it is possible to improve the setting operability of the thumbnail image by the user.

[0018]According to a seventh aspect of the present invention, there is provided an information editing apparatus for editing a reproduction mode of recorded information including at least image information and recorded on a recording medium, the information editing apparatus comprising: A determination unit configured to determine whether or not a thumbnail image indicating content of recording information recorded in the recording medium can be changed based on change propriety information indicating whether or not the thumbnail image can be changed The computer functioning as the determination means is caused to function so as to prohibit the change of the thumbnail image when the determination

means determines that the change is impossible.

[0019]With this configuration, according to the seventh aspect of the present invention, the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is not possible, whereby it is possible to prevent the thumbnail image indicating the content of the recording information from being inadvertently changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0020]In order to solve the above-described problem, an eighth aspect of the present invention provides: The information editing program according to claim 7, wherein the computer is caused to function as generating means for generating a display signal for displaying a warning that the thumbnail image cannot be changed when the determining means determines that the thumbnail image cannot be changed.

[0021]With this configuration, according to the eighth aspect of the present invention, when the determination unit determines that the thumbnail image cannot be changed, the computer functions to display a warning indicating that the thumbnail image cannot be changed, thereby allowing the user to clearly recognize that the thumbnail image cannot be changed.

[0022]In order to solve the above-mentioned problem, according to a ninth aspect of the present invention, in the information editing program according to the seventh aspect, the information editing program causes the computer to function as changing means for changing the thumbnail image when the determining means determines that the change is possible.

[0023]With this configuration, in the ninth aspect of the present invention, the computer functions to change the thumbnail image when it is determined by the determination means that the thumbnail image can be changed, whereby the user can select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[0024]According to a tenth aspect of the invention, there is provided an information editing program according to any one of the seventh to ninth aspects of the invention.

[0025]In the case where the information editing program according to the seventh aspect is recorded, the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is not possible, whereby it is possible to prevent the thumbnail image indicating the content of the recorded information from being inadvertently changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0026]In the case where the information editing program according to the eighth aspect is recorded, the computer functions to display a warning to the effect that the thumbnail image cannot be changed when it is determined by the determination means that the thumbnail image cannot be changed, whereby the user can be made to clearly recognize that the thumbnail image cannot be changed.

[0027]When the information editing program according to claim 9 is recorded When it is determined by the determination means that the thumbnail image can be changed, the computer functions to change the thumbnail image, whereby the user can select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[0028]

[Embodiment of the invention]Next, a preferred embodiment of the present invention will be described with reference to the drawings.

[0029]In the embodiment described below, a recording process of recording AV (Audio Visual) information (including music information, image information, or the like) distributed via a network such as the Internet on a portable hard disk that has been subjected to a process for protecting copyrights is performed. In this embodiment, the information editing apparatus according to the present invention is applied to an information recording apparatus capable of editing the recorded AV information.

[0030]In the following description, it is assumed that the AV information is distributed in accordance with the transport stream (Moving Picture Experts Group) standard in the MPEG (Transport stream) 2 standard, which is well known as a standard relating to a moving image compression technique.

[0031]

First, before specifically describing the information recording apparatus according to the embodiment, an outline of a logical recording format used when the AV information is recorded on the hard disk by the information recording apparatus will be described with reference to FIGS. 1 to 7. FIGS. 1 to 7 are diagrams hierarchically and schematically showing the recording format after the AV information is recorded on the hard disk based on the recording format.

[0032]The recording format shown in FIGS. 1 to 7 is a logical recording format used when the AV information of the present embodiment is recorded on the hard disk, and as a physical recording format used when the AV information is recorded, a known physical format used for the hard disk is used as it is.

[0033]First, an outline of various concepts employed in the recording format for efficiently managing the

contents and recording mode of the recorded AV information will be described.

[0034]First, in the following recording format, a concept of a program is used as a unit for handling recorded AV information. That is, the program is one piece of AV information recorded in the hard disk continuously in time.

[0035]Here, when the distributed AV information is analog information, for example, when one program in television broadcasting is continuously recorded, the one program becomes a program. When only a part of the program is continuously recorded, only the continuously recorded part becomes one program, and when a plurality of programs are continuously recorded at the same time, all of the plurality of continuously recorded programs become one program. On the other hand, when the AV information is digital information, for example, when the AV information is distributed as Broadcast Satelight digital broadcasting, one event in the BS digital broadcasting is defined as one program.

[0036]Second, in the following recording format, a concept of a program list is used so that a user (a user who views the recorded AV information) can freely edit the recorded AV information to logically create a new program. Namely, instruction information for specifying the whole program of 1, or its part, and distinguishing from a program list from other program or other parts (generally) For each program list, it is possible to define a representative image (hereinafter, referred to as a thumbnail image) representing the content of AV information (image information) included in the program list.

[0037]Therefore, for example, when a case where the user performs editing so that a part of one recorded program and a part of another recorded program are continuously reproduced in this order The user creates one program list by combining instruction information indicating a part of the one program and instruction information indicating a part of the other program so as to reproduce the instruction information in this order. Further, by adopting the concept of the program list, it is possible to reproduce the AV information in the reproduction mode desired by the user without changing the recording order or the like in the AV information itself first recorded on the hard disk.

[0038]In the program list, there are defined a program list (user-defined program list) set by the user himself / herself while referring to the recorded AV information as described above, and a program list (vendor-defined program list) set in advance by a distributor (vendor) who distributes the AV information to be recorded.

[0039]Further, as the above-described thumbnail image, a vendor-defined thumbnail image which is provided in advance by the vendor and is distributed together with the AV information, and a user-defined thumbnail image which is newly provided by the user after the distributed AV information is recorded in the hard disk are defined.

[0040]Third, in the following recording format, a concept of a program set is used as an aggregate including a plurality of user-defined program lists or vendor-defined program lists created based on a reproduction mode desired by the user (more specifically, a reproduction order for each piece of AV information specified by the user). Here, the program set includes an initial program set (a program list included in the initial program set is the vendor-defined program list) used for reproducing the AV information (program) first recorded on the hard disk in the order in which the AV information is recorded, and And a user-defined program set including the user-defined program list.

[0041]Fourth, in the following recording format, a concept of an index is used as a kind of the above-described instruction information. That is, the index is instruction information for specifying the whole or a part of one program to distinguish it from another program or another part, and is provided to improve the ease of handling of AV information by the user. At this time, in the index, a vendor-defined index which is provided in advance by the distributor and then distributed, and a user-defined index which is newly provided by the user after the distributed AV information is recorded in the hard disk are defined. The vendor-defined index is delivered together with the AV information in the form of an index file, while the user-defined index is expressed as the program list.

[0042]Next, a logical recording format according to the present embodiment will be described based on the various concepts described above.

[0043]As shown in FIG. 1, on the hard disk 1 after the necessary AV information is recorded, management information MI, which is management information related to the entire program recorded on one hard disk 1 and is first referred to when the recorded AV information is reproduced, and Initial program set information DPSI which is management information related to the initial program set, vendor-defined thumbnail image information DFTN in which image information corresponding to the vendor-defined thumbnail image is specified by a name of the image information itself and included, and User-defined program set management information UDPM which is management information related to the user-defined program set, and user-defined thumbnail image information UDTN in which image information corresponding to the user-defined thumbnail image is specified by a name of the image information itself and included; Program information PIF which is management information corresponding to each of the programs, AV stream information AVD which is an entity of AV information distributed and recorded in the hard disk 1, and Address information indicating a recording position on the hard disk 1 of one I picture (Intra codedPicture) in one access unit configured by image information corresponding to the I picture included in the AV information; Access unit reference information ACU including information indicating a total information amount of I pictures as the one access unit for each access unit; and License management information CIF which is information for managing a license state of the recorded AV information, the vendor-defined index IDX, and an image which is used as a thumbnail image but includes: Preliminary thumbnail image information TMN that is image information corresponding to a preliminary image that is neither the vendor-defined thumbnail image nor the user-

defined thumbnail image; and User-defined program set information UDIF1 to UDIFn, which is management information on each of the user-defined program sets (in the case shown in FIG. 1, it is assumed that there are n user-defined program sets) defined after the AV information is recorded on the hard disk 1, is recorded.

[0044]Next, as shown in FIG. 1, the management information MI includes hard disk identification information MID (12 bytes) for identifying the hard disk 1 itself from other hard disks and version information VRN (2 bytes) indicating the version of the hard disk 1, and Character type information CHS (2 bytes) indicating a type (attribute) of a character included in the recorded AV information, name information REP (128 bytes) indicating a name itself in a case where the name is given to the hard disk 1 itself A last access program set number RSM which is a number of the program set which has been reproduced last when the reproduction process of the AV information recorded in the hard disk 1 is finished; Name information DPP in which a name as a file of the initial program set information DPSI (that is, a so-called path name, and specifically, a name itself of "initial program set information DPSI") is described; The user-defined program set management information UDPM includes name information UMP in which the name of the user-defined program set management information UDPM as a file (also referred to as a path name, and more specifically, the name itself of "user-defined program set management information UDPM") is described.

[0045]Next, a detailed configuration of the initial program set information DPSI will be described with reference to FIG. 2.

[0046]Initial program set general information DPI including name information indicating a name of the initial program set and the like in the initial program set information DPSI, as shown in FIG. 2; A plurality of vendor-defined program list information DPL1 to DPLn which are information on a plurality of vendor-defined program lists included in the initial program set.

[0047]The initial program set general information DPI includes name information DPST (80 bytes) which is a name of the initial program set, other information DETC (148 bytes) which is other information (including memo information or the like which is information indicating an attribute or the like of the initial program set) as the initial program set general information DPI, and Initial program set representative image information PRT (156 bytes) which is information relating to image information corresponding to a thumbnail image corresponding to an initial program set (which is also a thumbnail image representing the entire hard disk 1); Name information TPP (128 bytes) in which a name of image information corresponding to the initial program set representative image is described only when a thumbnail image specifier valid flag described later is valid.

