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Datasheet for the decision of 8 September 2023

Case Number: T 0737/21 - 3.5.07

Application Number: 10859393.0

Publication Number: 2638694

IPC: G11B27/038, H04N5/765, G06F3/048

Language of the proceedings: EN

Title of invention:
An audio processing apparatus

Applicant:
Nokia Technologies Oy

Headword:
Audio processing apparatus/NOKIA TECHNOLOGIES

Relevant legal provisions:
EPC Art. 123(2)
RPBA 2020 Art. 12(6)

Keyword:
Amendments - main request and first to third auxiliary requests (not allowable)
Admission of requests not admitted by the examining division - fourth and fifth auxiliary requests (not admitted)

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Case Number: T 0737/21 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 8 September 2023

Appellant: (Applicant)	Nokia Technologies Oy Karakaari 7 02610 Espoo (FI)
Representative:	Page White Farrer Bedford House 21a John Street London WC1N 2BF (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 14 December 2020 refusing European patent application No. 10859393.0 pursuant to Article 97(2) EPC**

Composition of the Board:

Chair	J. Geschwind
Members:	R. de Man
	M. Jaedicke

Summary of Facts and Submissions

I. The appellant (applicant) appealed against the decision of the examining division refusing European patent application No. 10859393.0, which was published as international application WO 2012/063103.

II. The contested decision cited, *inter alia*, the following documents:

D7: "AT2020 USB Microphone", 26 January 2009, retrieved from https://web.archive.org/web/20090126204557if_/http://www.audio-technica.com:80/cms/resource_library/literature/35595fd85837a784/at2020_usb_om.pdf;

D8: "The How-To Geek Guide To Computer Microphones", 31 August 2010, retrieved from https://web.archive.org/web/20100831010320/https://www.howtogeek.com/howto/26898/the-how-to-geek-guide-to-computer-microphones/.

The examining division decided that the main request did not comply with Article 123(2) EPC and that the subject-matter of its claims 1 and 9 was not new over document D7. The subject-matter of claims 1 and 9 of the first auxiliary request lacked an inventive step over a combination of documents D7 and D8. The second auxiliary request did not comply with Article 123(2) EPC. The third auxiliary request did not comply with Articles 84 and 123(2) EPC. The fourth and fifth auxiliary requests were not admitted into the proceedings under Rule 137(3) EPC.

III. In its statement of grounds of appeal, the appellant maintained the requests considered in the decision under appeal.

IV. In a communication accompanying the summons to oral proceedings, the board expressed the preliminary opinion that the main request and first to third auxiliary requests did not meet the requirements of Articles 84 and 123(2) EPC, that the subject-matter of claim 1 of the main request lacked novelty over document D7, and that the subject-matter of claim 1 of the first to third auxiliary requests lacked an inventive step over document D7. It also indicated that it was not inclined to admit the fourth and fifth auxiliary requests into the appeal proceedings.

V. Oral proceedings took place as scheduled. At the end of the oral proceedings, the Chair announced the board's decision.

VI. The appellant's final requests were that the decision under appeal be set aside and that a patent be granted on the basis of the main request or, in the alternative, of any of the first to fifth auxiliary requests.

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

"A method comprising:

determining a presence of at least two microphones (11, 31) by an apparatus (10), where each of the microphones is configured to generate a respective audio signal, wherein at least one (31) of the at least two microphones is physically separate from the apparatus (10) and at least one (11) of the at least

two microphones is physically located within the apparatus (10);

causing at least one visual representation to be displayed for at least one of the at least two microphones, wherein the at least one visual representation is configured to be interacted with, with use of an interaction, for selecting at least one of the at least two microphones;

in response to an interaction with the at least one visual representation:

selecting at least one microphone of the at least two microphones (11, 31) to capture an acoustic source, wherein the selecting of the at least one microphone comprises causing at least one other microphone of the at least two microphones to not be selected such that the at least one other microphone is not in use and does not capture the acoustic source;

capturing the acoustic source using the selected at least one of the at least two microphones represented by the at least one visual representation; and processing at least the respective audio signal of the selected at least one microphone at least partially dependent on the interaction."

