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Datasheet for the decision of 18 July 2014

Case Number: T 1214/09 - 3.5.07

Application Number: 99114621.8

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Language of the proceedings: EN

Title of invention:
Information managing device

Applicant:
Sharp Kabushiki Kaisha

Headword:
Information managing device/SHARP

Relevant legal provisions:
EPC Art. 56
EPC R. 137(3)

Keyword:
Non-admission of request by the Examining Division - incorrect exercise of discretion (yes)
Inventive step - all requests (no)

Decisions cited:
G 0007/93, T 0643/00, T 0049/04, T 0154/04, T 1143/06, T 1749/06, T 1741/08

Catchword:
See points 4.8, 5, 6.3 and 6.7.2 of the reasons

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Case Number: T 1214/09 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 18 July 2014

Appellant: (Applicant)	Sharp Kabushiki Kaisha 22-22 Nagaike-cho Abeno-ku Osaka 545-8522 (JP)
Representative:	Müller - Hoffmann & Partner Patentanwälte St.-Martin-Strasse 58 81541 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 26 January 2009 refusing European patent application No. 99114621.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	R. Moufang
Members:	R. de Man
	P. San-Bento Furtado

Summary of Facts and Submissions

I. The applicant (appellant) lodged an appeal against the decision of the Examining Division refusing European patent application No. 99114621.8.

II. The contested decision cited the following documents:

D2: Freeman E. et al.: "Lifestreams: Organizing your Electronic Life", AAAI Fall Symposium: AI Applications in Knowledge Navigation and Retrieval, November 1995; and

D4: "Mechanism for Visual Lists and Selections", IBM Technical Disclosure Bulletin, Vol. 40, No. 5, May 1997, pages 69 and 70.

The Examining Division came to the conclusion that the subject-matter of claim 1 of a main request lacked an inventive step in view of document D2. A first and a second auxiliary request were not admitted into the proceedings under Rule 137(3) EPC.

III. With the statement of grounds of appeal, the appellant maintained its main request and submitted new first and second auxiliary requests.

IV. In a communication accompanying a summons to oral proceedings, the Board introduced the following document:

D6: JP 07-200635, published on 4 August 1995, and the corresponding Patent Abstract of Japan.

For the appellant's convenience, the Board provided it with an English translation of document D6.

The Board *inter alia* expressed the preliminary view that the subject-matter of claim 1 of each request lacked an inventive step.

V. With a letter dated 18 June 2014, the appellant amended its main request and first and second auxiliary requests and filed a new third auxiliary request.

VI. Oral proceedings were held on 18 July 2014. At the end of the oral proceedings, the chairman pronounced the Board's decision.

VII. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request or, in the alternative, of one of the first to third auxiliary requests.

VIII. Claim 1 of the main request reads as follows:

"An information managing device, comprising:

image storage means (51) for storing a plurality of image files;

input means (4) for entering a command to display the plurality of image files;

thumbnail storage means (52) for storing thumbnail files each corresponding to one of the plurality of image files stored in the image storage means (51);

thumbnail display means (14) for displaying images of the thumbnail files stored in the thumbnail storage means (52) on a display screen (11) according to a command entered through the input means (4);

image file display means (14) for reading, from the image storage means (51), the image file corresponding to the thumbnail file selected through the input means (4) from the thumbnail files displayed

on the display screen (11), and displaying that image file on the display screen (11), characterized in that

the information managing device further comprises a thumbnail file determination means for determining a thumbnail file to be displayed on the display screen (11) according to the command entered through the input means (4) from a user and table creating means (14) for creating, according to the number of thumbnail files to be displayed on the display screen (11), co-ordinate tables indicating co-ordinates of displayed locations on the display screen (11) of the thumbnail files, and

the table creating means (14) is adapted to create said display screen co-ordinates tables so that the images of the thumbnail files are configured so as to partially overlap each other in a three-dimensional manner."