[0048]Further, the initial program set representative image information PRT includes attribute information DTT (1 byte) indicating an attribute of the initial program set representative image, and preliminary

information RSV (3 bytes) which is meaningless information as the initial program set representative image information PRT. Only when a thumbnail image specifier valid flag, which will be described later, is valid, the recording position on the hard disk 1 of the image information corresponding to the initial program set representative image (in this case, only the I-picture in the recorded AV information corresponds to the recording position) is recorded as the I-picture. Initial program set representative image recording position information DTPS (8 bytes) in which a recording position of a head of information of the initial program set representative image is described; Initial program set representative image information amount information DTSZ (4 bytes) in which an information amount (the number of bytes) of image information corresponding to an initial program set representative image is described only when a thumbnail image specifier valid flag to be described later is valid; Name information DTP (128 bytes) in which a name of the image information itself corresponding to the initial program set representative image is described, and a position (specifically Offset position information DFT (4 bytes) in which an offset byte number from a head of the vendor-defined thumbnail image information DFTN) is described, initial program set representative image information amount information DLT (4 bytes) in which an information amount (byte number) of image information corresponding to an initial program set representative image is described, and Horizontal information amount information DTH (2 bytes) in which an information amount in a horizontal direction in image information corresponding to an initial program set representative image stored as a file is described; Vertical information amount information DTV (2 bytes) in which an information amount in a vertical direction in image information corresponding to an initial program set representative image stored as a file is described is included.

[0049]Here, the initial program set representative image recording position information DTPS and the initial program set representative image information amount information DTSZ are as follows: Specifically, it indicates a recording position and an information amount of any one of still images (this still image is used as an initial program set representative image) included in the AV stream information AVD, and On the other hand, the name information DTP, the offset position information DFT, the initial program set representative image information amount information DLT, the horizontal information amount information DTH, and the vertical information amount information DTV indicate still images specified by names and recorded in the vendor-defined thumbnail image information DFTN.

[0050]Next, the attribute information DTT includes permission information REL as change propriety information indicating whether or not resetting of the initial program set representative image is permitted, and The thumbnail image specifier valid flag VLD indicating whether or not the specification of the still image using the initial program set representative image recording position information DTPS and the initial program set representative image information amount information DTSZ is valid; and Attribute information ETFT indicating a type (attribute) of image information corresponding to an image when the image used as the initial program set representative image is selected from image information other than the distributed AV information. At this time, in the permission information REL, "0" is described

as the value when the resetting of the initial program set representative image is permitted, and "1" is described as the value when the resetting is not permitted. As for the thumbnail image specifier valid flag VLD When the designation of the still image using the initial program set representative image recording position information DTPS and the initial program set representative image information amount information DTSZ is valid, "1" is described as the value, and when the designation is invalid, "0" is described as the value.

[0051]Next each piece of vendor-defined program list information DPL includes name information DPLT (80 bytes) which is the name of the vendor-defined program list corresponding to the piece of vendor-defined program list information DPL (this name can be changed by the user) and Other information DPTC (108 bytes) which is other information (including memo information or the like which is information indicating an attribute or the like of the vendor-defined program list) as the vendor-defined program list information DPL; Vendor-defined program list representative image information PPRT (156 bytes) which is information regarding image information corresponding to a thumbnail image corresponding to a vendor-defined program list; Name information PPT (128 bytes) in which a name itself of program information, which will be described later, corresponding to a program included in the vendor-defined program list is described; Start position information STP (8 bytes) in which a recording start position on the hard disk 1 of a program to be accessed based on the vendor-defined program list is described; The vendor-defined program list information DPL includes end position information ETP (8 bytes) in which a recording end position on the hard disk 1 of a program to be accessed based on the vendor-defined program list is described, and spare information RSV (4 bytes) which is meaningless information as the vendor-defined program list information DPL.

[0052]Further, the vendor-defined program list representative image information PPRT includes attribute information PTT (1 byte) indicating an attribute of the vendor-defined program list representative image, and spare information RSV (3 bytes) which is meaningless information as the vendor-defined program list representative image information PPRT. Only when a thumbnail image specifier valid flag, which will be described later, is valid, the recording position on the hard disk 1 of the image information corresponding to the vendor-defined program list representative image (in this case, only the I-picture in the recorded AV information corresponds to the recording position) is recorded as the I-picture. (8 bytes) in which the recording position of the head of the information of the vendor-defined program list representative image recording position information PTPS Vendor-defined program list representative image information amount information PTSZ (4 bytes) in which an information amount (the number of bytes) of image information corresponding to a vendor-defined program list representative image is described only when a thumbnail image specifier valid flag to be described later is valid; Name information PTP (128 bytes) in which a name of the image information itself corresponding to the vendor-defined program list representative image is described, and a position in the vendor-defined thumbnail image information DFTN of the image information corresponding to the vendor-defined program list representative image Offset position information PFT (4 bytes) in which (specifically, the

number of offset bytes from the head of the vendor-defined thumbnail image information DFTN) is described; Vendor-defined program list representative image information amount information PLT (4 bytes) in which an information amount (the number of bytes) of image information corresponding to a vendor-defined program list representative image is described; Horizontal information amount information PTH (2 bytes) in which an information amount in a horizontal direction in image information corresponding to a vendor-defined program list representative image stored as a file is described; Vertical information amount information PTV (2 bytes) in which an information amount in a vertical direction in image information corresponding to a vendor-defined program list representative image stored as a file is described is included.

[0053]Here, the vendor-defined program list representative image recording position information PTPS and the vendor-defined program list representative image information amount information PTSZ are as follows: Specifically, it indicates a recording position and an information amount of any one of still images (this still image is used as a vendor-defined program list representative image) included in the AV stream information AVD, and On the other hand, the name information PTP, the offset position information PFT, the vendor-defined program list representative image information amount information PLT, the horizontal information amount information PTH, and the vertical information amount information PTV indicate still images specified by names and recorded in the vendor-defined thumbnail image information DFTN.

[0054]Next, the attribute information PTT includes permission information REL as change permission / prohibition information indicating whether or not resetting of the vendor-defined program list representative image is permitted, and The thumbnail image specifier valid flag VLD indicating whether or not the specification of the still image using the vendor-defined program list representative image recording position information PTPS and the vendor-defined program list representative image information amount information PTSZ is valid; and Attribute information ETFT indicating the type (attribute) of image information corresponding to an image when the image used as the vendor-defined program list representative image is selected from image information other than the distributed AV information. At this time, "0" is described as the value of the permission information REL when the resetting of the vendor-defined program list representative image is permitted, and "1" is described as the value the value when the resetting is not permitted. With respect to the thumbnail image specifier valid flag (hereinafter also referred to as an intra-content pointer of the thumbnail specifier) VLD When the designation of the still image using the vendor-defined program list representative image recording position information PTPS and the vendor-defined program list representative image amount information PTSZ is valid, "1" is described as the value, and when the designation is invalid, "0" is described as the value.

[0055]Next, the detailed configuration of the user-defined program set management information UDPM will be described with reference to FIG. 3.

[0056]As shown in FIG. 3, the user-defined program set management information UDPM includes user-defined program set general information UDPSI in which total number information indicating the total number of the user-defined program sets is described, and names of the user-defined program set information UDIF1 to UDIFn. (Concretely, for example, the name itself of "user defined program set information UDIF1" is described in association with each piece of user defined program set information UDIF. The name information UDPT1 to UDPTn is also included.)

[0057]As shown in FIG. 3, the user-defined program set information UDIF whose name is described by one piece of name information UDPT includes user-defined program set general information UPI including name information or the like indicating the name of the user-defined program set A plurality of pieces of user-defined program list information UPL1 to UPLn which are information on a plurality of user-defined program lists included in the user-defined program set. The user-defined program set general information UPI has the same hierarchical structure as that of the initial program set general information DPI described with reference to FIG. 2, and the user-defined program list information UPL also has the same hierarchical structure as that of the vendor-defined program list information DPL described with reference to FIG. 2.

[0058]Next, the detailed structure of the program information PIF will be described with reference to FIGS. 4 to 6.

[0059]First, as shown in FIG. 4, the program information PIF includes program general information PI in which general information related to a corresponding program is described, program license information CI in which information related to a license corresponding to the program is described, and Index information II which is information on an index to which the program belongs, access unit information ACUI which is information on an access unit included in the program, and Allocation unit information ALUI which is information on an allocation unit including a predetermined number of packets constituting a transport stream which is a format at the time of distribution of the AV information.

[0060]Next, a detailed configuration of the program general information PI will be described.

[0061]As shown in FIG. 4, the program general information PI includes program source information PST (1 byte) indicating the source of the program (i.e., whether the program is obtained by receiving an analog broadcast or a BS digital broadcast), and Other information PFTC (143 bytes) which is other information as program general information PI, program material information PESI (104 bytes) which is information related to material information (that is, any one of an image, a sound, and data, and generally also referred to as an elementary stream) constituting the program, and Program recording state information PRS in which information indicating a recording mode when the program is recorded in the hard disk 1 is described.

[0062]Next, the program material information PESI includes program material general information PGSI which is general information as the program material information PESI and material information (for example, image information and audio information to be simultaneously reproduced in parallel) related to each other among a plurality of pieces of material information constituting the program. A plurality of material-information-group search pointers CGSP1 to CGSPn describing respective positions on the hard disk 1 in which information indicating contents of a plurality of material information groups configured and distributed in advance is recorded; The program raw material information PESI is composed of a plurality of raw material information group information CGIF1 to CGIFn in which information indicating the contents of the raw material information group is concretely described and padding information PD for adjusting the information amount as the whole program raw material information PESI.

