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Case Number: T 2125/17 - 3.5.06

Application Number: 11183240.8

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Language of the proceedings: EN

Title of invention:
Device, method and program for the automated generation of a list of operations

Applicant:
FUJIFILM Corporation

Headword:
Automated operation list/FUJIFILM

Relevant legal provisions:
EPC Art. 84

Keyword:
Claims - support by the description (no)
Claims - clarity (no)

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Case Number: T 2125/17 - 3.5.06

D E C I S I O N
of Technical Board of Appeal 3.5.06
of 28 February 2022

Appellant: (Applicant)	FUJIFILM Corporation 26-30, Nishiazabu 2-chome Minato-ku Tokyo 106-8620 (JP)
Representative:	Klunker IP Patentanwälte Partnerschaft mbB Destouchesstraße 68 80796 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 12 April 2017 refusing European patent application No. 11183240.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	M. Müller
Members:	M. Domingo Vecchioni
	K. Kerber-Zubrzycka

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division, dated 12 April 2017, to refuse European patent application No. 11183240.

II. The examining division refused the application on the basis that the application according to a main and an auxiliary request did not meet the requirements of Articles 84 and 123(2) EPC.

III. Notice of appeal was filed on 19 June 2017, the appeal fee being paid on the same day. With the grounds of appeal, dated 22 August 2017, the appellant requested that the decision of the examining division be set aside and that a patent be granted on the basis of the main request or the auxiliary request. Oral proceedings were conditionally requested.

IV. In an annex to a summons to oral proceedings, the board provided its preliminary opinion on the appeal. The claims according to the main and the auxiliary request appeared to infringe the requirements of Articles 84 and 123(2) EPC.

V. With a reply received on 14 February 2022, the appellant indicated that it would not attend the oral proceedings, withdrew its request for oral proceedings and requested a decision according to the state of the file.

VI. The oral proceedings were thereupon cancelled.

VII. Independent claim 1 according to the main request reads as follows:

"An automated operation list generation device (1) for generating an automated operation list (L), the automated operation list (L) causing a plurality of operations, which form a process to generate an image according to a desired purpose, to be automatically executed in a desired order with using an image analysis application that is able to execute the operations in any order according to input by the user, the device comprising:

inputting means (4) for receiving input of selection of a desired operation from the operations in a desired order and, as necessary, input of a necessary processing parameter for the selected operation;

operation information obtaining means (11) for obtaining operation information included in a stored operation information table (T) prepared in advance, based on the operation corresponding to the input received by the inputting means (4), the operation information classifying the operation corresponding to the input into a non-routine operation, which requires input of a processing parameter during execution of the automated operation list (L), or a routine operation other than the non-routine operation in advance; and

automated operation list generating means (12) for generating the automated operation list (L) based on the obtained operation information by registering, if the operation corresponding to the input is a routine operation, the operation corresponding to the input in the automated operation list (L) with associating, as necessary, a necessary processing parameter for the operation with the operation, and if the operation corresponding to the input is a non-routine operation, registering the operation corresponding to the input in the automated operation list (L)."

VIII. Independent claim 1 according to the auxiliary request differs from that according to the main request in that the following feature is added at its end:

"... and further comprising changing means (14) adapted to change a non-routine operation in the generated automated operation list (L) into a routine operation based on the input of a processing parameter received by the inputting means (4) or based on the selection of a processing parameter stored in advance."

IX. Both requests also contain an independent method claim and an independent storage medium claim corresponding to independent device claim 1: claims 12 and 13 in the main request and claims 11 and 12 in the auxiliary request.

Reasons for the Decision

The application

1. Given that the issues raised by the examining division in respect of Article 84 EPC mainly turned on possible contradictions between the claims and the description and drawings, as well as within the description, the board starts by giving its understanding of the application as far as relevant for the independent claims of both requests. This summary was contained in the board's preliminary opinion and was not challenged by the appellant.

2. The application relates to a computer-implemented method (and corresponding device and program) enabling a user to define a sequence of operations to be automatically executed by an image analysis application so as to generate an image in accordance with a

particular purpose of the user (page 1, lines 5-9).

For example, in the medical field (which is not claimed), a medical image obtained by computer tomography may need to be processed according to a sequence of operations so as to generate an image in which a body part of interest is shown in a visually recognisable manner for medical diagnosis purposes (page 1, lines 11-21; page 5, lines 17-26).

The "operations" may be, for instance, an operation to select a 3D image, to reduce an image, to cut a part of an image but also an operation to store an image at a particular location or to close an operation window (page 5, lines 11-16; page 6, line 33 to page 7, line 7; page 17, line 30 to page 18, line 5; page 19, lines 17-29; page 27, lines 14-22).

3. Operations selected by the user are registered in a desired order in a generated "automated operation list (L)" (illustrated in figure 3) that is meant to be subsequently used to control the automatic execution of the sequence of operations.

Some operations may require the input of a "processing parameter" for their execution. For instance, for an operation to reduce an image, the reduction factor may be such a required processing parameter (page 6, lines 20-24; page 19, lines 25-29). Other operations, such as an operation of closing the operation window, may not require the input of any processing parameter (page 7, lines 2-7; page 17, line 34 to page 18, line 5).