IX. Claim 1 of the first auxiliary request differs from claim 1 of the main request in that its characterising part reads:

"the information managing device further comprises table creating means (14) for creating display screen co-ordinates tables for the thumbnail files, based on the number of the thumbnail files to be displayed, wherein the display screen co-ordinates of a table define positions at which the images of the thumbnail files are displayed on the display screen (11), and

the table creating means (14) is adapted to create said display screen co-ordinates tables so that the images of the thumbnail files are configured so as to partially overlap each other in the form of a three-dimensional ring, and the information managing device further comprises

rotation command means (24a) for rotating the images of the thumbnail files configured in the form of a ring on the display screen (11) around a central axis of the ring-form configuration according to the command entered through the input means (4), and

the table creating means (14) is adapted to create a plurality of display screen co-ordinates tables corresponding to a plurality of positions of the images of the thumbnail files during rotation around the central axis of the ring-form configuration."

X. Claim 1 of the second auxiliary request differs from claim 1 of the main request in that its characterising part reads:

"the information managing device further comprises table creating means (14) for creating display screen co-ordinates tables for the thumbnail files, based on the number of the thumbnail files to be displayed, wherein

the table creating means (14) is adapted to create said display screen co-ordinates tables so that the images of the thumbnail files are configured so as to partially overlap each other in the form of a ring, and first rewriting means for, when one or more of the thumbnail files are selected through the input means (4), counting and storing the number of times that each of the selected thumbnail files has ever been searched for, and rewriting the display order of the thumbnail files stored in the thumbnail storage means (52) according to the number, wherein

the thumbnail display means (14) is specified to configure the images of the thumbnail files in the form of a ring and includes a first arrangement specifying section for arranging the thumbnail files on the display screen (11) sequentially from a front row to a

far back row in descending order of the number of times that each of the selected thumbnail files has ever been searched for."

XI. Claim 1 of the third auxiliary request differs from claim 1 of the main request in that its characterising part reads:

"the information managing device further comprises table creating means (14) for creating display screen co-ordinates tables for the thumbnail files, based on the number of the thumbnail files to be displayed, wherein

the table creating means (14) is adapted to create said display screen co-ordinates tables so that the images of the thumbnail files are configured so as to partially overlap each other in the form of a ring, and first rewriting means for, when one or more of the thumbnail files are selected through the input means (4), counting and storing the number of times that each of the selected thumbnail files has ever been searched for, and rewriting the display order of the thumbnail files stored in the thumbnail storage means (52) according to the number, wherein

the thumbnail display means (14) includes:

monitoring means for monitoring the time when one or more of the thumbnail files are searched for, and image files corresponding to those thumbnail files are inputted; and

a second rewriting means for creating a partial cluster of only those image files inputted during a period of time designated through the input means (4) according to the monitoring means, and rewriting the thumbnail files stored in the thumbnail storage means (52) according to a partial cluster."

XII. The appellant's arguments with respect to the main request which are relevant to this decision can be summarised as follows.

All features distinguishing the subject-matter of claim 1 from the device of document D6 contributed to the problem of enabling more efficient image retrieval. In particular, the arrangement of the thumbnail file images on the display was made dependent on the number of displayed thumbnail file images. The size of the display screen could therefore be utilised in an optimum manner regardless of the number of thumbnail file images to be displayed. In addition, the display of the thumbnail file images in a three-dimensional and partially overlapping manner allowed more images to be displayed simultaneously in a recognisable manner.

Document D6 was not concerned with this problem. Instead, it addressed the problem of decreasing the time between the selection of a thumbnail file image and the display of the corresponding image file. As had been noted in paragraph [0006] of the present application, when displaying a large number of thumbnail file images in a side-by-side manner on the screen as was done in document D6, the images became so small that they were difficult to recognise.

The present case was to be distinguished from decision T 1143/06 of 1 April 2009. According to point 3.3 of the reasons of that decision, a non-technical claim feature was a feature which did not interact with the technical features to produce a technical effect. The claimed table creating means constituted a technical feature interacting with the features defining the manner in which the thumbnail file images were displayed.

The reasoning of decision T 643/00 of 16 October 2003 on the other hand did apply to the present case. The invention that was the subject of that decision also addressed the problem of making the searching process easier to the user by providing a technical tool for efficient search, retrieval and evaluation of images. The claimed features relating to the format of images displayed were not considered to be a presentation of information as such. Also, the present claims related to *how* the images were displayed.

Similarly, in decision T 49/04 of 18 October 2005 a presentation of natural language text on a display which improved readability was considered to contribute to a technical solution of a technical problem as it related to *how*, i.e. by what physical arrangement of the text, cognitive content was conveyed to the user. This approach was confirmed by decision T 1749/06 of 24 February 2010.