[0063]The program material general information PGSI is composed of attribute information ATB (1 byte) indicating the attribute of the program and pointer number information SPN (1 byte) indicating the number of material information group search pointers CGSP included in the program material information PESI.

[0064]Further, one material information group search pointer CGSP indicates each position on the hard disk 1 where information indicating the contents of the corresponding material information group is recorded. The program material information PESI includes group information start address information CGSA (1 byte) described as relative address information from a position on the hard disk 1 where the head of the program material information PESI is recorded.

[0065]Next, one material information group information CGIF is composed of material information number information NES (1 byte) in which the number of material information indicating the number of information relating to the material information included in the material information group information CGIF is described.

[0066]One piece of material information ESI includes spare information RSV (1 byte) which is meaningless information as the material information ESI and Material packet identification information CPD including type information CTY indicating a type of the material information (that is, a type such as whether the material information is image information or audio information) and packet identification information PID for identifying the packet including the material information; and It resembles the kind descriptive information CMD which has described the identified kind specifically, and is constituted more.

[0067]Next, the detailed structure of the index information II will be described with reference to FIG. 5.

[0068]As shown in Fig. 5, the index information II includes: The index information II is composed of index general information IGI, which is general information as the index information II, and a plurality of index

entry information IE1 to IEn in which start positions and the like of a plurality of indexes on the hard disk 1 are described.

[0069]The index general information IGI includes index number information NI (1 byte) in which information indicating the number of indexes included in the program is described.

[0070]One index entry information IE includes index description information IDC (100 bytes) including other information related to the index, index representative image information IPRT (156 bytes) which is information related to image information corresponding to a thumbnail image corresponding to the index, and Index start position information ISP indicating a start position of an area on the hard disk 1 in which a program included in a program list corresponding to the index is recorded; Index end position information IEP indicating an end position of an area on the hard disk 1 in which a program included in the program list corresponding to the index is recorded.

[0071]The index representative image information IPRT includes attribute information ITT (1 byte) indicating an attribute of the index representative image and preliminary information RSV (3 bytes) which is meaningless information as the index representative image information IPRT. The recording position on the hard disk 1 of picture information (in this case, only I picture in the AV information currently recorded corresponds) in which it corresponds to an index representative picture image only when the thumbnail image specifier valid flag mentioned below is effective (as the I picture concerned) Index representative image recording position information ITPS (8 bytes) in which a recording position of a head of information of the index representative image is described; Index representative image information amount information ITSZ (4 bytes) in which an information amount (the number of bytes) of image information corresponding to an index representative image is described only when a thumbnail image specifier valid flag to be described later is valid; and Name information ITP (128 bytes) in which the name of the image information itself corresponding to the index representative image is described, and the position of the image information corresponding to the index representative image in the user-defined thumbnail image information UDTN (concretely Offset position information IFT (4 bytes) in which an offset byte number from a head of the user-defined image information UDTN is described, index representative image information amount information ILT (4 bytes) in which an information amount (byte number) of image information corresponding to an index representative image is described, and Horizontal information amount information ITH (2 bytes) in which an information amount in a horizontal direction in image information corresponding to an index representative image stored as a file is described; Vertical information amount information ITV (2 bytes) in which an information amount in a vertical direction in image information corresponding to an index representative image stored as a file is described.

[0072]Wherein the index representative picture recording position information ITPS and the index representative picture information amount information ITSZ indicate a recording position and an

information amount of any one of the still pictures (this still picture is used as an index representative picture) included in the AV stream information AVD, and On the other hand, the name information ITP, the offset position information IFT, the index representative image information amount information ILT, the horizontal information amount information ITH, and the vertical information amount information ITV indicate the still images specified by the names and recorded in the user-defined thumbnail image information UDTN.

[0073]The attribute information ITT includes permission information REL indicating whether or not resetting of the index representative image is permitted, and the thumbnail image specifier validity flag VLD indicating whether or not the specification of the still picture using the index representative image recording position information ITPS and the index representative image information amount information ITSZ is valid. Attribute information ETFT indicating a type (attribute) of image information corresponding to an image when the image used as the index representative image is selected from image information other than the distributed AV information. At this time, in the permission information REL, "0" is described as the value when the resetting of the index representative image is permitted, and "1" is described as the value when the resetting is not permitted. As for the thumbnail image specifier validity flag VLD, "1" is described as its value when the specification of the still picture using the index representative image recording position information PTPS and the index representative image amount information ITSZ is valid, and "0" is described as its value when the specification is invalid.

[0074]Next, the access unit information ACUI and the allocation unit information ALUI will be described with reference to FIG. 6.

[0075]First, the access unit information ACUI is composed of an access unit header ACUH as header information and name information ACIP1 to ACIPn (each 128 bytes) in which the name itself of each access unit information included in the access unit reference information ACU is described.

[0076]Next, the access unit header ACUH includes attribute information ACUT in which an attribute of the access unit information is described, and spare information RSV (7 bytes) which is meaningless information as the access unit header ACUH.

[0077]The attribute information ACUT includes an access unit validity flag AVLD (1 bit) indicating whether or not recording or reproduction is executed in access unit units, and unit number information NACU (3 bits) describing information indicating the total number of access units recorded on the hard disk 1, and The attribute information ACUT includes spare information RSV (3 bits) which is meaningless information, and access unit handling information ACUM (1 bit) in which information indicating how to handle the access unit is described. At this time, as for the access unit valid flag AVLD When only the time information on the allocation unit is recorded, "0" is described as the value, and when both of the time information on the allocation unit and the time information on the access unit are recorded, "1" is

described as the value. "0" is described as a value of the access unit handling information ACUM in a case where the access unit is handled using display control time information (also referred to as a presentation time stamp) which is included in the AV information and distributed, and When the access unit is handled using the arrival (reception) time of a packet delivered including the head of the access unit, "1" is described as the value.

[0078]Next the allocation unit information ALUI includes allocation unit general information ALGI which is general information as allocation unit information and And a plurality of allocation unit entry information ALE1 to ALEn in which time information related to each allocation unit is described for each allocation unit.

[0079]The allocation unit general information ALGI includes allocation unit information amount information ALSZ (4 bytes) indicating the number of bytes of information included in one allocation unit, name information ADP (128 bytes) in which information indicating the name of AV information included in the allocation unit is described, and Unit number information NALU (4 bytes) in which information indicating the total number of allocation units recorded in the hard disk 1 is described.

[0080]Further one allocation unit entry information ALE includes start time stamp information SATS (4 bytes) in which information indicating a time at which the first packet included in the corresponding allocation is received is described and End time stamp information EATS (4 bytes) in which information indicating a time at which the last packet included in the corresponding allocation is received is described.

[0081]Finally, the detailed configuration of the AV stream information AVD will be described with reference to FIG. 7. Only in FIG. 7, a recording format obtained by physically analyzing AV stream information AVD is shown.

[0082]First, as shown in FIG. 7, the AV stream information AVD is recorded on the hard disk 1 in a state in which one or a plurality of allocation units ALU are collected. The information amount of one allocation unit ALU is, for example, about 1 megabyte, and one allocation unit ALU is composed of one or a plurality of aligned units (Aligned Unit) AUs.

[0083]At this time, one aligned unit AU is composed of 12 sectors (one sector is 512 bytes), and is composed of four aligned sub-units ASU. One aligned sub-unit ASU is composed of eight recording packets RP. One recording packet RP is obtained by adding a 4-byte recording packet header RPH to the front of a packet PKT (the amount of information contained in the packet is constant at 188 bytes) in the transport stream. Here, in the recording packet header RPH, a flag CF (1 bit) in which information indicating whether or not the AV information included in the packet PKT and distributed is encrypted is described, spare information RSV (2 bits) which is meaningless information as the recording packet

header RPH, and The reception time information 90kHz is information indicating the reception time of the packet PKT clocked at the frequencies ATS1, and the reception time information 27MHz is information indicating the reception time of the packet PKT secondarily clocked at the frequencies ATS2.

[0084]By employing the logical recording format as described above, the recording / editing process according to the embodiment described later can be performed.

[0085]Next, the configuration and operation of an information recording apparatus for recording and editing AV information based on the above-described recording format will be described.

[0086]First, the overall configuration and schematic operation of the information recording apparatus will be described with reference to FIG. 8.

[0087]As shown in FIG. 8, the information recording apparatus S according to the embodiment is directly connected to an external television apparatus TV, and is connected to an external video server SV via a network IT such as the Internet.

[0088]A hard disk 1 as a recording medium on which AV information is recorded in the above-described recording format, a digital broadcast receiving circuit 2, a demultiplexer 3, a video decoder 4, an audio decoder 5, a data decoder 6, a modem 7, and a controller 8 as a determination unit and a change unit; This device is constituted of an analog AV reception circuit 9, a video encoder 10, an audio encoder 11, a multiplexer 12, a display part 13, an operation part 14, a memory card 15 being a kind of a solid recording medium, a digital interface 16, an OSD part 20 as a generation circuit and an addition circuit 21.

[0089]The operation unit 14 selects a play key 14a for reproducing the recorded information recorded in the hard disk 1 as shown in FIG. 9 by using, for example, a remote controller, and a thumbnail image indicating the content of the recorded information recorded in the hard disk 1 from the image corresponding to the image information, and A multi-dial 14b for rotating and searching for the thumbnail image in order to select the thumbnail image from images other than an image corresponding to image information in recording information; The multi-dial 14b is provided with an enter key 14c to be pressed and determined when a thumbnail image selected by rotating the multi-dial 14d is reproduced, a content list display button 14e with thumbnail images, and a thumbnail setting operation start button SL.

