Appeal decision

Appeal No. 2018-2048

Appellant	MITSUBISHI DENKI KABUSHIKI KAISHA
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The case of appeal against the examiner's decision of refusal of Japanese Patent Application No. 2016-141163, entitled "Image coded data", [the application published on Jan. 5, 2017: Japanese Unexamined Patent Application Publication No. 2017-5723] has resulted in the following appeal decision:

Conclusion

The appeal of the case was groundless.

Reason

No. 1 History of the procedures

The present application is a divisional application filed on July 19, 2016 from Japanese Patent Application No. 2015-522544 which is an application filed on June 11, 2014 (Heisei 26) as an international application date (Priority Claim: June 12, 2013, and August 26, 2013), and the history of the procedures is as follows.

As of August 21, 2017 : Notice of reasons for refusal

October 25, 2017 : Submission of a written opinion and an amendment

As of December 7, 2017 : Decision of refusal
February 14, 2018 : Request for appeal against examiner's decision of refusal
As of May 24, 2019 : Notice of reasons for refusal (by the body)
July 25, 2019 : Submission of a written opinion, and an amendment
As of November 19, 2019 : Notice of reasons for refusal (by the body)
January 23, 2020 : Submission of a written opinion, and an amendment

No. 2 Outline of reasons for refusal of the body

The outline of the reasons for refusal notified by the body as of November 19, 2019 is as follows.

(Applicability as invention) The invention recited in Claim 1 of this application does not meet the requirement stipulated in the main paragraph of 29(1) of the Patent Act in the following points, and thus the Appellant should not be granted a patent for it.

It cannot be said that "image coded data" of Claim 1 is data whose "data structure" realizes information processing in cooperation with an "image decoding device".

Therefore, "image coded data" of Claim 1 is data in which, in information processing based on "data structure", a particular technical feature is not recognized, and, further, it is only showing a use as "to be used for decoding processing", and thus it falls under the category of ones that perform "just presentation of information".

Accordingly, "image coded data" according to Claim 1 does not fall under "a creation of technical ideas utilizing a law of nature", and, therefore, it does not fall under "invention" ("a creation of technical ideas utilizing a law of nature") stipulated in the main paragraph of 29(1) of the Patent Act.

No. 3 The Invention

The invention according to Claim 1 of the present application (hereinafter, referred to as "the Invention") is an invention specified by the matters recited in Claim 1 of the Scope of Claims amended by the amendment on Jan. 23, 2020, and is as follows.

Note that, reference characters of (A)-(C4) of respective constitutions are ones that have been assigned by the body for the purpose of explanation, and, hereinafter, the

constitutions are referred to as Constitution A to Constitution C4. In addition, the underlines indicate the portions amended by the amendment of Jan. 23, 2020.

(The Invention)

(A) Image coded data in which each of frames consists of two fields: a first field and a second field, the image coded data being constituted of a plurality of data encoded for each picture of each field of each of the frames, and the plurality of data including, for each data, a plurality of coded data of a maximum block unit created by dividing the picture, wherein

(B) the image coded data comprises:

(B1) first data created by encoding a first picture that is a first field of a specific frame having any position in each of the plurality of frames, and that is an intra picture and a non-IRAP (non-Intra Random Access Point) picture;

(B2) second data created by encoding a second picture that is a second field of the specific frame whose encoding order is later than that of the first field, and is inter predicted using the first picture of the first data; and

(B3) third data created by encoding a third picture whose encoding order is later than that of the specific frame and whose display order is earlier than that of the specific frame, and is inter predicted using the first picture of the first data or the second picture of the second data, wherein

(B4) the first data, the second data, and the third data include, for each data, header information related to a coded picture, a plurality of coded data of the maximum block unit created by dividing the relevant picture, information indicating a dividing situation of blocks created by dividing the maximum block hierarchically, and an encoding mode in units of a block,

(B5) the coded data of the maximum block unit has compression data of a difference image of the plural blocks,

(B6) the header information related to the picture of the first data includes information indicating that the picture is a non-IRAP picture, and, in addition, the first picture of the first data is a picture at which decoding can be started from a middle of a bit stream, and

(B7) the encoding mode of the first data indicates an intra prediction mode, wherein

(C) the image coded data is used,

by an image decoding device to decode the image coded data, for processing of

(C1) decoding header information related to the picture, and,

based on the header information related to the picture, identifying the first data created by encoding the first picture,

(C2) not conducting decoding processing to coded data of a maximum block unit included in data having header information having been decoded until the first data is identified,

(C3) when the first data is identified,

(C31) starting decoding processing of coded data of a maximum block unit using the first data, generating a difference image from compression data, generating a prediction image by performing intra prediction that refers to a block within the first picture based on the encoding mode indicating the intra prediction mode, and decoding the first picture based on the difference image and the prediction image generated,

(C32) using the second data, generating a difference image from compression data, generating a prediction image by performing intra prediction that refers to a block within the first picture, and decoding the second picture based on the difference image and the prediction image generated,

(C33) using the third data, generating a difference image from compression data, generating a prediction image by performing intra prediction that refers to a block within the first picture or a block within the second picture, and decoding the third picture based on the difference image and the prediction image generated, and

(C4) after outputting the third picture whose display order is earlier than that of the specific frame, outputting the first picture of the specific frame or the second picture of the specific frame.