Document D4, which related to selection from a list of "choices", did not explicitly disclose that choices were displayed in a partially overlapping fashion.

It was contested that the use of tables had been notorious knowledge at the priority date of the application. This feature ensured a reliable and reproducible display of the thumbnail file images and avoided programming errors.

XIII. With respect to the first auxiliary request, the appellant submitted that the arrangement of thumbnail file images in a three-dimensional ring form in combination with the claimed rotation means allowed the relative positions of the thumbnail file images to be

changed so that, if the frontmost thumbnail file image was not the desired one, the desired image could easily be moved to the front using a simple rotation command. This improved visual identification of the thumbnail files, increased search efficiency and simplified operation of the information managing device. Document D4 disclosed displaying choices in the form of a ring, but did not disclose rotating the choices by means of a rotation command means.

XIV. With regard to the second and third auxiliary requests, the appellant essentially argued that the available prior art did not disclose the further features added to independent claim 1.

Reasons for the Decision

1. The appeal complies with the provisions referred to in Rule 101 EPC and is therefore admissible.

2. *The invention*

2.1 The invention relates to an information managing device comprising an image storage means for storing a plurality of image files and a thumbnail storage means for storing thumbnails corresponding to the image files. The device further has input means and a display screen. In accordance with a command entered through the input means, "images of the thumbnail files" are displayed on the display screen by "thumbnail display means". In response to a selection of a thumbnail file through the input means, the corresponding image file is read from the image storage means and displayed on the display screen by "image file display means". The Board understands both "thumbnail display means" and

"image file display means" to refer to suitable software means for performing these tasks. Indeed, claim 1 of each of the requests attaches to both means a reference to CPU 14 (see Figure 2).

2.2 The device further comprises "table creating means (14)", which is also understood to refer to suitable software means. The table creating means is adapted to create "display screen co-ordinates tables" which store the co-ordinates of the screen locations at which thumbnail file images are to be displayed.

Main request

3. The main request corresponds to the main request on which the appealed decision is based, amended to meet an objection raised by the Board in the communication accompanying the summons. The Board therefore admits this request (Article 13(1) RPBA).

4. *Inventive step - Article 56 EPC*

4.1 In the decision under appeal, the Examining Division used document D2 as a starting point for the assessment of inventive step. Document D2, abstract, discloses a prototype system based on a new metaphor, referred to as "Lifestreams", for dynamically organising a user's personal files, electronic mail, schedules, rolodex and financial data. Section 2 explains that a lifestream is a time-ordered stream of documents. Section 3 discloses that the prototype consists of a client/server architecture that runs over the Internet. Each server stores the documents of one or more streams. Users use UNIX workstation clients to browse their streams.

4.2 The Examining Division considered the client/server system of document D2 to be an information managing device, each server representing image storage means for storing a plurality of image files and each UNIX workstation client representing input means for entering a command to display the plurality of image files. Since document D2, section 3.1, mentioned "thumbnail sketches for images" and image thumbnails had to be stored at least in RAM, a thumbnail storage means was implicitly disclosed.

4.3 Although the appellant has not questioned this analysis of document D2, the Board has some doubt at least in respect of whether the term "information managing device" encompasses an Internet-based client/server system such as is disclosed in document D2. The Board therefore prefers to start from the prior art discussed in the background section of the present application. This prior art is based on document D6.

4.4 Document D6 discloses an image information managing device (see abstract, title) comprising an original image data storing part 15 and a thumbnail data storing part 14 (see abstract). Document D6, abstract and Figure 4, further discloses a display of thumbnail file images arranged in a grid and a display of the image file corresponding to a selected thumbnail file (see also abstract), implying the presence of corresponding "thumbnail display" and "image file display" software means.

At the oral proceedings, the appellant agreed that document D6 discloses the selection and display of thumbnail file images on the basis of an input keyword entered by the user, see e.g. paragraphs [0037] to [0042]. The image information managing device of

document D6 hence further comprises an input means for entering a command, in the form of a search keyword, to display a plurality of thumbnail files and a thumbnail file determination means for determining a thumbnail file to be displayed on the display screen "according to the command entered through the input means from a user".