[0090]The controller 8 determines the propriety of the change of the thumbnail image on the basis of permission information REL indicating the propriety of the change of the thumbnail image showing the contents of the recording information recorded in the hard disk 1. When it is determined that the change is impossible, the change of the thumbnail image is prohibited, and a display signal for displaying a warning that the change of the thumbnail image is impossible is generated by an OSD part 20 as a generation circuit. The generated display signal is added to the output of a video decoder 4 as required

by an addition circuit 21 and displayed on a television device TV, and when it is judged that the change is possible, the thumbnail picture is changed.

[0091]Next, the outline operation will be described.

[0092]First, the video server SV generates AV information stored therein in accordance with the format of the transport stream, and distributes the AV information to the controller 8 in the information recording apparatus S via the network IT.

[0093]On the other hand, a currently popular analog terrestrial broadcast is received by an analog AV receiving circuit via an antenna (not shown), and image information and audio information are separated from the received broadcast, and the image information and the audio information are output to the video encoder 10 and the audio encoder 11, respectively.

[0094]Then, the video encoder 10 digitally encodes the image information and outputs it to the multiplexer 12.

[0095]In parallel with this, the audio encoder 11 digitally encodes the audio information and outputs it to the multiplexer 12.

[0096]Thus, the multiplexer 12 superimposes the digitized image information and audio information on each other and outputs the superimposed information to the controller 8.

[0097]Also, AV information or the like distributed via a high-speed serial network, for example, is received by the digital interface 16 and output to the controller 8.

[0098]Further, for example, the above-described BS digital broadcast or the like is received by an antenna (not shown), demodulated by the modem 7 operating under the control of the controller 8, and output to the demultiplexer 3 via the digital broadcast receiving circuit 2.

[0099]Under the control of the controller 8, the demultiplexer 3 extracts, from the AV information included in the input BS digital broadcast, image information, audio information, and data information (the data information includes: The video signal, the audio signal, and the data signal are output to the video decoder 4, the audio decoder 5, and the data decoder 6, respectively, and are demodulated separately under the control of the controller 8. At this time, the data information generated as a result of the decoding in the data decoder 6 is superimposed on the image information or the audio information as required, and then subjected to the respective demodulation processes.

[0100]Thereafter, the decoded image information and audio information are directly output to the

external television apparatus TV for viewing.

[0101]At this time the controller 8 integrally controls the series of processes described above. When an operation signal corresponding to the instruction or the like is input from the operation unit 14 to the controller 8, the controller 8 recognizes the content of the instruction or the like and performs a necessary process. As for the operation state or the like during the integrated control, a display signal is generated by an OSD unit 20 as a generation circuit, and the generated display signal is added to the output of the video decoder 4 by an addition circuit 21 as necessary, and is displayed on the television set TV.

[0102]That is the controller 8 determines whether or not the thumbnail image can be changed based on the permission information REL indicating whether or not resetting of the initial program set representative image is permitted and When the resetting of the initial program set representative image is permitted, "0" is described as the value, and when the resetting is not permitted, "1" is described as the value. When '0' is described, the change of the thumbnail image is prohibited, and a display signal for displaying a warning that the change of the thumbnail image is impossible is generated by an OSD part 20. The generated display signal is added to the output of a video decoder 4 by an addition circuit 21 as required and displayed on a television device TV, and when '0' is described, since the change is possible, the thumbnail picture is changed.

[0103]In addition, AV information to be stored in the hard disk 1 is demodulated by the video decoder 4, the audio decoder 5, or the like, and is output to the controller 8. Then, the controller 8 reconfigures the demodulated image information or the like in accordance with the above-described recording format, and records the reconfigured information on the hard disk 1.

[0104]Further, when the AV information recorded in the hard disk 1 is edited, the AV information is once read from the hard disk 1, and a necessary editing operation is executed based on an operation in the operation unit 14.

[0105]On the other hand, the memory card 15 stores image information to be used as the thumbnail image, and the controller 8 copies the thumbnail image to the hard disk 1 and uses it as the user-defined thumbnail image. The thumbnail image may be copied to the hard disk 1 via the digital interface 16 or a floppy (registered trademark) drive (not shown) and used as a user-defined thumbnail image.

[0106]Next, the operation of the present embodiment will be described in more detail.

[0107]FIG. 10 is a flowchart of thumbnail setting of recorded contents by the user. FIG. 10 is a flowchart in the case where resetting of the initial program set representative image is permitted by the permission information REL shown in FIG. 2.

[0108]As shown in FIG. 10, when the thumbnail setting operation start button 14e is pressed in the operation unit 14 of FIG. 9 (step P1; Yes), the process proceeds to step P2, and the recorded content is displayed on the television receiver TV as shown in FIG. 11 (a). Then, when the content is selected from the displayed recorded contents (step P3; Yes), the process proceeds to step P4, and the selection screen of the thumbnail specifier is displayed as shown in FIG. 11 b.

[0109]Next, in step P5, when the in-content pointer is selected, the process proceeds to step P6, and the in-content pointer designation operation screen is displayed as shown in FIG. 11 c. In a case where the designation operation is ended (Step P7; Yes), the process is ended, and in a case where the designation operation is not ended (Step P7; No), the process is ended. It is determined whether or not the in-content pointer is designated in step P8, and when the in-content pointer is designated (step P8; Yes), the process proceeds to step P9, and the confirmation screen of the thumbnail image is displayed as illustrated in FIG. 11 d. If not specified (step P8; No), the process returns to step P7.

[0110]Determining whether to prohibit change of the thumbnail image in step P10; and When the change is prohibited (Step P10; Yes) and "Yes" is pressed on the confirmation screen of the thumbnail image shown in FIG. 11 d (Step P11; Yes), the specification by the pointer of the thumbnail specifier is validated and the value of the pointer is stored (Step P12). In addition, in a case where the prohibition of the change of the thumbnail image is not performed (step P10; No) and in a case where "cancel" is pressed on the confirmation screen of the thumbnail image (step P11; No), the process returns to step P7.

[0111]On the other hand, in step P5, when the pointer is not selected from the in-content pointer, the process proceeds to step P13, and the external file designation operation screen is displayed as shown in FIG. 11 e. Then, it is determined whether or not the designation operation is ended in step P14, and when the designation operation is not ended and a file is designated (step P15; Yes), the process proceeds to step P16, and the confirmation screen of the thumbnail image is displayed as illustrated in FIG. 11 d. Here, when the designation operation is ended in step P14, the processing is ended at that time.

[0112]Next, when "YES" is pressed on the thumbnail image confirmation screen shown in FIG. 11 d (step P17; Yes), the specification by the pointer of the thumbnail specifier is invalidated, and the value of the file name or the like is stored (step P18). If a file is not designated in step P15 or if "cancel" is pressed on the thumbnail image confirmation screen (step P17; No), the process returns to step P13.

[0113]Next, a flowchart for determining whether or not to reset a thumbnail image in the present embodiment will be described with reference to FIG. 12.

[0114]First, when the thumbnail setting operation start button is pressed in step S1, the recorded content

is displayed on the display unit 13 shown in FIG. 8 as shown in FIG. 13 (a) (step S2). Next, a content for which a thumbnail is to be set is selected by the operation unit 14 from among the contents displayed on the screen of the television receiver TV in step S3, and In step S4, it is determined whether or not the content is content for which a thumbnail can be reset, and in the case of content for which a thumbnail can be reset (step S4; Yes), setting of a thumbnail is started in accordance with the flowchart shown in FIG. 10 in step S5. And setting out of a thumbnail is completed with the flow chart shown in Fig.10 (step S6) Then, the processing is ended.

[0115]On the other hand, when it is determined in step S4 that the content is content for which the thumbnail cannot be reset (step S4; No), the process proceeds to step S7, and an operation warning is displayed on the screen of the television receiver TV as shown in FIG. 13 b. In a case where the thumbnail can be reset (Yes in Step S8) Proceeding to step S9, it is determined whether or not the file in which the flag is present is rewritable, and if the file is rewritable (step S9; Yes), setting of the thumbnail is started in accordance with the flowchart shown in FIG. 10 in the above-described step S5. When the setting of the thumbnail is ended (step S6) according to the flowchart shown in FIG. 10, the processing is ended.

[0116]If the thumbnail cannot be reset (Step S8; No) and if the file having the flag cannot be rewritten (Step S9; No), a warning indicating the end of the operation is displayed on the screen of the television receiver TV as shown in FIG. 13 (c) (Step S10).

[0117]Next, FIG. 14 shows a flowchart in the case of setting the reset disable bit of the thumbnail in the present embodiment.

[0118]As shown in FIG. 14, after the setting operation of the thumbnail is executed in step S11, a confirmation screen for confirming whether or not the thumbnail cannot be reset is displayed on the television receiver TV as shown in FIG. 15 (step S12). Next, in the case of disabling the resetting (step S13; Yes), the process proceeds to step S14, and the value of the permission information REL is set to 1 and the thumbnail management structure is recorded. On the other hand, if resetting is not made impossible (step S13; No), that is, if resetting is permitted, the process proceeds to step S15, where the value of the permission information REL is set to 0 and the thumbnail management structure is recorded.

[0119]As described above, according to the information recording / reproducing apparatus of the present embodiment, by prohibiting the change of the thumbnail image when it is determined by the controller 8 that the change is impossible based on the change propriety information indicating the propriety of the change of the thumbnail image, the change of the thumbnail image is prohibited. To prevent a thumbnail image showing the contents of recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0120]Further, according to the present embodiment, when the controller 8 determines that the thumbnail image cannot be changed, a warning indicating that the thumbnail image cannot be changed is displayed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[0121]Further, according to the present embodiment, by changing the thumbnail image when the controller 8 determines that the thumbnail image can be changed, it becomes possible for the user to select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[0122]It should be noted that the present invention is not limited to the above-described embodiment, and various modifications are possible. For example, in the above-described embodiment, a video signal or the like is acquired by receiving radio waves of a normal analog terrestrial TV broadcast, a digital satellite broadcast such as a BS (broadcast satellite) digital broadcast, or the like. For example, a video signal or the like may be acquired from a server VOD (Video On Demand) using the Internet or a dedicated line as a communication path.