VIII. Claim 1 of the first auxiliary request differs from claim 1 of the main request in that:

- the text "wherein the selecting of the at least one microphone comprises causing at least one other microphone of the at least two microphones to not be selected such that the at least one other microphone is not in use and does not capture the acoustic source" has been deleted; and
- the text ", such that a noise reduction processing can be controlled by the interaction with the visual representation" has been added at the end of the claim.

IX. Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request in that the text "causing ... for selecting at least one of the at least two microphones;" has been replaced with:

"sensing a position of the at least one of the at least two microphones;

causing at least one visual representation to be displayed for at least one of the at least two microphones, wherein the at least one visual representation is configured to be interacted with, with use of an interaction, for selecting at least one of the at least two microphones, wherein the visual representation is displayed dependent on the sensed position of the at least one of the at least two microphones;"

X. Claim 1 of the third auxiliary request differs from claim 1 of the second auxiliary request in that the first instance of "the at least one of the at least two microphones" has been replaced with "at least one audio source" and the second instance with "the at least one audio source".

XI. Claim 1 of the fourth auxiliary request reads as follows:

"A method comprising:

determining a presence of at least two microphones (11, 31) by an apparatus (10), where each of the microphones is configured to generate a respective audio signal, wherein at least one (31) of the at least two microphones is physically separate from the apparatus (10) and at least one (11) of the at least

two microphones is physically located within the apparatus (10);

sensing a location of the at least one (31) of the least two microphones physically separate from the apparatus (10);

causing at least one visual representation to be displayed for the at least two microphones, wherein the at least one visual representation is configured to be interacted with, with use of an interaction, for selecting and processing the audio signals of the at least two microphones, wherein the visual representation is displayed dependent on the sensed location of the at least one (31) of the least two microphones physically separate from the apparatus (10);

in response to an interaction with the at least one visual representation:

selecting the at least two microphones (11, 31) to capture an acoustic source;

capturing the acoustic source using the selected at least two microphones represented by the at least one visual representation; and

processing at least the audio signals of the selected at least two microphones at least partially dependent on the interaction, the processing the audio signals of the selected at least two microphones at least partially dependent on the interaction comprising mixing between the audio signals received from the at least one (31) of the at least two microphones physically separate from the apparatus (10) and the at least one (11) of the at least two microphones is physically located within the apparatus (10) to capture a better audio signal controlled by the interaction with the visual representation."

XII. Claim 1 of the fifth auxiliary request reads as follows:

"A method comprising:

determining a presence of at least two microphones (11, 31) by an apparatus (10), where each of the microphones is configured to generate a respective audio signal, wherein at least one (31) of the at least two microphones is physically separate from the apparatus (10) and at least one (11) of the at least two microphones is physically located within the apparatus (10);

receiving an image from a camera;

sensing a location of the at least one (31) of the at least two microphones physically separate from the apparatus (10);

associating the at least one (31) of the at least two microphones physically separate from the apparatus (10) with a position within the image based on the sensed location of the at least one (31) of the at least two microphones physically separate from the apparatus (10);

causing at least one visual representation to be displayed for the at least two microphones, the at least one visual representation overlying the image received from the camera, wherein the at least one visual representation is configured to be interacted with, with use of an interaction, for selecting and processing the audio signals of the at least two microphones, wherein the visual representation is displayed dependent on the sensed location of the at least one (31) of the least two microphones physically separate from the apparatus (10);

in response to an interaction with the at least one visual representation:

selecting the at least two microphones (11, 31) to capture an acoustic source;

capturing the acoustic source using the selected at least two microphones represented by the at least one visual representation; and

processing at least the respective audio signal of the selected at least one microphone at least partially dependent on the interaction, the processing the audio signals of the selected at least two microphones at least partially dependent on the interaction comprising mixing between the audio signals received from the at least one (31) of the at least two microphones physically separate from the apparatus (10) and the at least one (11) of the at least two microphones is physically located within the apparatus (10) to capture a better audio signal controlled by the interaction with the visual representation."