4.5 The device of claim 1 therefore differs from that of document D6 in that it further comprises table creating means:

- for creating, according to the number of thumbnail files to be displayed on the display screen, co-ordinate tables indicating co-ordinates of displayed locations on the display screen of the thumbnail files; and
- adapted to create said display screen co-ordinate tables so that the images of the thumbnail files are configured so as to partially overlap each other in a three-dimensional manner.

4.6 The appellant explained that the feature specifying that the co-ordinate tables were created "according to the number of thumbnail files to be displayed on the display screen" implied that the co-ordinates of the displayed thumbnail file images, and hence also the arrangement of these images on the display, are dependent on the number of thumbnail file images displayed. Since this interpretation is in line with the disclosure of the application as a whole, the Board accepts it.

4.7 The distinguishing features therefore express that the information managing device is programmed to

(i) display the thumbnail file images partially overlapping and in a three-dimensional arrangement that is dependent on the number of displayed thumbnail file images

for which purpose

(ii) a table is created using suitable software means specifying the screen co-ordinates for each thumbnail file image.

4.8 *Feature (i)*

4.8.1 Feature (i) concerns the manner in which the thumbnail file images are displayed and hence relates to a presentation of information, excluded "as such" from patentability under Article 52(2)(d) EPC. The Board must therefore determine the extent to which it interacts with the technical subject-matter of the claim for solving a technical problem (see T 154/04, OJ EPO 2008, 46, reasons 5, under (F), and reasons 13).

4.8.2 The appellant submitted that it was sufficient that feature (i) interacted with the claimed "table creating means", which was a technical feature.

However, this interaction relates only to the problem of implementing feature (i). The Board deals with it in its discussion of feature (ii), see points 4.8.9 and 4.9 below.

4.8.3 The appellant further argued that the arrangement of thumbnail file images defined by feature (i) contributed to improved evaluation of a large number of thumbnail file images by the user and thereby solved the problem of enabling more efficient image retrieval.

Since feature (i) appears to cover arrangements in which almost none of the thumbnail file images can be recognised, it may be questioned whether the alleged effect is actually achieved over the whole scope of the claim. However, the Board chooses to first address the question whether the alleged effect is technical. In this respect, two decisions appear to be particularly relevant.

4.8.4 In decision T 643/00, the deciding board considered that presenting information through a user interface lacked technical character if the only relevant effect related to the visually attractive nature of the graphic design or artwork. It was however not excluded that an arrangement of menu items or images on a screen might be determined by technical considerations, for example considerations aimed at enabling the user to manage a technical task such as searching and retrieving images stored in an image processing apparatus in a more efficient or faster manner. That was the case even if an evaluation by the user on a mental level was involved, as the mere fact that mental activities were involved did not necessarily qualify subject-matter as non-technical (see reasons 16). The deciding board in that case came to the conclusion that arranging a predetermined plural number of images in a side-by-side manner at a low level of resolution and allowing selection and display of an image at higher resolutions contributed to the technical solution of the technical problem of an efficient search, retrieval and evaluation of images (see reasons 17).

4.8.5 In decision T 1143/06, the invention allowed data files to be represented visually as elements moving on the display. Patterns in the data were readily recognisable

since the speed and trajectory of each element was determined in accordance with a particular relevance parameter value associated with the data file it represented. The user could select groups of elements using a selecting means in order to access and analyse the respective data files (see reasons 1). The board noted that the only new feature compared to the prior art related to the movement of displayed elements. Its direct effect was the impression it made on the user. The problem solved was therefore not concerned with the search for and retrieval of information, but was that of presenting information about data files to a person in such a manner that he could easily evaluate it. This wording demonstrated that the problem was not a purely technical one, so that a *direct* technical effect seemed to be absent (see reasons 3.8).

4.8.6 In the present case, both in the invention and in the prior art thumbnail file images are displayed in order to allow selection of an image by the user. Feature (i) does not relate to how this selection is performed (and neither does feature (ii)). Feature (i) contributes only to improved search and retrieval in that it (allegedly) improves the cognitive evaluation of the displayed thumbnail file images by the user. This situation is similar to that considered in T 1143/06, reasons 3.8, where such an effect was not considered to be a technical effect.

