CLAIMS

1. An information search system for searching detection algorithm information of spectral data necessary for determining a target event from a photographed subject, the information search system comprising:

a first relational database configured to store a first relevance index having at least three levels between each target event of the subject and the detection algorithm information in advance;

a target event input unit configured to receive information containing text data regarding a target event of the subject to be newly determined by a user;

a search unit configured to search at least one piece of detection algorithm information based on information regarding the target event received by the target event input unit by referencing the first relevance index stored in the first relational database;

a display unit configured to display the detection algorithm information searched by the search unit to a user; and

a receive unit configured to receive spectral data obtained by photographing the target event as information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the detection algorithm information searched by the search unit,

wherein the first relational database updates the first relevance index by increasing or decreasing the first relevance index based on an intensity of the spectral data received by the receive unit.

2. The information search system according to claim 1, further comprising:

a suitability database configured to store, in advance, an updating relevance index having at least three levels between a combination of the detection algorithm information and the spectral intensity and suitability; and

a determination unit configured to determine suitability associated at a higher relevance index based on the detection algorithm information searched by the search unit and the intensity of the spectral data received by the receive unit by referencing the updating relevance index stored in the suitability database,

wherein the first relational database updates the first relevance index based on the suitability determined by the determination unit.

3. The information search system according to claim 2, wherein the determination unit determines the suitability based on a relationship with an image characteristic amount of the photographed subject.

4. The information search system according to claim 1, wherein

the photographing terminal creates, based on the detection algorithm information searched by the search unit, a spectral image representing reflectance or transmittance of the subject for each wavelength based on three-dimensional spectral data having two-dimensional spatial information and one-dimensional wavelength information from two-dimensional spectral data, obtained by photographing the subject, and the target event is determined based on the created spectral image.

5. The information search system according to claim 1, wherein the first relational database stores, in advance, the first relevance index having at least three levels between each target event of the subject and the detection algorithm information for specifying a wavelength range in which the target event can be identified as a characteristic wavelength and specifying a plurality of the characteristic wavelengths.

6. An information search system for searching detection algorithm information of spectral data necessary for determining a target event from a photographed subject, the information search system comprising:

a first relational database configured to store a first relevance index having at least three levels between each reference target event of the subject and the detection algorithm information in advance;

a target event input unit configured to receive information regarding a target event of the subject to be newly determined;

a search unit configured to search detection algorithm information associated at a higher relevance index based on a first relevance index having at least three levels between a reference target event corresponding to information regarding the target event received by the target event input unit and the detection algorithm information by referencing the first relevance index stored in the first relational database;

a receive unit configured to receive multispectral data as information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the detection algorithm information searched by the search unit; and

a data restoration unit configured to restore hyperspectral data based on the multispectral data received by the receive unit,

wherein the first relational database updates the first relevance index by increasing or decreasing the first relevance index based on the spectral data restored by the data restoration unit.

7. An information search system for searching a photographing condition of a photographing apparatus for determining a target event from a photographed subject, the information search system comprising:

a second relational database configured to store a second relevance index

having at least three levels between each reference target event of the subject and each photographing condition in advance;

a target event input unit configured to receive information regarding a target event of the subject to be newly determined;

a search unit configured to search a photographing condition associated at a higher relevance index based on a second relevance index having at least three levels between a reference target event corresponding to information regarding the target event received by the target event input unit and each photographing condition by referencing the second relevance index stored in the second relational database; and

a receive unit configured to receive spectral data obtained by photographing the target event as information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the photographing condition searched by the search unit,

wherein the second relational database updates the second relevance index by increasing or decreasing the second relevance index based on an intensity of the spectral data received by the receive unit.

8. The information search system according to claim 7, wherein:

the second relational database stores, in advance, the second relevance index having at least three levels between each reference target event of the subject and the photographing condition, the photographing condition including at least a transmission wavelength of a filter, and

the photographing terminal has an imaging optical system that condenses light from the subject to form an image on an image plane of an image capturing element, and a filter arranged in the middle of an optical path to the image capturing element to transmit only light belonging to a predetermined wavelength region and reflect light of other wavelength regions,

and is configured to sequentially switch a plurality of filters having different transmission wavelength regions based on the photographing condition including the transmission wavelength of the filter searched by the search unit.

9. An information search system for searching a photographing condition of a photographing apparatus for determining a target event from a photographed subject, the information search system comprising:

a second relational database configured to store a second relevance index having at least three levels between each reference target event of the subject and each photographing condition in advance;

a target event input unit configured to receive information regarding a target event of the subject to be newly determined;

a search unit configured to search a photographing condition associated at a higher relevance index based on a second relevance index having at least three levels between a reference target event corresponding to information regarding the target event received by the target event input unit and each photographing condition by referencing the second relevance index stored in the second relational database;

a receive unit configured to receive multispectral data as information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the photographing condition searched by the search unit; and

a data restoration unit configured to restore hyperspectral data based on the multispectral data received by the receive unit,

wherein the second relational database updates the second relevance index by increasing or decreasing based on the spectral data restored by the data restoration unit.