[0123]Further, in the above embodiment, the case where the hard disk 1 is used as the recording medium has been described, but in addition to this, various recording media such as a DVD and a flash memory in which information can be rewritten can be used.

[0124]In addition, a program corresponding to the flowcharts illustrated in FIGS. 10, 12, and 14 may be executed as follows. By recording the program in an information recording medium such as a flexible disk or a hard disk and causing a general-purpose microcomputer or the like to read and execute the program, it is possible to cause the microcomputer to function as the controller 8 according to the present embodiment.

[0125]

[Effect of the invention]As described above, according to the first aspect of the present invention, it is possible to prevent the thumbnail image indicating the content of the recording information from being inadvertently changed by prohibiting the change of the thumbnail image when it is determined that the change is impossible by the determination unit based on the change propriety information indicating the propriety of the change of the thumbnail image. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0126]According to the second aspect of the present invention, in addition to the effect of the first aspect of the present invention, when it is determined by the determination unit that the thumbnail image cannot be changed, a warning indicating that the thumbnail image cannot be changed is displayed, so that the

user can clearly recognize that the thumbnail image cannot be changed.

[0127]According to the third aspect of the present invention, in addition to the effect of the first aspect, by changing the thumbnail image when it is determined by the determination unit that the thumbnail image can be changed, it becomes possible for the user to select protection or non-protection of the thumbnail image, and it is possible to improve the setting operability of the thumbnail image by the user.

[0128]According to the fourth aspect of the present invention, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed by prohibiting the change of the thumbnail image when it is determined that the change is impossible in the determination step based on the change propriety information indicating the propriety of the change of the thumbnail image. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0129]According to the fifth aspect of the present invention, in addition to the effect of the fourth aspect of the present invention, when it is determined in the determination step that the thumbnail image cannot be changed, a warning indicating that the thumbnail image cannot be changed is displayed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[0130]According to the sixth aspect of the invention, in addition to the effect of the fourth aspect of the invention, by changing the thumbnail image when it is determined in the determination step that the thumbnail image can be changed, the user can select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[0131]According to the seventh aspect of the present invention, the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is not possible, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0132]According to the eighth aspect of the present invention, in addition to the effect of the seventh aspect of the present invention, when it is determined by the determination unit that the thumbnail image cannot be changed, the computer functions to display a warning indicating that the thumbnail image cannot be changed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[0133]According to a ninth aspect of the present invention, in addition to the effect of the seventh aspect, when it is determined by the determination unit that the change is possible Since the computer functions to change the thumbnail image, the user can select the protection or non-protection of the thumbnail

image, and the setting operability of the thumbnail image by the user can be improved.

[0134]According to the tenth aspect of the invention, in a case where the information editing program according to the seventh aspect is recorded Since the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is impossible, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[0135]In the case where the information editing program according to the eighth aspect is recorded, the computer functions to display a warning to the effect that the thumbnail image cannot be changed when it is determined by the determination means that the thumbnail image cannot be changed, whereby the user can be made to clearly recognize that the thumbnail image cannot be changed.

[0136]When the information editing program according to claim 9 is recorded When it is determined by the determination means that the thumbnail image can be changed, the computer functions to change the thumbnail image, whereby the user can select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[Brief description of the drawings]

FIG. 1 is an explanatory diagram showing a recording format (I) of an embodiment of an information editing apparatus according to the present invention;

FIG. 2 is an explanatory diagram showing a recording format (II) of the present embodiment.

FIG. 3 is an explanatory diagram showing a recording format (III) of the present embodiment.

FIG. 4 is an explanatory diagram showing a recording format (IV) of the present embodiment.

FIG. 5 is an explanatory diagram showing a recording format (V) of the present embodiment.

FIG. 6 is an explanatory diagram showing a recording format (VI) of the present embodiment.

FIG. 7 is an explanatory diagram showing a recording format (VII) of the present embodiment.

FIG. 8 is a block diagram showing a schematic configuration of the information recording apparatus of the present embodiment.

FIG. 9 is an enlarged view showing an operating portion of FIG. 8;

FIG. 10 is a flowchart of thumbnail setting by a user of content recorded in the present embodiment.

[Fig. 11]

FIGS. 10 a to 10 e are explanatory views showing screens displayed on the television apparatus in the flowchart of FIG. 10.

FIG. 12 is a flowchart for determining whether or not a thumbnail image can be reset in the present embodiment.

[Fig. 13]

FIGS. 12 (a) to 12 (c) are explanatory views showing screens displayed on the television apparatus in the flowchart of FIG. 12.

FIG. 14 is a flowchart for setting a reset disable bit of a thumbnail in the present embodiment.

FIG. 15 is an explanatory view showing a screen displayed on the television apparatus in the flowchart of FIG. 14;

[Explanation of letters or numerals] 1 [-- Video decoder 5 / -- Audio decoder 6 / -- Data decoder 7 / -- Modem 8 / -- Controller (determination means)] -- Hard disk (recording medium) 2 -- Digital broadcasting receiving circuit 3 -- Demultiplexer 4 9. analog AV 10: video encoder 11: audio encoder 12: multiplexer 13: display unit 14: operation unit 15: memory card 16: digital interface 20: OSD unit (generation circuit, change unit) Generating means [-- Network SV / -- Image server MI / -- Management information DPSI / -- Initial-program set information DFTN / -- Vendor definition thumbnail image information UDPM / -- User definition program set management information UDTN --] 21 -- Adder circuit S -- Information recording equipment TV -- TV apparatus IT User-defined thumbnail image information PIF program information AVD AV stream information ACU access unit reference information CIF license management information IDX vendor-defined index TMN preliminary thumbnail image information UDIF1,UDIFn User defined program set information MID hard disk identification information VRN version information CHS character type information REP,DPP,UMP,DPST,TPP,DTP,DPLT,PPT,PTP,UDPT1,UDPTn,ITP,ACIP1,ACIPn,ADP name information RSM last access program set number DPI initial program set general information DPL1 DPLn vendor-defined program list information DETC,DPTC,PFTC other information PRT initial program set representative image information DTT,ETFT,PTT,ATB,ITT,ACUT attribute information RSV preliminary information DTSPS initial program set representative image recording position information DTSZ DLT: initial program set representative image information amount information DFT,PFT,IFT : offset position information DTH,PTH,ITH : horizontal information amount information DTV,PTV,ITV Vertical information amount information REL. permission information (change propriety information) VLD. thumbnail image

specifier valid flag PPRT. vendor-defined program list representative image information STP. start position information ETP. end position information PTPS. vendor-defined program list representative image recording position information PTSZ PLT vendor-defined program list representative image information amount information UDPSI user-defined program set general information UPI user-defined program set general information UPL1 UPLn user-defined program list information PI program general information CI program license information II index information ACUI access unit information ALUI allocation unit information PST program source information PESI program material information PRS Program recording state information PGSI program material general information CGSP1,CGSPn material information group search pointer CGIF1,CGIFn Material information group information PD padding data SPN pointer number information CGSA group information start address information NES material information number information CTY type information PID packet identification information CPD material packet identification information CMD type description information IGI index general information IE1 IEn index entry information NI index number information IDC index description information IPRT index representative image information ISP index start position information IEP index end position information ITPS index representative image recording position information ITSZ ILT index representative image information amount information IFT offset position information ACUH access unit header AVL D access unit valid flag NACU unit number information ACUM access unit handling information ALGI allocation unit general information ALE1 ALEn allocation unit entry information ALSZ allocation unit information amount information NALU unit number information SATS start time stamp information EATS end time stamp information ALU allocation unit AU aligned unit ASU. Aligned subunit RP recording packet PKT packet RPH recording packet header CF flag ATS1 ATS2 reception time information

Notice of Reasons for Refusal (PatentsApplication2002-107158)

* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.

Notice of Reasons for Refusal

Application number: Japanese Patent Application No. 2002-107158

Date of Drafting: Heisei 19(2007) April 10

Patent examiner: KOBAYASHI, Daisuke 9848 5Q00

Representative/Applicant: ISHIKAWA, Yasuo

Applied Provisions: Article 29(2)

This application should be refused for the reason mentioned below. If the applicant has any opinion(s) against the reason, a written opinion should be submitted within 60 days from the date on which this notification was dispatched. Reason

The claimed invention(s) in the each claim listed below of this patent application shall not be granted a patent under the provision of Patent Act Article 29 (2) for the reason that the claimed invention(s) could have easily been made by persons who have common knowledge in the technical field to which the claimed invention(s) pertains, on the basis of the invention(s) described in the distributed publication(s) listed below or made available to the public through electric telecommunication lines in Japan or other foreign countries prior to the filing of the patent application.

Note (For the cited documents, please refer to the list of cited documents below.)

- Claim 1-10

- Cited Document 1-3

- Remarks

Cited document 1 describes a configuration in which a thumbnail image is changed (particularly, see paragraphs [0040] to [0045], and [0049] in Cited Document 1). A technology to protect the data not to be changed and to change the data only when the protection is not being protected As can be seen in Cited document 2 or 3, it is merely a commonly-used technique, and therefore, in the invention described in cited document 1, it is merely a matter that a person skilled in the art could have easily configured to protect a thumbnail image.

The list of cited documents etc.