The Board considers that this view is not in contradiction with the statement in T 643/00 that the mere fact that mental activities are involved does not necessarily qualify subject-matter as non-technical. In that decision, cognitive evaluation of the displayed thumbnail file images formed an integral part of the solution to the technical problem of an efficient

search, retrieval and evaluation of images, but this solution did not rely on an improvement in this cognitive evaluation, e.g. in the form of a lowered cognitive burden. The solution rather resided in an efficient (new) manner of inputting the selection of a desired image.

4.8.7 In support of its position, the appellant referred to decisions T 49/04 and T 1749/06.

In decision T 49/04, a particular way of dividing text segments based on linguistic considerations was considered to produce a technical effect in that it improved the readability of text on a display. Although the decision mentions that the invention exploited and coped with technical aspects specific to a screen display, viz. evanescence and limited viewing window (see reasons 4.11), the fact that the invention was distinguished from a prior-art method in that the division of text into segments was based on linguistic considerations (see reason 4.9) suggests that the deciding board did not consider it relevant that the improvement in readability was essentially of a cognitive nature.

In decision T 1749/06, providing an icon with a three-dimensional appearance by modifying its edge with alternate dark and light stripes was found to be a technical effect. The deciding board was of the view that the test "happens in the brain of the viewer", which had been invoked by the examining division, was not useful for deciding whether a feature contributed to the technical character of a claim.

The Board recognises that both of these decisions may be understood as challenging the notion that improving

a human's cognitive evaluation of certain information by changing the manner in which the information is presented is non-technical.

4.8.8 The alleged effect of feature (i), i.e. the improved evaluation of thumbnail file images by the user, is due solely to the claimed arrangement of thumbnail file images. In the Board's judgment, this arrangement is not based on considerations other than those proper to the field of designing presentations of information for human viewing and is hence not an expression of any technical principle. The Board therefore considers the alleged effect not to be a technical effect.

Furthermore, since in the context of the present invention any improvement in the efficiency of image retrieval can only be the result of the non-technical improvement in the user's evaluation of the displayed thumbnail file images, feature (i) does not contribute to a technical solution of the problem of enabling more efficient image retrieval (cf. T 1143/06, reasons 3.8, and decision T 1741/08 of 2 August 2012, reasons 2.1.6).

4.8.9 The Board therefore follows the approach taken in decision T 1143/06 and finds that feature (i) at most contributes to the technical character of the invention through the details of its implementation. This contribution is analysed below in connection with feature (ii).

4.9 *Feature (ii)*

4.9.1 Feature (ii) concerns one aspect of the implementation of feature (i) in software. It specifies that a table is created with the co-ordinates of the screen

locations at which the thumbnail file images are to be displayed.

4.9.2 The decision under appeal essentially held that the use of tables belonged to the notorious knowledge of the skilled person. The appellant contested this. It was clear that the use of tables was notorious knowledge at the time of the decision, but that did not mean that this was also the case eleven years earlier. The alleged common knowledge of the person skilled in the art had to be proved by documentary evidence.

4.9.3 The present application uses the term "table" merely to refer to a data structure that stores the tabular data shown in Tables 1, 2 and 3 (see paragraphs [0135] to [0144] of the A2 publication). It is silent on the technical realisation of this data structure, for example in terms of its physical data layout. This is difficult to reconcile with the appellant's contention that "tables" were not known to the skilled person at the priority date. The application clearly assumes that the skilled person is aware of "table" data structures suitable for storing tabular data.

However, the fact that the "table" data structures were known to the skilled person is not conclusive for the issue of inventive step. The question to be answered is whether it was obvious at the priority date to store the co-ordinates of the screen locations of the thumbnail file images in a suitable data structure (i.e. in a "table") as part of the implementation of feature (i).

4.9.4 It may be questioned whether feature (ii) is actually technical, as it essentially constitutes advice to the programmer to implement feature (i) using a suitable

data structure for storing the screen co-ordinates for each thumbnail file image, and it is not immediately clear that this advice involves any "further technical considerations" beyond the mere formulation of an algorithm. However, this question need not be answered. Faced with the task of implementing feature (i), the skilled person has the choice either to first calculate all screen co-ordinates and then display the thumbnail file images at the calculated co-ordinates, or to calculate the screen co-ordinates of a thumbnail file image only immediately before displaying it (known in the art as "on the fly"). The Board considers both possibilities to be equally obvious. If the skilled person chooses the first option, the calculated screen co-ordinates will, at least temporarily, be stored in a suitable ("table") data structure. The skilled person would hence arrive at feature (ii) without the exercise of inventive skill.