XIII. The appellant's arguments, where relevant to this decision, are discussed in detail below.

Reasons for the Decision

1. The application relates to enhancing video and/or audio capture and recording flexibility using external microphones (see page 11, lines 8 to 12, of the published application). The invention is essentially a graphical user interface showing visual representations of audio sources such as microphones and allowing a user to select and configure an audio source for recording (see the flow chart shown in Figure 10 and the graphical user interfaces shown in Figures 6, 7a-d, 8i-j and 9).

Main request

2. *Added subject-matter - Article 123(2) EPC*

2.1 Method claim 1 includes a step of causing at least one visual representation to be displayed for at least one of two microphones. The visual representation is "configured to be interacted with, with use of an interaction, for selecting at least one of the at least two microphones".

Claim 1 further specifies that, "in response to an interaction with the at least one visual representation", at least one microphone of the at least two microphones is selected to capture an acoustic source, and the acoustic source is captured using the selected at least one microphone. In addition, the "respective audio signal of the selected at least one microphone" is processed "at least partially dependent on the interaction".

It is apparent, both from the term "visual representation" and from the application as a whole (see point 1. above), that "interaction" is to be understood as a user interface interaction.

2.2 The board observes that "the interaction" in "at least partially dependent on the interaction" refers back to its antecedent "an interaction with the least one visual representation", i.e. to an interaction in response to which at least one microphone is selected to capture an acoustic source.

Hence, claim 1 refers to an "interaction" with the visual representation for a microphone by which a user both selects the microphone to capture an acoustic

source, i.e. to capture an audio signal produced by an acoustic source, and at least partially controls the processing of the captured audio signal.

2.3 In its communication, the board expressed the preliminary view that this combination of features lacked a basis in the application as filed. The appellant did not comment on this added-matter objection in writing but, at the oral proceedings before the board, argued that a basis could be found in the passage on page 17, lines 11 to 19, of the published application and in Figures 6, 7a to 7d and 8a to 8j and their description.

2.4 The passage on page 17, lines 11 to 19, explains the difference between an "acoustic source" (such as a subject being interviewed or a choir singing) and an "audio source" (such as a microphone which captures the audio waves generated by the acoustic source). This passage does not relate to user interactions with visual representations.

2.5 Figure 6 shows a "switch user interface" (see Figure 3, reference sign 251):

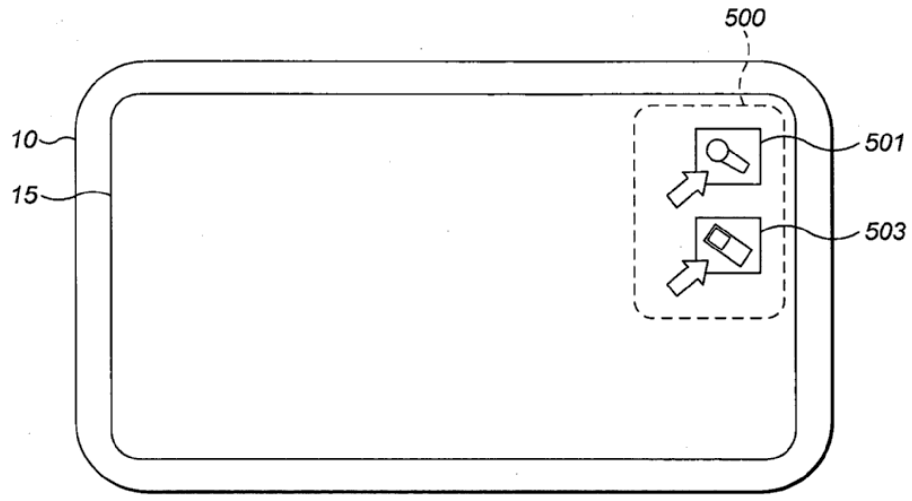

FIG. 6

This user interface allows a user to select one of audio sources 501 and 503 (page 21, lines 21 to 27). There is no indication that the same selection interaction is used to configure or otherwise control the processing of the captured audio signal.