1.JP 2001-169231A

2.JP 2002-033986A

3.JP S 61-101850A

Record of the result of prior art search

- Technical fields searched:

IPC

G11B27/00

G11B27/034

H04N 5/76

H04N 5/91

This record is not a component(s) of the reason(s) for refusal.

If the applicant has any inquiries concerning this notification of refusal or wishes to have an interview, please contact the following. Fourth Patent Examination Department Information recording (data

recording) KOBAYASHI, Daisuke
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A Director General(p.p.), a Director(p.p.), an examiner, an assistant examiner, WATANABE, Satoshi,
KOBAYASHI, Daisuke, and 8622 9848

Written amendment (PatentsApplication2002-107158)

* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.

[Document Name]Written Amendment

[Recipient] Commissioner of the Patent Office

[Indication of case]

[Application number]Japanese Patent Application No. 2002-107158

[Person who submits written amendment]

[Identification Number]000001889

[Name]SANYO ELECTRIC CO., LTD.

[Person who submits written amendment]

[Identification Number]000005049

[Name]Sharp Corporation

[Person who submits written amendment]

[Identification Number]000004329

[Name]VICTOR COMPANY OF JAPAN, LTD.

[Person who submits written amendment]

[Identification Number]000005016

[Name]PIONEER CORPORATION

[Person who submits written amendment]

[Identification Number]000005108

[Name]Hitachi, Ltd.

[Representative]

[Identification Number]100083839

[Patent attorney]

[Name]ISHIKAWA, Yasuo

[Tel No.]03-5443-8461

[Dispatch number] 178720

[The number of claims which increase by correction] 2

[Amendment 1]

[Document name for target of amendment]Description

[Item name for target of amendment]Patent Claims

[Amendment type]Change

[Content of amendment]

[Claim(s)]

[Claim 1]An information editing device for editing a reproduction mode of recording information including at least image information and recorded on a recording medium, the information editing device comprising: a setting unit configured to set whether or not to change a thumbnail image indicating content of the recording information recorded on the recording medium; and The information editing device is provided with a judging means for judging the propriety of the change of the thumbnail image based on the change propriety information of the thumbnail image to be changed at the time of changing the thumbnail image, and the change of the thumbnail image is prohibited when the change is judged to be impossible by the judging means.

[Claim 2]The information editing apparatus according to claim 1, further comprising: a generation circuit that generates a display signal for displaying a warning indicating that the thumbnail image cannot be changed when the determination unit determines that the thumbnail image cannot be changed.

[Claim 3]The information editing apparatus according to claim 1, further comprising a changing unit configured to change the thumbnail image when the determining unit determines that the thumbnail image can be changed.

[Claim 4]The information editing apparatus according to claim 1, wherein the recording medium includes: a first area in which information for using a part of recording information as a thumbnail is recorded; and a second area in which information for using still image information recorded in the recording medium as the thumbnail is recorded. A flag indicating whether or not the thumbnail recorded in the first area is valid, wherein display of the thumbnail is controlled in accordance with the flag.

[Claim 5]An information editing method for editing a reproduction mode of recording information including at least image information and recorded in a recording medium, the information editing method comprising: a setting step of setting whether or not to change a thumbnail image indicating contents of the recording information recorded in the recording medium; and A determination step of determining, when the thumbnail image is changed, whether or not the thumbnail image can be changed based on changeability information of the thumbnail image to be changed, wherein when it is determined in the

determination step that the thumbnail image cannot be changed, the change of the thumbnail image is prohibited.

[Claim 6]The information editing method according to claim 5, further comprising: a generation step of generating a display signal for displaying a warning that the thumbnail image cannot be changed, when it is determined in the determination step that the thumbnail image cannot be changed.

[Claim 7]The information editing method according to claim 5, further comprising a changing step of changing the thumbnail image when it is determined in the determining step that the thumbnail image can be changed.

[Claim 8]The information editing method according to claim 5, wherein the recording medium includes: a first area in which information for using a part of recording information as a thumbnail is recorded; and a second area in which information for using still image information recorded in the recording medium as the thumbnail is recorded. A flag indicating whether or not the thumbnail recorded in the first area is valid, wherein display of the thumbnail is controlled in accordance with the flag.

[Claim 9]A program for causing a computer included in an information editing apparatus for editing a reproduction mode of recording information including at least image information and recorded on a recording medium to function as: a setting unit configured to set whether or not to change a thumbnail image indicating content of the recording information recorded on the recording medium; A determination unit configured to, when the thumbnail image is changed, determine whether or not the thumbnail image is changeable based on changeability information of the thumbnail image to be changed, and Wherein the information editing program causes the computer functioning as the determination unit to prohibit the change of the thumbnail image when it is determined by the determination unit that the change is not allowed.

[Claim 10]The information editing program according to claim 9, wherein the information editing program causes the computer to function as generating means for generating a display signal for displaying a warning that the thumbnail image cannot be changed when the determining means determines that the thumbnail image cannot be changed.

[Claim 11]The information editing program according to claim 9, further causing the computer to function as changing means for changing the thumbnail image when the determining means determines that the thumbnail image can be changed.

[Claim 12]An information recording medium on which the information editing program according to any one of claims 9 to 11 is recorded.

[Amendment 2]

[Document name for target of amendment]Description

[Item name for target of amendment]0006

[Amendment type]Change

[Content of amendment]

[0006]

[Means for solving the problem]According to an aspect of the present invention, there is provided an information editing apparatus for editing a reproduction mode of recording information including at least image information and recorded on a recording medium, the information editing apparatus comprising: a setting unit configured to set whether or not a thumbnail image indicating contents of the recording information recorded on the recording medium can be changed; and When the thumbnail image is changed, a determination means for determining whether or not the thumbnail image can be changed on the basis of change propriety information of the thumbnail image to be changed is provided, and when the determination means determines that the change is impossible, the change of the thumbnail image is prohibited.

[Amendment 3]

[Document name for target of amendment]Description

[Item name for target of amendment]0007

[Amendment type]Change

[Content of amendment]

[0007]When the thumbnail image is changed, the change of the thumbnail image is prohibited when the change is determined to be impossible by the determination means based on the change propriety information of the thumbnail image to be changed. To prevent a thumbnail image showing the contents of recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 4]

[Document name for target of amendment]Description

[Item name for target of amendment]0010

[Amendment type]Change

[Content of amendment]

[0010]According to a third aspect of the present invention, in the information editing apparatus according to the first aspect, the information editing apparatus further includes a changing unit for changing the thumbnail image when the determining unit determines that the thumbnail image can be changed. According to a fourth aspect of the invention, in the information editing apparatus according to the first aspect, the recording medium includes a first area in which information for using a part of recording information as a thumbnail is recorded, and The second area for recording information for using the still picture information recorded in the recording medium as the thumbnail and a flag for indicating whether or not the thumbnail recorded in the first area is made effective are provided, and the display of the thumbnail is controlled according to the flag.

[Amendment 5]

[Document name for target of amendment]Description

[Item name for target of amendment]0012

[Amendment type]Change

[Content of amendment]

[0012]According to a fifth aspect of the present invention, there is provided an information editing method for editing a reproduction mode of recorded information including at least image information and recorded on a recording medium, the information editing method comprising: a setting step of setting whether or not a thumbnail image indicating contents of the recorded information recorded on the recording medium can be changed; and And a determination step of determining whether or not the thumbnail image can be changed on the basis of change propriety information of the thumbnail image to be changed when the thumbnail image is changed, wherein the change of the thumbnail image is prohibited when it is determined in the determination step that the change is impossible.

[Amendment 6]

[Document name for target of amendment]Description

[Item name for target of amendment]0013

[Amendment type]Change

[Content of amendment]

[0013]With this configuration, in the fifth aspect of the present invention, whether or not the thumbnail image can be changed is set in the setting step, and when the thumbnail image is changed, the change of the thumbnail image is prohibited when it is determined that the change is not possible in the determination step based on the change propriety information of the thumbnail image to be changed. To

prevent a thumbnail image showing the contents of recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 7]

[Document name for target of amendment]Description

[Item name for target of amendment]0014

[Amendment type]Change

[Content of amendment]

[0014]In order to solve the above problem, according to a sixth aspect of the present invention, in the information editing method according to the fifth aspect, the information editing method further includes a generation step of generating a display signal for displaying a warning indicating that the thumbnail image cannot be changed when it is determined in the determination step that the thumbnail image cannot be changed.

[Amendment 8]

[Document name for target of amendment]Description

[Item name for target of amendment]0015

[Amendment type]Change

[Content of amendment]

[0015]With this configuration, in the sixth aspect of the present invention, when it is determined in the determination step that the thumbnail image cannot be changed, a warning indicating that the thumbnail image cannot be changed is displayed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[Amendment 9]

[Document name for target of amendment]Description

[Item name for target of amendment]0016

[Amendment type]Change

[Content of amendment]

[0016]According to a seventh aspect of the present invention, in the information editing method according to the fifth aspect, the information editing method further includes a changing step of changing the thumbnail image when it is determined in the determining step that the thumbnail image

can be changed. According to an eighth aspect of the invention, in the information editing method according to the fifth aspect, the recording medium includes a first area in which information for using a part of the recording information as a thumbnail is recorded, and The second area for recording information for using the still picture information recorded in the recording medium as the thumbnail and a flag for indicating whether or not the thumbnail recorded in the first area is made effective are provided, and the display of the thumbnail is controlled according to the flag.

[Amendment 10]

[Document name for target of amendment]Description

[Item name for target of amendment]0017

[Amendment type]Change

[Content of amendment]

[0017]With this configuration, in the seventh aspect of the present invention, by changing the thumbnail image when it is determined in the determination step that the thumbnail image can be changed, it is possible for the user to select protection or non-protection of the thumbnail image, and it is possible to improve the setting operability of the thumbnail image by the user.