4.9.5 The appellant argued that the use of tables ensured a reliable and reproducible display of the thumbnail file images and avoided programming errors. The thumbnail file images were displayed exactly where they should be.

In the Board's view, these are all properties that any correct software implementation of feature (i) will have. An inventive step of a particular implementation cannot be based merely on the fact that incorrect implementations may be envisaged.

4.10 Consequently, the subject-matter of claim 1 lacks an inventive step (Articles 52(1) and 56 EPC).

First auxiliary request

5. *Admission into the proceedings*

5.1 The first auxiliary request essentially corresponds to the first auxiliary request before the Examining Division. The Examining Division decided not to admit the latter under Rule 137(3) EPC, giving as reasons that it had been filed during the oral proceedings, that the amendments to claim 1 were directed to the solution of a different technical problem vis-à-vis document D2 when compared to claim 1 of the then main request, and that claim 1 appeared *prima facie* to be not inventive over a combination of documents D2 and D4. The Examining Division added that the relevance of document D4 for (previous) dependent claims 4 and 5, on which amended claim 1 was based, had already been indicated in the communication annexed to the summons to oral proceedings.

5.2 Claim 1 of the first auxiliary request before the Examining Division does indeed essentially correspond to a combination of independent claim 1 and dependent claims 4 and 5 of the claims on which the communication annexed to the summons was based. Since these dependent claims were identical to originally filed dependent claims 4 and 5 and the European search report had been drawn up for all claims, the proposed amendment was of a very common nature that should in principle not have presented the Examining Division with particular difficulties. The Examining Division indeed did not argue that it could not be expected to deal with the first auxiliary request at the oral proceedings.

5.3 The Examining Division did observe that the amendments to claim 1, when compared to claim 1 of the then main

request, solved a different technical problem vis-à-vis document D2. However, this observation implies that the amendments overcame the specific objection of lack of inventive step that had been raised against claim 1 of the main request. It is therefore an argument in favour of admission of the first auxiliary request, rather than against.

5.4 The Examining Division was of course correct in noting that the first auxiliary request was filed during the oral proceedings and therefore late, but lateness alone is not a sufficient reason for not admitting a request. The remaining reason given by the Examining Division is that of a *prima facie* lack of inventive step in view of a combination of documents D2 and D4, the relevance of document D4 having been indicated in the communication annexed to the summons.

5.5 The Board notes that this communication only included a general statement to the effect that the additional features of all dependent claims were either known from documents D2 and D4 or represented only a customary design or implementation procedure for the skilled person. The single communication under Article 96(2) EPC 1973 included a similar general statement with respect to the dependent claims as originally filed.

Such general statements may sometimes be useful for informational purposes, in particular where a justification exists for not including a reasoned statement covering all the grounds against the grant of the European patent (Rule 71(2) EPC). But their inclusion cannot, as a rule, serve as an argument for not admitting a request.

5.6 In addition, the minutes of the oral proceedings before the Examining Division show that the relevance of document D4 for amended claim 1 of the first auxiliary request was not discussed at the oral proceedings either.

5.7 In the Board's view, an amended claim cannot be said to be *prima facie* not inventive over a combination of documents that has not been discussed at all save for an allusion to it in a general statement. The Board therefore concludes that, in so far as the Examining Division did apply the correct criteria in exercising its discretion under Rule 137(3) EPC, it did so in an unreasonable way and thereby exceeded the proper limits of its discretion (see G 7/93, OJ EPO 1994, 775, reasons 2.6).

5.8 For these reasons the Board exercises its discretion under Article 13(1) RPBA to admit the first auxiliary request into the proceedings. Since, furthermore, the Board is in a position to deal with the merits of this request, it will not remit the case to the Examining Division but will itself proceed with the examination of inventive step (Article 111(1) EPC).

6. *Inventive step - Article 56 EPC*

6.1 Compared to the main request, the subject-matter of claim 1 of the first auxiliary request is further distinguished from the information management device of document D6 in that:

- the thumbnail file images are additionally arranged "in the form of a three-dimensional ring";

- the device comprises "rotation command means" for rotating the images of the thumbnail files on the display screen around a central axis of the ring-form configuration according to the command entered through the input means;
- a plurality of display screen co-ordinate tables corresponding to a plurality of positions of the thumbnail file images during rotation are created.