2.6 Figures 7a to 7d depict an "audio sub-menu user interface" (see Figure 3, reference sign 253), of which Figure 7d is representative:

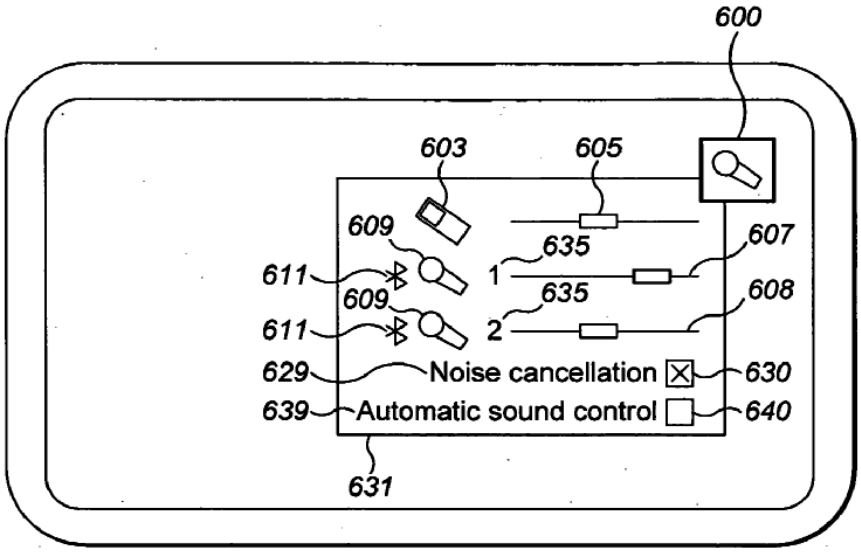

FIG. 7d

2.6.1 The user can "touch" or "tap" the visual representations 603 and 609 to switch the corresponding microphone input on or off (page 26, line 22 to 26). By moving the sliders 605, 607 and 608, the user can control the gain applied to the audio signal received from the corresponding microphone (page 26, lines 18 to 22, and page 26, line 30, to page 27, line 1). In some embodiments, the slider can be a 2D representation of the frequency-dependent gain applied to the signal (page 27, lines 1 to 6). By selecting the labels 629 and 639 or the tick boxes 630 and 640, noise

cancellation and automatic sound control can be toggled (page 28, lines 17 to 29, and page 29, lines 7 to 10).

2.6.2 The appellant argued that the term "interaction" was broad and encompassed any sequence of selections and other user-interface manipulations.

The board acknowledges that the term "interaction" can in certain contexts be used to refer to the general process of interacting. However, claim 1 refers to "an interaction" which is carried out to perform a specific operation. Such an interaction can involve multiple manipulations, for example selecting a slider, moving the slider, and deselecting/releasing the slider, but, in the board's view, it does not encompass a sequence of manipulations which can be arbitrarily spread out over time and interleaved with other operations.

2.6.3 More specifically, claim 1 refers to "an interaction" with a visual representation in response to which at least one a microphone is selected for capturing an audio signal. The only such interaction disclosed in Figures 7a to 7d and their description is the selection of one of visual representations 603 and 609. A subsequent interaction with one of sliders 605, 607 and 608 or one of tick boxes 630 and 640 is a different interaction and therefore does not correspond to the "interaction" of claim 1.

