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**Datasheet for the decision
of 3 May 2018**

Case Number: T 2372/12 - 3.5.07

Application Number: 10169768.8

Publication Number: 2280356

IPC: G06F17/30

Language of the proceedings: EN

Title of invention:

Mobile audio player with individualized radio program

Applicant:

Sony Corporation

Headword:

Individualized radio program/SONY

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - all requests (no)

Decisions cited:

T 0641/00, T 0154/04



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Case Number: T 2372/12 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 3 May 2018

Appellant: Sony Corporation
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Minato-ku
Tokyo 108-0075 (JP)

Representative: Witte, Weller & Partner Patentanwälte mbB
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 10 July 2012
refusing European patent application No.
10169768.8 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman R. Moufang
Members: M. Jaedicke
P. San-Bento Furtado

Summary of Facts and Submissions

I. The applicant (appellant) appealed against the decision of the Examining Division refusing European patent application No. 10169768.8, published as EP 2 280 356 A2. The application claims a priority date of 30 July 2009.

II. The Examining Division decided that the subject-matter of independent claim 1 of the main request and of auxiliary request 1 lacked inventive step in view of well-known generic technical means for automating business and entertainment methods, which were so well-known at the date of filing that their existence did not require documentary evidence. It considered some of the claimed features to be related to non-technical user requirements.

The Examining Division also decided not to admit the then pending auxiliary requests 2 to 5 into the proceedings under Rule 137(3) EPC, stating that they did not constitute a convergent development of the examination procedure (as expressed by the main request and auxiliary request 1). A further reason for the non-admission of these requests was that the then pending auxiliary requests 2 to 5 could prima facie not overcome the objection of lack of inventive step.

III. In the written proceedings, the Examining Division cited the following prior-art documents:
D1: WO 01/35667 A1, published on 17 May 2001;
D2: US 2006/0167576 A1, published on 27 July 2006.

IV. In its statement of grounds of appeal, the appellant requested that the decision be set aside and that a patent be granted on the basis of the main request or

auxiliary request 1 considered in the contested decision and resubmitted with the grounds of appeal, or of one of auxiliary requests 2 to 4 submitted with the grounds of appeal.

- V. In a communication under Article 15(1) RPBA accompanying a summons to oral proceedings, the Board indicated that it tended to disagree with the inventive-step reasoning of the appealed decision and cited the following prior-art documents:
- D3: US 7,499,630 B2, published on 3 March 2009;
- D4: Krishnan, V. et al.: "Customized Internet radio", 9th International World Wide Web Conference, 15 to 19 May 2000, published in Computer Networks, vol. 33, June 2000, pages 609 to 618.

The Board *inter alia* expressed its provisional opinion that the subject-matter of claim 1 of all requests lacked inventive step in view of either of documents D2 or D3, which could be combined with other prior-art documents on file, and that means for detecting a location were well-known.

- VI. With a letter dated 31 March 2018, the appellant resubmitted the main request and auxiliary requests 1 and 2 and submitted amended auxiliary requests 3 to 5.
- VII. Oral proceedings were held as scheduled. At the end of the oral proceedings, the chairman pronounced the Board's decision.
- VIII. The appellant's final request was that the contested decision be set aside and that a patent be granted on the basis of one of the main and five auxiliary requests as submitted with the letter dated

31 March 2018.

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

"Mobile audio player (1), comprising

- memory means (3) adapted to store music data and non-music data,
- input means (2) adapted to receive a user input with user preferences,
- audio output means (8) adapted to output audio signals representing a generated radio program, characterized in that said mobile audio player further comprises
- radio program generating means (4) adapted to generate, without a connection to an external entity, an individualized radio program for providing a user with a radio station like listening experience from stored music data and non-music data depending on user preferences input via the input means, and
- content generating means (5) adapted to generate audio content during the generation of the individualized radio program."

X. Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the following text has been added at the end of the claim:

"wherein said content generating means (5) comprises a synthesizing means adapted to create audio data from raw data stored in said memory means during the generation of the individualized radio program."

XI. Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 in that the following text has been added before the words "and - content generating means":

"wherein said radio program generating means (4)

comprises a commercials generating means adapted to generate commercials during the generation of the individual radio program on the basis of context parameters,".

- XII. Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 1 in that it deletes the word "and" before "- content generating means" and in that the following text has been added at the end of the claim:
- " , and
- context detecting means (6) adapted to detect one or more context parameters regarding the context of the mobile audio player and/or the user, wherein said context detecting means (6) comprises a location detecting means adapted to detect a current location of the mobile audio player,
wherein said radio program generating means (4) comprises a commercials generating means adapted to generate commercials during the generation of the individual radio program on the basis of said context parameters."