6.2 At the oral proceedings, the appellant submitted that the rotation command means allowed a user to select a thumbnail file image. Although claim 1 does not contain a corresponding limitation, there is support for it in the original description (see e.g. paragraphs [0147] and [0148] of the A2 publication). The Board therefore, to the benefit of the appellant, adopts this interpretation for the purpose of assessing inventive step.

6.3 The arrangement of the displayed thumbnail file images according to claim 1 hence combines with the claimed rotation command means to provide a mechanism for inputting a selection from a number of items, which the Board considers to be a technical task. Although the device of document D6 also allows the input of a selection from a number of thumbnail file images, the details of how this selection is performed are not disclosed. The features defining the claimed arrangement must therefore be taken into account in the assessment of inventive step to the extent that they contribute to the functioning of the selection mechanism.

6.4 Starting from the device of document D6, the problem to be solved may be formulated as providing an alternative

mechanism for selecting one of a number of thumbnail file images.

6.5 The skilled person, faced with this problem, would consider document D4, which discloses a technique for allowing users to select from large yet visible lists of choices (page 69, lines 1 and 2).

According to the technique of document D4, the initial view of the selection list can appear as if a user were "looking down" upon a ring of choices (page 69, lines 11 and 12, "the initial view ... choices"). This ring can be tilted on one or more axes (page 69, line 13). On tilted representations of the ring, choices "closer" to the user appear larger than choices that are visually further away (page 69, lines 14 and 15). In other words, document D4 suggests displaying the items arranged according to a three-dimensional ring.

Document D4 further discloses that selection of a choice brings the choice to the front of the circle (page 69, line 16). Although the appellant correctly noted that this could be done, for example, by swapping the positions of the selected item and the frontmost item, the Board considers that the skilled person would certainly think of bringing the selection to the front of the circle by rotating the ring as a whole.

6.6 Applying this selection technique to the device of document D6, the skilled person would therefore arrange the thumbnail file images in the form of a three-dimensional ring and provide rotation command means for rotating the thumbnail file images on the display screen around a central axis of the ring-form configuration in order to select a thumbnail file image.

6.7 The remaining differences between the subject-matter of claim 1 and the device of document D6 relate to the displayed thumbnail file images being "partially overlapping" and to the display of thumbnail file images in a plurality of (intermediate) positions during rotation. In addition, the claim again specifies the use of a "table creating means" for creating co-ordinate tables storing the co-ordinates of the thumbnail file images in the plurality of positions.

6.7.1 The appellant argued that applying the technique of document D4 did not necessarily result in the thumbnail file images being displayed in a partially overlapping manner. In addition, document D4 did not suggest displaying rotating items in a plurality of intermediate positions.

6.7.2 The Board accepts these arguments, but considers that both displaying thumbnail file images in a partially overlapping manner and displaying thumbnail file images during rotation in a plurality of intermediate positions relate to presentation of information as such. Indeed, neither of these features is necessary for the functioning of the selection mechanism. Displaying thumbnail file images in a partially overlapping manner might be considered to contribute to an improvement in the user's evaluation, for example by allowing the displayed thumbnail file images to be larger, but this is not a technical effect (see point 4.8.8 above). In addition, paragraph [0143] of the A2 publication makes clear that displaying the thumbnail file images during rotation in intermediate positions is intended to provide a more "natural and seamless" visual effect.

6.7.3 The use of table creating means is not considered inventive for the reasons given under point 4.9 above.

6.8 Consequently, the subject-matter of claim 1 lacks an inventive step (Articles 52(1) and 56 EPC).

Second auxiliary request

7. The second auxiliary request corresponds to the second auxiliary request filed with the statement of grounds, amended to address objections raised by the Board in the communication accompanying the summons. The Board therefore exercises its discretion under Article 13(1) RPBA to admit the request into the proceedings.

8. *Inventive step - Article 56 EPC*

8.1 Compared to claim 1 of the main request, the device of claim 1 of the second auxiliary request further differs from the information management device of document D6 in that:

- the device comprises "first rewriting means" for, when one or more of the thumbnail files are selected through the input means, counting and storing the number of times that each of the selected thumbnail files has ever been searched for, and rewriting the display order of the thumbnail files stored in the thumbnail storage means according to the number; and
- the thumbnail display means is specified to configure the images of the thumbnail files in the form of a ring and includes a "first arrangement specifying section" for arranging the thumbnail files on the display screen sequentially from a front row to a far back row in descending order of

the number of times that each of the selected thumbnail files has ever been searched for.