2.6.4 Admittedly, it is conceivable that moving one of the sliders 605, 607 and 608 to a position corresponding to a zero gain results in the microphone being deselected and that, likewise, moving the slider to a position corresponding to a positive gain results in the microphone being selected. In this case, the same interaction which selects a microphone for capturing an

audio signal also results in processing the audio signal at least partially dependent on the interaction.

However, even if Figures 7a to 7d and their description disclosed this, it would be a specific disclosure of a specific slider-based interaction for selecting a microphone for capturing an audio signal and processing the audio signal by applying the selected gain. The skilled person would not recognise without any doubt that the interaction being slider based and the processing being the application of a selected gain are merely optional features which can be readily replaced with other types of interaction and audio-signal processing. For example, the specific disclosure does not teach how a user interaction can be provided which combines selecting a microphone for capturing an audio signal and enabling noise cancellation. The board therefore considers that the specific disclosure does not disclose its claimed generalisation.

2.6.5 Figures 7a to 7d and their description therefore do not provide a basis for the "interaction" of claim 1.

2.7 Figures 8a to 8j depict an "advanced audio control user interface" (see Figure 3, reference sign 255). Most relevant is Figure 8e:

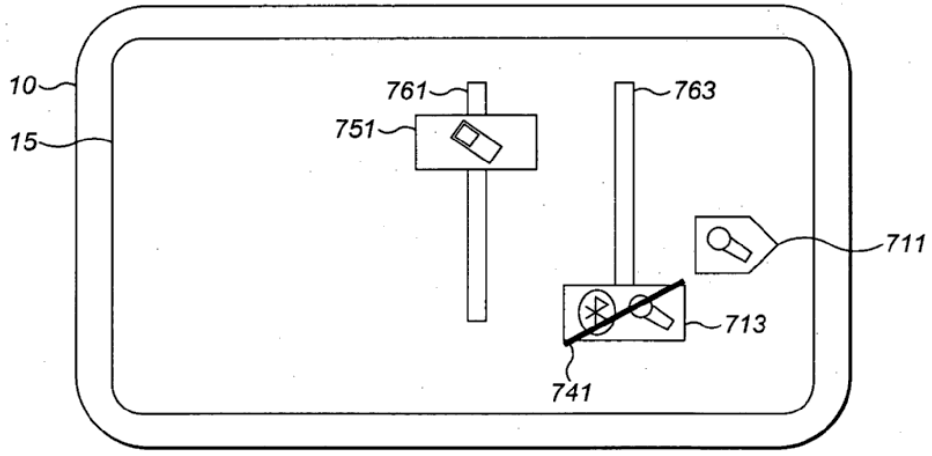

FIG. 8e

2.7.1 Again, sliders 761 and 763 allow the user to control the gain applied to the signal captured from the microphones represented by the visual representations 751 and 713 (page 32, lines 20 to 25). The user can deselect/deactivate a microphone by sliding its visual representation to the bottom position, corresponding to zero gain, as illustrated by bar 741 (page 31, lines 19 to 22, and page 32, lines 26 to 31). Consequently, they can select/activate a microphone by sliding its visual representation from the bottom position upwards, thereby increasing its gain.

2.7.2 Figures 8d and 8i show two variations on this theme which both allow the user to control the gain of multiple microphones simultaneously by means of a one- or two-dimensional sliding interaction.

2.7.3 Hence, Figures 8a to 8j and their description provide an explicit specific disclosure of a specific slider-based interaction for selecting a microphone for capturing an audio signal and processing the audio signal by applying the selected gain, such as discussed in point 2.6.4 above. However, for the same reasons as given above, the board considers that this specific

disclosure does not disclose the more general "interaction" of claim 1.

2.8 In view of the above, the board comes to the conclusion that the main request does not meet the requirements of Article 123(2) EPC.

First, second and third auxiliary requests

3. *Added subject-matter - Article 123(2) EPC*

3.1 Claim 1 of the first auxiliary request includes the combination of features mentioned in point 2.1 above with the addition that processing the audio signal is "such that a noise reduction processing can be controlled by the interaction with the visual representation".