For a fully automatic execution of the sequence of operations, all processing parameters required by the selected operations would thus in principle have to be

predefined in the automated operation list.

The application is concerned with the problem of facilitating the generation of an automated operation list for a user who may not have enough knowledge about the processing parameters that may be needed for each operation (page 2, lines 14-34).

4. For that purpose, an "operation information table (T)" (illustrated in figure 2) is provided in advance of the generation of an automated operation list by the user.

This table comprises, for each operation that may be carried out by the image analysis application, a classification of the operation as a "routine operation" or a "non-routine operation", as well as an initial value for any necessary processing parameter for the operation. See figure 2, page 18, lines 19-27, and page 25, lines 10-17 ("Before the automated operation list is generated, the processing parameters are set at initial values given in advance.").

5. When the user selects an operation to be included in the automated operation list, the classification of the operation as a routine or non-routine operation is obtained from the operation information table (page 18, lines 13-19). The selected operation is then registered in the automated operation list in the desired order and is set, in the automated operation list, as a routine or non-routine operation according to the obtained classification (figure 3, column "classification"; page 20, lines 4-15).

This setting for each operation in the automated operation list may be manually changed by the user before or even during execution of the list (see point 8 below).

Hence, for each operation registered in the automated operation list, it is the ultimate setting of the operation as a "routine operation" or "non-routine operation" in the automated operation list - not its classification in the operation information table - that ultimately determines how the operation will be executed during execution of the list (page 27, lines 1-22).

6. If an operation is set as a "routine operation" in the automated operation list, it will be executed without requiring any user input during execution of the list (page 5, line 35 to page 6, line 19; page 19, lines 5-24).

An operation set as a "routine operation" may be an operation that does not require any processing parameter as input at all, e.g. an operation to close the operation window. It may also be an operation which requires a processing parameter as input, in which case the required processing parameter would have had to be previously registered in the automated operation list in association with the operation before execution of the list (see figure 3: column "processing parameter"; page 12, lines 1-16). During execution of the list, it is this processing parameter registered in the list that would be used for the automatic execution of the operation (page 7, line 35 to page 8, line 8; page 19, lines 5-29; page 20, lines 22-26).

During generation of the list, a processing parameter for a selected operation may be directly specified by an input by the user of a particular value for the processing parameter, e.g. a reduction factor (page 6, lines 20-24; page 19, lines 25-29). It may also be indirectly specified by indication of a predetermined

function or rule enabling a derivation of the processing parameter during execution of the list from the results of previous operations in the list (page 5, line 35 to page 6, line 24; page 7, lines 8-16; page 19, lines 5-29; page 20, lines 16-21; page 27, lines 1-26; page 40, lines 5-15).

According to figure 5, a flow chart for the automated operation list generation method, if a selected operation is classified as a routine operation in the operation information table, any processing parameter required for that operation is "specified based on [a] detected operation by the user" (figure 5, steps S02-S05; page 26, lines 24-32). The specified processing parameter is then registered in the list in association with the selected operation (page 26, line 32 to page 27, line 6).

7. If the operation is set as a "non-routine operation" in the automated operation list, it will not be automatically executed during execution of the list. When that operation is about to be executed, the user will instead be prompted to provide an input (page 5, lines 27-34; page 8, lines 8-12; page 18, line 33 to page 19, line 4; figure 7).

The user input for such a non-routine operation during execution of the list may be: (i) to execute the operation based on a processing parameter that has been previously registered in association with that operation in the list, (ii) to receive input by the user of a processing parameter based on which the operation is to be executed, or (iii) to skip the operation (page 8, lines 13-23; page 13, lines 11-35; page 20, lines 26-33; page 33, line 7 to page 34, line 9). This user input may be provided as illustrated in figure 7.

In one embodiment, for each non-routine operation, any required processing parameter is indeed specified and registered in association with the respective operation in the list at the time of generating the list (page 8, lines 13-35; page 20, lines 12-15; page 21, lines 6-16; page 28, lines 1-8).

The description indicates however that this is not an essential feature. See page 27, line 33 to page 28, line 1: "It should be noted that, for the non-routine operations, whether or not a processing parameter is associated with each non-routine operation to be registered in the automated operation list L is not essential." In the embodiment corresponding to the flow chart of figure 5, it appears indeed not to be foreseen to specify any processing parameter for non-routine operations (see figure 5: arrow from S04 "NO" to S06; see also page 19, line 30 to page 20, line 4). It seems that in such an embodiment input option (i) would not be available.