It follows from paragraphs [0052] and [0289] and Figure 33 of the A2 publication that "the number of times that each of the selected thumbnail files has ever been searched for" refers to the number of times that a thumbnail file has been opened. This interpretation is in agreement with paragraph [0185] of the A2 publication, to which the appellant referred in its letter dated 18 June 2014.

8.2 Since the claim does not specify "rotation command means", it does not imply a selection mechanism different from that of the device of document D6 (cf. point 6.3 above). It therefore adds to claim 1 of the main request that the thumbnail file images are displayed in the form of a ring and sorted from front to back in descending order of the number of times that each file has been opened. In addition, it specifies the presence of "rewriting means" for keeping track of these numbers.

8.3 In the Board's view, the ring form and the placement of thumbnail file images in dependence on the value of what may be regarded as a "relevance criterion" at most contribute to the clarity of presentation of the thumbnail file images, and hence do not provide any technical effect. The choice of the number of times a file has been opened as the relevance criterion also does not contribute to the solution of any technical problem, but may rather be seen as the non-technical expression of subjective user wishes. Furthermore, once it has been decided to base the arrangement of thumbnail file images on the number of times files have been opened, it is obvious to provide suitable

"rewriting" software means in order to keep track of these numbers.

8.4 The subject-matter of claim 1 hence lacks an inventive step (Articles 52(1) and 56 EPC).

Third auxiliary request

9. The third auxiliary request was filed after the Board arranged oral proceedings. Since it does not raise issues which the Board cannot deal with, it is admitted into the proceedings (Article 13(1) and (3) RPBA).

10. *Inventive step - Article 56 EPC*

10.1 Compared to claim 1 of the main request, the device of claim 1 of the third auxiliary request is further distinguished from the device of document D6 in that it comprises the same "first rewriting means" as specified by claim 1 of the second auxiliary request and in that the thumbnail display means include:

- monitoring means for monitoring the time when one or more of the thumbnail files are searched for, and image files corresponding to those thumbnail files are inputted; and
- a second rewriting means for creating a partial cluster of only those image files inputted during a period of time designated through the input means according to the monitoring means, and rewriting the thumbnail files stored in the thumbnail storage means according to a partial cluster.

10.2 At the oral proceedings, the Board confirmed with the appellant that the "monitoring means" and "second

rewriting" means relate to additional functionality of the claimed information management device that was essentially independent of the functionality of the "first rewriting means". In other words, the claimed information management device has a first operating mode in which thumbnail file images are displayed in an order determined by the first rewriting means and a second operating mode in which the arrangement of thumbnail file images is determined by the "monitoring means" and "second rewriting means". These two sets of features can therefore be treated separately in the assessment of inventive step. The "first rewriting means" has already been covered in points 8.1 to 8.4 above.

10.3 The "monitoring means" and "second rewriting means" features essentially specify that, before display, thumbnail file images are filtered by the times their corresponding image files were "inputted" on the basis of a time range input by the user.

In document D6, the displayed thumbnail file images correspond to a selection of all thumbnail file images on the basis of an input keyword entered by the user. In the Board's view it is an obvious possibility to extend this selection by a further selection criterion such as the times the image files were inputted into the information management device. The choice of this particular criterion does not contribute to the solution of any technical problem, but is rather the non-technical expression of subjective user wishes.

In order to implement this further selection criterion, the skilled person would provide suitable "monitoring" software means for keeping track of the times at which image files were inputted and suitable "second

rewriting" software means for creating the subset ("partial cluster") of thumbnail file images satisfying the criterion.

10.4 The Board notes that the claimed "monitoring means" also monitors the times when thumbnail files were "searched for", i.e. opened. Since these times are not further used, this further functionality also cannot support an inventive step.

10.5 The subject-matter of claim 1 therefore lacks an inventive step (Articles 52(1) and 56 EPC).

Conclusion

11. Since none of the requests on file is allowable, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

I. Aperribay R. Moufang

Decision electronically authenticated