Hence, claim 1 of the first auxiliary request refers to an "interaction" with the visual representation for a microphone by which a user both selects the microphone to capture an acoustic source, i.e. to capture an audio signal produced by an acoustic source, and controls noise reduction processing of the captured audio signal.

3.2 Claim 1 of the second auxiliary request includes the same combination of features. In claim 1 of the third auxiliary request, the term "microphone" has been replaced with "audio source".

3.3 Neither in its written submissions nor during the oral proceedings before the board did the appellant refer to further passages of the description in addition to those mentioned in point 2.3 above.

3.4 From the analysis of the passages relied on by the appellant set out in points 2.4 to 2.7 above, it follows that the only disclosed "interaction" by which a user both selects a microphone or audio source to capture an audio signal and controls the subsequent processing of the audio signal relates to controlling the gain to be applied to the audio signal. Hence, the application as filed does not disclose an interaction by which a user both selects a microphone or audio source and controls noise reduction processing.

3.5 The board concludes that the first, second and third auxiliary requests do not meet the requirements of Article 123(2) EPC, either.

Fourth and fifth auxiliary requests

4. *Admission into the appeal proceedings – Article 12(6) RPBA 2020*

4.1 The examining division did not admit the fourth and fifth auxiliary requests into the proceedings because they had been filed one day before the oral proceedings before the examining division, contained features taken from the description, and did not converge with the higher-ranking requests.

Under Article 12(6), first sentence, RPBA 2020, requests which were not admitted in the proceedings leading to the decision under appeal are not to be admitted into the appeal proceedings, unless the decision not to admit them suffered from an error in the use of discretion or unless the circumstances of the appeal case justify their admittance.

4.2 In its statement of grounds of appeal, the appellant argued that the fourth and fifth auxiliary requests had been submitted in light of the late introduction by the examining division of document D8. The fourth and fifth auxiliary requests addressed issues with respect to document D8 which the examining division had raised after the deadline for making written submissions.

Since the introduction of document D8 by the examining division does not relate to a "circumstance of the appeal case" in the sense of a circumstance which has changed at the appeal stage (see the explanatory remarks to Article 12(6) RPBA 2020 in OJ EPO 2020, Supplementary publication 2), the question to be answered is whether the examining division erred in the use of its discretion.

4.3 The examining division introduced document D8 to show that the "noise reduction" feature was known. This feature was not present in any of the originally filed claims and had been introduced into the claims for the first time in the first auxiliary request filed in response to the communication annexed to the summons to oral proceedings before the examining division.

In the board's view, when an applicant introduces, into the independent claims, a feature taken from the description in an attempt to overcome an inventive-step objection, it cannot come as a surprise if the examining division finds the feature obvious and introduces new documentary evidence to support this finding. In the present case, document D8 was not cited in support of an entirely new objection but merely served to support the assertion that the newly added feature was already known in its claimed context.

4.4 Moreover, the fourth and fifth auxiliary requests do not include the "noise reduction" feature. In the board's opinion, they are attempts to address not the introduction of document D8 but the inventive step objection based on document D7 raised in the communication annexed to the summons to oral proceedings before the examining division. Indeed, they do not refine the claimed "noise reduction" feature in an attempt to distinguish it from what is known from document D8 but instead introduce different, potentially unsearched features taken from the description.

4.5 In sum, the board takes the view that the appellant could have filed the fourth and fifth auxiliary requests as part of its written submission in preparation for the oral proceedings before the examining division. The board therefore does not consider that the examining division erred in the use of its discretion.

4.6 For these reasons, the board does not admit the fourth and fifth auxiliary requests into the appeal proceedings (Article 12(6) RPBA 2020).

5. Since none of the requests admitted into the proceedings is allowable, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

S. Lichtenvort J. Geschwind

Decision electronically authenticated