8. The user may furthermore have the possibility via "changing means" to change the setting of an operation registered in a generated automated operation list from "non-routine operation" to "routine operation". This requires an input from the user as to whether (i) a processing parameter previously registered in the list in association with the operation, if any is registered, is to be used for the execution of the operation as "routine operation" (in which case the registered processing parameter would remain unchanged in the list) or (ii) a newly received processing parameter for the operation is to be registered in the list in association with the operation (which would correspond to an update of a registered processing parameter if one was already registered). This user input may be

provided as illustrated in figure 8. A change from "routine operation" to "non-routine operation" may also be possible. A change may be carried out by the user with the "changing means" either after initial generation of the list but before its execution, or during its execution. See page 7, lines 17-34; page 12, line 22 to page 13, line 3; page 21, line 30 to page 22, line 2; page 22, lines 10-18; page 32, lines 9-12; page 34, line 23 to page 35, line 33; figure 8; page 36, lines 15-28; page 37, line 25 to page 38, line 7; page 41, lines 3-18.

Main request - Article 84 EPC

9. The board agrees with the examining division (see points 3.4 and 3.4.1, second bullet point, of the decision under appeal, point 3.4 including by reference *inter alia* points 3.1 to 3.8 of the annex to the summons to oral proceedings dated 8 September 2016) that claim 1 does not define the notions of "routine operation" and "non-routine operation" in the sense that these notions have in the description.

9.1 As claim 1 is worded, a skilled person would not exclude, and even find it to be the most natural interpretation, that it is an inherent property for any operation to be a routine or a non-routine operation: see the claim features "classifying the operation corresponding to the input into a non-routine operation, which requires input of a processing parameter during execution of the automated operation list (L), or a routine operation other than the non-routine operation" as well as "if the operation corresponding to the input *is* a routine operation / a non-routine operation" (emphasis added).

From these claim features, the skilled person would conclude that, for instance, an operation to reduce an image must be classified as a "non-routine operation" because its execution requires the input (by a user or by the system) of a reduction factor as processing parameter.

It appears to be this interpretation that has led the examining division to find contradictions between claim 1 and dependent claims, as well as between these claims and the description (see points 3.3 to 3.6 of the annex to the summons to oral proceedings dated 8 September 2016 and point 3.4.1, second bullet point, of the decision under appeal).

However, in the board's understanding of the application (see point 5 above), a given operation involving a processing parameter, e.g. an operation to reduce an image, may be *set* as a routine or non-routine operation. And it is the *setting* as a routine or non-routine operation *stored in the automated operation list (L) in association with the operation* - not the classification of the operation comprised in the operation information table (T), which is only used for the initial setting in the list - that determines whether a user input will be requested for that operation during execution of the list. A skilled person reading the application as a whole would not have come up with any other technically sensible interpretation of routine and non-routine operations.

Claim 1 is not limited to this interpretation, in particular as it is silent on any storage of a setting as routine or non-routine operation in the automated operation list.

Claim 1 is thus not supported by the description, Article 84 EPC.

9.2 These considerations were contained in the board's preliminary opinion, to which the appellant chose not to respond in substance.

In the grounds of appeal, the appellant had argued that claim 1 defines a "non-routine operation" as one "requir[ing] input of a processing parameter during execution of the automated operation list" and that this would imply that the user is prompted to input a processing parameter.

The board is not convinced by this argument. Firstly, it does not address the discrepancy identified above between the definitions of routine and non-routine operations in claim 1 and in the description. Secondly, claim 1 does not specify that the required input during execution of the list would be an input *by the user*. It could also be an input by the system itself (as in the case where a predetermined function or rule would be defined for the processing parameter, as explained at point 6 above), in which case no prompt to the user would be required.

10. Moreover, the board finds that claim 1 lacks clarity in relation to the feature of "receiving [...], *as necessary*, input of a *necessary* processing parameter for the selected operation".

It is not clear from the claim whether the specified necessity is related to user needs (who may not be fully knowledgeable about all required processing parameters - page 2, lines 14-27), to the selected operation per se (i.e. an input of a processing

parameter value is necessary for each operation involving a processing parameter and not necessary for any operation not involving one) or rather to the classification of the selected operation as a "routine operation" or "non-routine operation" (as could be suggested by the flow chart of figure 5).

Claim 1 refers later in the claim to "associating, as necessary, a necessary processing parameter", without establishing a clear relationship to the parameters being "input" before. The notion of necessity in that latter feature is also unclear.

Also these objections were contained in the board's preliminary opinion.

11. These objections under Article 84 EPC also apply, *mutatis mutandis*, to corresponding independent method claim 12 and independent storage medium claim 13.

12. The board thus comes to the conclusion that independent claims 1, 12 and 13 are not clear and not supported by the description, Article 84 EPC.

Auxiliary request - Article 84 EPC

13. The independent claims according to the auxiliary request differ from those according to the main request essentially only in that a feature relating to the "changing means" has been incorporated into independent claim 1.

14. The addition of this feature does not relate to, let alone overcome the objection of lack of clarity raised at point 10 above, nor has this been argued by the appellant. This objection thus still applies, *mutatis*

mutandis, to independent claims 1, 11 and 12 of the auxiliary request.

Conclusion

15. Based on the foregoing, the board concludes that the main request and the auxiliary request fail to meet the requirements of Article 84 EPC.

16. The other issues under Article 84 and 123(2) EPC raised in the decision under appeal and in the annex to the summons to oral proceedings by the board can thus be left open.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

L. Stridde Martin Müller

Decision electronically authenticated