No. 4 Judgment

1. Regarding the matters specifying the invention of the Invention as "image coded data"

(1) Constitution of "image coded data"

"Image coded data" of the Invention is data in which "each of frames consisting of two fields: a first field and a second field, the image coded data being constituted of a plurality of data encoded for each picture of each field of each of the frames", and "the plurality of data including, for each data, a plurality of coded data of a maximum block unit created by dividing the picture" (Constitution A).

Then, the relevant "image coded data" has, as shown in Constitution B, "first data created by encoding a first picture that is a first field of a specific frame having any

position in each of the plurality of frames, and that is an intra picture and a non-IRAP picture" (Constitution B1), "second data created by encoding a second picture that is a second field of the specific frame whose encoding order is later than that of the first field, and is intra predicted using the first picture of the first data" (Constitution B2), "third data created by encoding a third picture whose encoding order is later than that of the specific frame and whose display order is earlier than that of the specific frame, and is intra predicted using the first picture of the first data or the second picture of the second data"(Constitution B3), and "the first data, the second data, and the third data" includes "for each data, header information related to a coded picture, a plurality of coded data of the maximum block unit created by dividing the relevant picture, information indicating a dividing situation of blocks created by dividing the maximum block hierarchically, and an encoding mode in units of a block" (Constitution B4).

In addition, "the coded data of the maximum block unit" has "compression data of a difference image of the plural blocks" (Constitution B5), "the header information related to the picture of the first data" includes "information indicating that the picture is a non-IRAP picture, and, in addition, the first picture of the first data is a picture at which decoding can be started from a middle of a bit stream" (Constitution B6), "the encoding mode of the first data" indicates "an intra prediction mode" (Constitution B7).

(2) Information processing carried out based on "image coded data"

"Image coded data" of the Invention is data to which decoding processing is carried out by "image decoding device" of Constitution C, and it is recited that the decoding processing of Constitution C1 to Constitution C4 is carried out.

It can be said that Constitution C1 is information processing to decode "header information", and identify "the first data" based on "header information".

It can be said that Constitution C2 is information processing that does not carry out decoding processing with respect to "the coded data of a maximum block unit" until "the first data" is identified.

It can be said that Constitution C3 is information processing that starts, when "the first data" is identified, decoding processing with respect to "the coded data of a maximum block unit" using "the first data", decodes "the first picture" (Constitution C31), decodes "the second picture" using "the second data" (Constitution C32), and decodes "the third picture" using "the third data" (Constitution C33).

Further, it can be said that Constitution C4 is information processing to output, after outputting "the third picture", "the first picture" or "the second picture".

2. Judgment on Applicability as invention

(1) Regarding "data structure" of "image coded data"

A. "Coded data" generated by international standard image encoding methods such as MPEG is, generally, a bit stream in which a packetized video stream, an audio stream, control information etc. are multiplexed, and packaged into a specific format (data structure).

Then, video coded data in a video stream has a hierarchy structure, and the hierarchy structure consists of each hierarchy of, from a higher layer, Sequence, Picture, Slice, Maximum block, Coding block etc., and is data that is constituted of: coding related information (header or parameter set) of each hierarchy that describes information related to processing parameters of encoding of each hierarchy and the relevant video coded data; and video coded data of the hierarchy of Coding block.

B. "Image coded data" of Constitution A will now be discussed below.

Constitution A recites that "image coded data" is constituted of "a plurality of data encoded for each picture of each field of each of the frames", "each frame" in question having two fields of "first field" and "second field", and "a plurality of data" in question include "for each data, a plurality of coded data of a maximum block unit created by dividing the picture".

Therefore, it can be said that the matter that "image coded data" of Constitution A is constituted of "a plurality of data" is a matter that specifies that "image coded data" of Constitution A is constituted of "a plurality of data" of the hierarchy of Picture.

In addition, it can be said that the matter that "a plurality of data" of Constitution A includes "a plurality of coded data" specifies that "a plurality of data" of Constitution A are constituted of "a plurality of coded data of a maximum block unit" of the hierarchy of Maximum block.

C. "Image coded data" of Constitution B1 to Constitution B3 will be discussed below.

Constitution B1 to Constitution B3 only recite that "image coded data" have "the first data" to "the third data" for each picture having respective predetermined attributes, and, therefore, it cannot be said that these specify the hierarchy structure of "image coded data".