10. The information search system according to claim 1, wherein the first relational database updates the first relevance index by configuring the first relevance index having at least three levels with a neural network.

11. The information search system according to claim 2, wherein the first relational database updates the first relevance index by configuring the first relevance index having at least three levels with a neural network.

12. The information search system according to claim 3, wherein the first relational database updates the first relevance index by configuring the first relevance index having at least three levels with a neural network.

13. The information search system according to claim 4, wherein the first relational database updates the first relevance index by configuring the first relevance index having at least three levels with a neural network.

14. The information search system according to claim 5, wherein the first relational database updates the first relevance index by configuring the first relevance index having at least three levels with a neural network.

15. The information search system according to claim 6, wherein the first relational database updates the first relevance index by configuring the first relevance index having at least three levels with a neural network.

16. The information search system according to claim 7, wherein the second relational database updates the second relevance index by configuring the second relevance index having at least three levels with a neural network.

17. A non-transitory recording medium having stored thereon an information search program for searching detection algorithm information of spectral data necessary for determining a target event from a photographed subject, the information search program causing a computer to execute:

a relevance index acquiring step of acquiring a first relevance index having at least three levels between each reference target event of the subject and the detection algorithm information in advance;

a target event input step of inputting information regarding a target event of the subject to be newly determined;

a search step of searching the detection algorithm information associated at a higher relevance index based on a first relevance index having at least three levels between a reference target event corresponding to information regarding the target event input in the target event input step and the detection algorithm information by referencing the first relevance index acquired in the relevance index acquiring step; and

a receiving step of receiving spectral data obtained by photographing the target event as the information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the detection algorithm information searched in the search step,

wherein, in the relevance index acquiring step, the first relevance index is updated by increasing or decreasing the first relevance index based on an intensity of the spectral data received in the receiving step.

18. A non-transitory recording medium having stored thereon an information search program for searching detection algorithm information of spectral data necessary for determining a target event from a photographed subject, the information search program causing a computer to execute:

a relevance index acquiring step of acquiring a first relevance index having at least three levels between each reference target event of the subject and the detection algorithm information in advance;

a target event input step of inputting information regarding a target event of the subject to be newly determined;

a search step of searching detection algorithm information associated at a higher relevance index based on a first relevance index having at least three levels between a reference target event corresponding to information regarding the target event input in the target event input step and the detection algorithm information by referencing the first relevance index acquired in the relevance index acquiring step;

a receiving step of receiving multispectral data as information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the detection algorithm information searched in the search step; and

a data restoration step of restoring hyperspectral data based on the multispectral data received in the receiving step,

wherein, in the relevance index acquiring step, the first relevance index is updated by increasing or decreasing the first relevance index based on the spectral data restored in the data restoration step.

19. A non-transitory recording medium having stored thereon an information search program for searching a photographing condition of a photographing apparatus for determining a target event from a photographed subject, the information search program causing a computer to execute:

a relevance index acquiring step of acquiring a second relevance index having at least three levels between each reference target event of the subject and each photographing condition in advance;

a target event input step of inputting information regarding a target event of the subject to be newly determined;

a search step of searching a photographing condition associated at a higher relevance index based on a second relevance index having at least three levels between a reference target event corresponding to information regarding the target event input in the target event input step and each photographing condition by referencing the second relevance index acquired in the relevance index acquiring step; and

a receiving step of receiving spectral data obtained by photographing the target event as information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the photographing condition searched in the search step,

wherein, in the relevance index acquiring step, the second relevance index is updated by increasing or decreasing the second relevance index based on an intensity of the spectral data received in the receiving step.

20. A non-transitory recording medium having stored on an information search program for searching a photographing condition of a photographing apparatus for determining a target event from a photographed subject is stored, the information search program causing a computer to execute:

a relevance index acquiring step of acquiring a second relevance index having at least three levels between each reference target event of the subject and each photographing condition in advance;

a target event input step of inputting information regarding a target event of the subject to be newly determined;

a search step of searching a photographing condition associated at a higher relevance index based on a second relevance index having at least three levels between a reference target event corresponding to information regarding

the target event input in the target event input step and each photographing condition by referencing the second relevance index acquired in the relevance index acquiring step;

a receiving step of receiving multispectral data as information regarding the target event of the photographed subject from a photographing terminal that photographs the subject based on the photographing condition searched in the search step; and

a data restoration step of restoring hyperspectral data based on the multispectral data received in the receiving step,

wherein, in the relevance index acquiring step, the second relevance index is updated by increasing or decreasing the second relevance index based on the spectral data restored in the data restoration step.