[Amendment 11]

[Document name for target of amendment]Description

[Item name for target of amendment]0018

[Amendment type]Change

[Content of amendment]

[0018]According to a ninth aspect of the invention, to a ninth aspect of the present invention, there is provided an information editing apparatus for editing a reproduction mode of recording information including at least image information and recorded on a recording medium, the information editing apparatus comprising: a setting unit configured to set whether or not a thumbnail image indicating contents of the recording information recorded on the recording medium can be changed; A determination unit configured to, when the thumbnail image is changed, determine whether or not the thumbnail image is changeable based on changeability information of the thumbnail image to be changed, and The computer functioning as the determination means is caused to function so as to prohibit the change of the thumbnail image when the determination means determines that the change is impossible.

[Amendment 12]

[Document name for target of amendment]Description

[Item name for target of amendment]0019

[Amendment type]Change

[Content of amendment]

[0019]With this configuration, according to the ninth aspect of the present invention, the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is not possible, whereby it is possible to prevent the thumbnail image indicating the content of the recording information from being inadvertently changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 13]

[Document name for target of amendment]Description

[Item name for target of amendment]0020

[Amendment type]Change

[Content of amendment]

[0020]In order to solve the above-described problem, a tenth aspect of the present invention is directed to: The information editing program according to claim 9, further causing the computer to function as generating means for generating a display signal for displaying a warning that the thumbnail image cannot be changed when the determining means determines that the thumbnail image cannot be changed.

[Amendment 14]

[Document name for target of amendment]Description

[Item name for target of amendment]0021

[Amendment type]Change

[Content of amendment]

[0021]With this configuration, when the determination unit determines that the thumbnail image cannot be changed, the computer functions to display a warning indicating that the thumbnail image cannot be changed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[Amendment 15]

[Document name for target of amendment]Description

[Item name for target of amendment]0022

[Amendment type]Change

[Content of amendment]

[0022]According to an eleventh aspect of the present invention, in the information editing program according to the ninth aspect, the information editing program causes the computer to function as changing means for changing the thumbnail image when the determining means determines that the thumbnail image can be changed.

[Amendment 16]

[Document name for target of amendment]Description

[Item name for target of amendment]0023

[Amendment type]Change

[Content of amendment]

[0023]With this configuration, according to the eleventh aspect of the present invention, the computer functions so as to change the thumbnail image when it is determined by the determination means that the thumbnail image can be changed, whereby the user can select protection or non-protection of the thumbnail image, and operability of setting the thumbnail image by the user can be improved.

[Amendment 17]

[Document name for target of amendment]Description

[Item name for target of amendment]0024

[Amendment type]Change

[Content of amendment]

[0024]According to a twelfth aspect of the invention, there is provided an information editing program according to any one of the ninth to eleventh aspects of the invention.

[Amendment 18]

[Document name for target of amendment]Description

[Item name for target of amendment]0025

[Amendment type]Change

[Content of amendment]

[0025]In the case where the information editing program according to the ninth aspect is recorded, the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is not possible, whereby it is possible to prevent the thumbnail image indicating the content of the recorded information from being inadvertently changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 19]

[Document name for target of amendment]Description

[Item name for target of amendment]0026

[Amendment type]Change

[Content of amendment]

[0026]In the case where the information editing program according to the tenth aspect is recorded, the computer functions so as to display a warning to the effect that the change of the thumbnail image is not possible when it is determined by the determination means that the change is not possible, whereby the user can clearly recognize that the change of the thumbnail image is not possible.

[Amendment 20]

[Document name for target of amendment]Description

[Item name for target of amendment]0027

[Amendment type]Change

[Content of amendment]

[0027]When the information editing program according to claim 11 is recorded When it is determined by the determination means that the thumbnail image can be changed, the computer functions to change the thumbnail image, whereby the user can select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[Amendment 21]

[Document name for target of amendment]Description

[Item name for target of amendment]0125

[Amendment type]Change

[Content of amendment]

[0125]

[Effect of the invention]As described above, according to the first aspect of the present invention, whether or not a thumbnail image can be changed is set by the setting unit, and At the time of changing the thumbnail image, by prohibiting the change of the thumbnail image when it is determined that the change is impossible by the determination means on the basis of the change propriety information of the thumbnail image to be changed, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 22]

[Document name for target of amendment]Description

[Item name for target of amendment]0128

[Amendment type]Change

[Content of amendment]

[0128]According to the fifth aspect of the present invention, whether or not the thumbnail image can be changed is set in the setting step, and When the thumbnail image is changed, by prohibiting the change of the thumbnail image when it is determined that the change is impossible in the determination step based on the change propriety information of the thumbnail image to be changed, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 23]

[Document name for target of amendment]Description

[Item name for target of amendment]0129

[Amendment type]Change

[Content of amendment]

[0129]According to the sixth aspect of the invention, in addition to the effect of the fifth aspect of the invention, when it is determined in the determination step that the thumbnail image cannot be changed, a warning indicating that the thumbnail image cannot be changed is displayed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[Amendment 24]

[Document name for target of amendment]Description

[Item name for target of amendment]0130

[Amendment type]Change

[Content of amendment]

[0130]According to the seventh aspect of the present invention, in addition to the effect of the fifth aspect, when it is determined in the determination step that the thumbnail image can be changed, the thumbnail image is changed, so that the user can select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[Amendment 25]

[Document name for target of amendment]Description

[Item name for target of amendment]0131

[Amendment type]Change

[Content of amendment]

[0131]According to the ninth aspect of the invention, since the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is not possible, it is possible to prevent the thumbnail image indicating the content of the recording information from being inadvertently changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 26]

[Document name for target of amendment]Description

[Item name for target of amendment]0132

[Amendment type]Change

[Content of amendment]

[0132]According to the tenth aspect of the invention, in addition to the effect of the ninth aspect of the invention, the computer functions to display a warning indicating that the thumbnail image cannot be changed when the determination unit determines that the thumbnail image cannot be changed, so that the user can clearly recognize that the thumbnail image cannot be changed.

[Amendment 27]

[Document name for target of amendment]Description

[Item name for target of amendment]0133

[Amendment type]Change

[Content of amendment]

[0133]According to an eleventh aspect of the present invention, in addition to the effect of the ninth aspect, when it is determined by the determination unit that the change is possible Since the computer functions to change the thumbnail image, the user can select the protection or non-protection of the thumbnail image, and the setting operability of the thumbnail image by the user can be improved.

[Amendment 28]

[Document name for target of amendment]Description

[Item name for target of amendment]0134

[Amendment type]Change

[Content of amendment]

[0134]According to the twelfth aspect of the invention, in a case where the information editing program according to the ninth aspect is recorded Since the computer functions so as to prohibit the change of the thumbnail image when it is determined by the determination means that the change is impossible, it is possible to prevent the thumbnail image indicating the content of the recording information from being carelessly changed. As a result, the thumbnail image and the recording information by the content holder can be protected, and the thumbnail image by the user can be protected.

[Amendment 29]

[Document name for target of amendment]Description

[Item name for target of amendment]0135

[Amendment type]Change

[Content of amendment]

[0135]In the case where the information editing program according to the tenth aspect is recorded, the computer functions so as to display a warning to the effect that the change of the thumbnail image is not possible when it is determined by the determination means that the change is not possible, whereby the user can clearly recognize that the change of the thumbnail image is not possible.

[Amendment 30]

[Document name for target of amendment]Description

[Item name for target of amendment]0136

[Amendment type]Change

[Content of amendment]

[0136]When the information editing program according to claim 11 is recorded When it is determined by the determination means that the thumbnail image can be changed, the computer functions to change the thumbnail image, whereby the user can select protection or non-protection of the thumbnail image, and the operability of setting the thumbnail image by the user can be improved.

[Fee-related information]

[Deposit account number]007191

[Payment amount]4,000 yen

Written Opinion (PatentsApplication2002-107158)

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2. **** shows the word which can not be translated.

[Document Name]Written Opinion

[Recipient] Patent examiner KOBAYASHI, Daisuke

[Indication of case]

[Application number]Japanese Patent Application No. 2002-107158

[Patent applicant]

[Identification Number]000001889

[Name]SANYO ELECTRIC CO., LTD.

[Patent applicant]

[Identification Number]000005049

[Name]Sharp Corporation

[Patent applicant]

[Identification Number]000004329

[Name]VICTOR COMPANY OF JAPAN, LTD.

[Patent applicant]

[Identification Number]000005016

[Name]PIONEER CORPORATION

[Patent applicant]

[Identification Number]000005108

[Name]Hitachi, Ltd.

[Representative]

[Identification Number]100083839

[Patent attorney]

[Name]ISHIKAWA, Yasuo

[Tel No.]03-5443-8461

[Dispatch number] 178720

[The contents of the opinion]

(1), [invention which relates to the Claims 1-10 concerning this application in the notice of reasons for refusal on Heisei 19(2007) April 17 (Date of Drafting: Heisei 19(2007) April 10)] [based on invention described in Cited document 1 (JP 2001 - 169231A), Cited document 2 (JP 2002 - 033986A), and Cited document 3 (JP S 61 - 101850A)] Since a person skilled in the art can invent easily, it is authorization that a patent cannot be obtained in accordance with the provisions of Article 29(2) of the Patent Act. However, since applicant of this application cannot consent to the above-mentioned authorization, he states an opinion to below.