D. "Image coded data" of Constitution B4 to Constitution B5 will be discussed below.

Constitution B4 specifies that "the first data" to "the third data" include, for each data, "header information", "a plurality of coded data of a maximum block unit", "information indicating a situation of block dividing to hierarchically divide a maximum block" and "an encoding mode in units of a block".

Constitution B5 specifies that "the coded data of the maximum block unit" of Constitution B4 includes "compression data of a difference image of the blocks" created by hierarchically dividing a maximum block.

Therefore, it is specified that: "image coded data" of Constitution B4 to Constitution B5 is constituted of "the first data", "the second data" and "the third data" of the hierarchy of Picture; "the first data", "the second data" and "the third data" include "a plurality of coded data of a maximum block unit" of the hierarchy of Maximum block; and, further, "the coded data of a maximum block unit" in question includes "compression data of a difference image of the blocks" of the hierarchy of Coding block.

E. "Image coded data" of Constitution B6 to Constitution B7 will be discussed below.

Constitution B6 only specifies information included in "header information" included in "the first data" of Constitution B4, and Constitution B7 only indicates the content of "an encoding mode in units of a block" included in "the first data" of Constitution B4, and thus neither of these is one that specifies the data structure of "image coded data".

F. According to the above-mentioned A, B, and D, since it can be said that "image coded data" of the Invention is constituted of data constituted of respective hierarchies of Sequence, Picture, Maximum block, and Coding block, it is data in which logical relation between elements has a hierarchy structure, and, therefore, it can be said that it is data having "data structure".

(2) Regarding "one that concretely performs information processing based on a data structure"

"Image coded data" of the Invention is as mentioned in the above 1(2).

It can be said that the information processing of Constitution C2 and Constitution C3 is nothing but determining whether not to perform or to start information processing of "the first data", "the second data", and "the third data"

including "the coded data of a maximum block unit" based on "header information" related to a picture, and specifying decoding processing (information processing) of "the first data", "the second data", and "the third data".

Therefore, it cannot be said that "image coded data" of the Invention concretely realizes information processing based on "data structure" of data in which logical relation between data elements of "a plurality of data" and "header information" of the hierarchy of Picture, "a plurality of coded data of a maximum block unit" of the hierarchy of Maximum block, and "compression data of a difference image of the blocks" of the hierarchy of Coding block has a hierarchy structure, in cooperation with an "image decoding device".

Accordingly, it cannot be said that, regarding "image coded data" of the Invention, information processing based on "data structure" of data having a hierarchy structure is concretely realized, and it is only indicated that decoding is performed in decoding processing, and, therefore, it can be said that it falls under the category of ones that perform "just presentation of information".

3. Regarding allegations in the written opinion

The Appellant alleges, in 2.2.(2)C of the written opinion on January 23, 2020, as follows.

"In other words, "image coded data" of the Invention is data by which, based on "header information related to a picture" that is data of the hierarchy of Picture, at a stage "header information related to a picture" that is data of the hierarchy of Picture has been decoded, it can be recognized that the processed data is not a picture for which decoding can be started from the middle of a bit stream, and at a stage without decoding processing to data of the hierarchy of Block included in the relevant data that is not a picture for which decoding can be started from the middle of a bit stream and "header information related to a picture" that is data of the hierarchy of Picture has been decoded, it can be recognized that the processed data is a picture for which decoding can be started from the middle of a bit stream, and decoding processing to data of the hierarchy of Block in the first data encoded from the first picture capable of being decoded is started, and, on the occasion of the decoding processing, based on "an encoding mode indicating the intra prediction mode" corresponding to data of the hierarchy of Block, intra prediction processing is performed and processing to generate a decoded image can be realized."

"In this way, the Invention is an invention in which, by inputting coded data and encoding related information arranged in "image coded data" that is data having a "data structure" to an "image decoding device" and by cooperating with the "image decoding device", the above mentioned special information processing is realized as decoding processing to generate a decoded image in the "image decoding device".

Therefore, the Invention is an invention that concretely carries out information processing based on a "data structure" based on the hierarchy structure of "image coded data", and coded data and encoding related information arranged in each hierarchy."

However, as has been judged in the above-mentioned 2(2), the above-mentioned allegation by the Appellant according to the written opinion cannot be adopted.

4. Summary

As described above, "image coded data" of Claim 1 of the present application is data that performs "just presentation of information", and, therefore, it does not fall under "a creation of technical ideas utilizing a law of nature", and does not fall under "invention" ("a creation of technical ideas utilizing a law of nature") stipulated in the main paragraph of 29(1) of the Patent Act.

No. 5 Closing

As above, the Invention does not meet the requirement stipulated in the main paragraph of 29(1) of the Patent Act, and thus the Appellant should not be granted a patent for it.

Therefore, the appeal decision shall be made as described in the conclusion.

March 2, 2020

Chief administrative judge: TORII, Minoru
Administrative judge: SHIMIZU, Masakazu
Administrative judge: KAWASAKI, Hiroshi