(2) The description of invention (present invention) concerning 1 this case application

"The Claim 1 after Amendment concerning this application, in the information editing device into which the reproduction mode of the recorded information currently recorded on the recording medium including picture information at least is edited, A setting-out means to set up the propriety of change of the thumbnail image in which the contents of the recorded information currently recorded on the aforementioned recording medium are shown, It has a determination means which judges the propriety of change of the aforementioned thumbnail image based on the change propriety information on the thumbnail image to change at the time of change of the aforementioned thumbnail image, Information editing device forbidding change of the aforementioned thumbnail image when it is judged by the aforementioned determination means that change is impossible. It is ". "The result in which Claim 1 concerning this application has the above characteristics, the propriety of change of a thumbnail image is set up by a setting-out means, At the time of change of a thumbnail image, when it is judged by a determination means based on the change propriety information on the thumbnail image to change that change is impossible, the thumbnail image in which the contents of recorded information are shown can be beforehand prevented from being changed carelessly by forbidding change of a thumbnail image. As a result, the thumbnail image and recorded information by a content holder are protected, and it becomes possible to protect the thumbnail image by a user. The exceptional effect " can be produced.

"The Claim 5 after Amendment concerning this application, in the information editing method which edits the reproduction mode of the recorded information currently recorded on the recording medium including picture information at least, The setting-out process of setting up the propriety of change of the thumbnail image in which the contents of the recorded information currently recorded on the aforementioned recording medium are shown, It has a deciding step which judges the propriety of change of the aforementioned thumbnail image based on the change propriety information on the thumbnail image to change at the time of change of the aforementioned thumbnail image, Information editing method forbidding change of the aforementioned thumbnail image when it is judged by the aforementioned deciding step that change is impossible. It is ". "The result in which Claim 5 concerning this application has the above characteristics, the propriety of change of a thumbnail image is set up by a setting-out process, At the time of change of a thumbnail image, when it is judged by a deciding step

based on the change propriety information on the thumbnail image to change that change is impossible, the thumbnail image in which the contents of recorded information are shown can be beforehand prevented from being changed carelessly by forbidding change of a thumbnail image. As a result, the thumbnail image and recorded information by a content holder are protected, and it becomes possible to protect the thumbnail image by a user. The exceptional effect " can be produced. [the Claim 9 after Amendment concerning this application] ", [the computer contained in the information editing device into which the reproduction mode of the recorded information currently recorded on the recording medium including picture information at least is edited] A setting-out means to set up the propriety of change of the thumbnail image in which the contents of the recorded information currently recorded on the aforementioned recording medium are shown, Consider it as the determination means which judges the propriety of change of the aforementioned thumbnail image based on the change propriety information on the thumbnail image to change at the time of change of the aforementioned thumbnail image, and make it function, and there is. Program for information edit making it function so that change of the aforementioned thumbnail image may be forbidden, when the aforementioned computer which functions as the aforementioned determination means is judged that change is impossible by the aforementioned determination means. It is ". The result in which Claim 9 concerning this application has the above characteristics, "when a computer functions so that change of a thumbnail image may be forbidden, when it is judged by a determination means that change is impossible, The thumbnail image in which the contents of recorded information are shown can be beforehand prevented from being changed carelessly. As a result, the thumbnail image and recorded information by a content holder are protected, and it becomes possible to protect the thumbnail image by a user. The exceptional effect " can be produced.

2) Clear statement of the basis of correction

The Detail of Amendment about "CLAIMS" and "The means for solving a technical problem" in a Written Amendment of simultaneous submission stops in the disclosure range in the original Description, and does not add a New Matter. Namely, a setting-out means to set up the propriety of change of the thumbnail image in which the contents of "recorded information are shown in a Claim 1 after Amendment, The correction part which carried out the determination means which judges the propriety of change of the aforementioned thumbnail image based on the change propriety information on the thumbnail image to change at the time of change of the aforementioned thumbnail image", "In a Claim 5 after Amendment The setting-out process of setting up the propriety of change of the thumbnail image in which the contents of recorded information are shown, "In the correction part and Claim 9 after Amendment which were made into the deciding step which judges the propriety of change of the aforementioned thumbnail image based on the change propriety information on the thumbnail image to change at the time of change of the aforementioned thumbnail image" A setting-out means to set up the propriety of change of the thumbnail image in which the contents of recorded information are shown, The determination means which judges the propriety of change of the aforementioned thumbnail image

based on the change propriety information on the thumbnail image to change" is clearly described in the original paragraph number [0118] and Fig.14 of the Description at the time of change of the aforementioned thumbnail image. Therefore, it corresponds to the correction about "CLAIMS" and also corrects the Detail of Amendment about "The means for solving a technical problem" and a "effect of the invention."

3) The description of a cited document

Invention described in Cited document 1 provides a means to set up the still picture data which constitutes the video data concerned, or any still picture data as a thumbnail image, to the video data photoed with the digital camera etc. That is, invention described in Cited document 1 chooses arbitrarily what is considered to express with the most sufficient video data from a plurality of still picture data which constitutes a video data. Invention described in Cited document 2, "when the reservation-of-picture-recording setup information memorized by RAM84 is updating picture recording setting, It is" thing which judges whether the broadcast time of the past of the person-on-duty group is eliminable, eliminates the record concerned from the hard disks 61-63 when it is in an eliminable state, and records the newest broadcast time on the hard disks 61-63. Invention described in Cited document 3 "enables it to restrict use of mask *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne. for a concerned area according to the contents of the flag by registering preliminarily the flag which set up the region by which use restriction is carried out about the picture information filed, respectively, and the use area."

4) Contrast with the present invention and each cited document

The composition which protects data not to change is disclosed in invention which the composition which changes a thumbnail image was described in invention described in Cited document 1 as mentioned above, and was described in cited documents 2 and 3. Here, in invention described in cited documents 2 and 3, that has been the target of deletion and change is not a thumbnail image which the present invention says, and it corresponds to contents. On the other hand, the present invention sets up the propriety of change of a thumbnail image by a setting-out means, and at the time of change of a thumbnail image, when it is judged by a determination means based on the change propriety information on the thumbnail image to change that change is impossible, it forbids change of a thumbnail image. Therefore, a setting-out means to set up the propriety of change of the thumbnail image in which the contents of the recorded information currently recorded on "recording medium like the present invention are shown, It has a determination means which judges the propriety of change of the aforementioned thumbnail image based on the change propriety information on the thumbnail image to change at the time of change of the aforementioned thumbnail image, As for the composition of forbidding change of the aforementioned thumbnail image when it is judged by the aforementioned determination means that change is impossible", the description to Cited document 1 which no is disclosed in Cited Document 3, but is suggested is not found, either. Thus, since the present invention targets elimination propriety of a

thumbnail image, even if it combines the Cited document 3 to Cited document 1, it cannot make the present invention easily. As mentioned above, [the Cited document 3 to Cited document 1] The propriety of change of "thumbnail image is set up by a setting-out means like the present invention, It originates from there being neither any [matter / of forbidding change of a thumbnail image when it is judged by a determination means based on the change propriety information on the thumbnail image to change at the time of change of a thumbnail image that change is impossible" / characteristic] description, nor suggestion, The thumbnail image in which the contents of "recorded information are shown like the present invention can be beforehand prevented from being changed carelessly. As a result, the thumbnail image and recorded information by a content holder are protected, and it becomes possible to protect the thumbnail image by a user. I consider that the characteristic effect " cannot play at all.

(3) The present invention produces the effect which cannot be found out from the invention in the cited document 3 to Cited document 1 as stated above, And since the presentation of problem to Cited document 1 which can think out the present invention in Cited Document 3, no suggestion of composition, etc. are described, a person skilled in the art does not easily conceive from the invention in the cited document 3 to Cited document 1, and I am sure that it has an Inventive Step sufficiently. Therefore, I ask you to give me again the decision of the purport that it should patent, after an examination. Above

Decision of Refusal (PatentsApplication2002-107158)

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Decision of Refusal

Application number: Japanese Patent Application No. 2002-107158

Date of Drafting: Heisei 19(2007) July 3

Patent examiner: KOBAYASHI, Daisuke 9848 5Q00

Title of the invention: Information edition device, information edition method, information edition program, and information recording medium

Applicant: SANYO ELECTRIC CO., LTD. (and 4 others)

Representative: ISHIKAWA, Yasuo

For this application, reasons for refusal described in the notice of reasons for refusal dated April 10, 2007 should be rejected. In addition, although the contents of the written opinion and the written amendment of proceedings were examined, there is no sufficient evidence to reverse the reasons for refusal.

Remarks

The applicant alleges that, in the written opinion of June 14, 2007, in the inventions described in Cited Documents 2 and 3, the subject of the deletion and change is not a thumbnail image described in the Invention, but is equivalent to the content. However, since it is admitted that the technology itself of

changing the data concerned is conventional technology only when data not to be changed is protected and protection has not started, It is the practice concerned even if the object of deletion and change corresponds to contents in invention described in cited documents 2 and 3. It could have been easily achieved by a person skilled in the art to apply the technology for use to the invention described in the cited document 1. In addition, a configuration in which an attribute to prohibit the change of data attached to the content (for example, file name) is provided not by itself is a mere technique, as seen in Japanese Unexamined Patent Application Publication No. 6 - 035782.

Therefore, the applicant's allegation is not acceptable, and the invention according to Claim 1-12 of the present application could have been easily made by a person skilled in the art based on the inventions described in the cited documents in the notification of reasons for refusal dated April 10, 2007.

When there is an objection to this examiner's decision, the Commissionant of the Patent Office may request a trial for a trial against the examiner's decision (Article 121 (30) of the Patent Act) within days from the date on which the certified copy of the examiner's decision has been served (within 90 days). (Explanation based on the Administrative Case Litigation Act Article 46 (2))

For this decision, an action to seek rescission may be filed only against a request for a trial against the examiner's decision of refusal (Article 178 (6) of the Patent Act).

A Director General(p.p.), a Director(p.p.), an examiner, an assistant examiner, KURANO, Masaaki, KOBAYASHI, Daisuke, and 8721 9848