- XIII. Claim 1 of auxiliary request 4 differs from claim 1 of auxiliary request 3 in that the following text has been added at the end of the claim:
- "; wherein the commercials generating means is adapted to generate tailored commercials based on commercial templates containing raw material, said raw material including text, music and sounds; and tailoring directives for adapting the commercial towards the user, wherein the commercials generating means is adapted to mix the raw material and the user context parameters into a final commercial."

- XIV. Claim 1 of auxiliary request 5 differs from claim 1 of auxiliary request 4 in that the following text has been

added at the end of the claim:

", and

- a sweepstake manager (37) adapted to provide a sweepstake to the user, wherein a user input to the sweepstake is effected by the input means."

XV. The arguments of the appellant which are relevant to the decision are discussed in detail below.

Reasons for the Decision

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

The invention

2. The application relates to a mobile audio player which provides a user with an individualised radio program generated from stored music data and other data such as audio and text (see paragraphs [0007] to [0009] and [0022] of the published application). The radio program is generated without a connection to and without receiving data from an external entity, i.e. without any kind of broadcast or communication connection to another entity or device (see paragraph [0019]). It is individualised depending on user preferences and context parameters (see paragraphs [0008] to [0011]). It provides a radio-like listening experience, as it contains not only music, but also transitions, commercials, news items and sweepstakes (see paragraph [0016]). The context parameters may relate to the current location of the mobile audio player, traffic information related to a current and/or future location of the mobile audio player, the moving speed and/or the

moving method of the mobile audio player (for example walking, running, cycling, driving), one or more physical states of a user of the mobile audio player, weather information, time and date information and/or any other suitable context parameters (see paragraphs [0014] and [0020]).

Main request

1. Claim 1 of the main request relates to a "mobile audio player" which comprises the following features, itemised by the Board (with reference signs removed):
 - (a) memory means adapted to store music data and non-music data,
 - (b) input means adapted to receive a user input with user preferences,
 - (c) audio output means adapted to output audio signals representing a generated radio program,
 - (d) radio program generating means adapted to generate, without a connection to an external entity, an individualized radio program for providing a user with a radio station like listening experience from stored music data and non-music data depending on user preferences input via the input means, and
 - (e) content generating means adapted to generate audio content during the generation of the individualized radio program.

2. **Inventive step**

- 2.1 **Interpretation of claim 1**

The Board interprets claim 1 as specifying that the individualised radio program is generated from music

data, but also from other kinds of multimedia data such as text. Moreover, while the mobile player is in principle able to connect to networks or a radio station (see Figure 2, reference signs 9, 10, 15, 16, 17, 18), the radio program is generated from data stored in the mobile player's local memory, meaning that the radio program content is not downloaded or streamed during generation. The Board interprets feature (e) as proposed by the appellant in the light of the description as means for generating new audio content, for example by converting text to speech using synthesising means (see description, paragraph [0022]).

Moreover, as suggested by the appellant during the oral proceedings, the Board interprets the feature "without a connection to an external entity" as meaning without a connection to a radio station, which leaves open the possibility of determining the location of the mobile audio player using a Global Positioning System (GPS) device, for example.

The expression "radio station like listening experience" is interpreted as meaning that the generated individualised radio program comprises not only music content, but also other content such as transitions, commercials, news items or sweepstakes.

3. **The contested decision**

According to the contested decision, the subject-matter of claim 1 lacked inventive step as it was obvious to use a well-known mobile player with memory, input and output means and equipped with non-audio to audio converters to automate the job of a radio disc jockey (DJ). Such a mobile player was notoriously known.

3.1 In its statement of grounds of appeal (see section 2.1), the appellant submitted that the Examining Division had not correctly applied the problem-and-solution approach. In particular, the contested decision had not identified the relevant features disclosed in the closest prior art and had not defined the objective technical problem to be solved. The Examining Division had misjudged some technical features as being non-technical (see statement of grounds of appeal, section 2.2.1). In particular, the generation of audio content according to features (d) and (e) involved technical considerations. The appellant contested that the allegedly notoriously known mobile player as defined in the contested decision was indeed well-known (statement of grounds of appeal, section 2.2.2). Hence, the decision that claim 1 lacked inventive step was unsubstantiated.

3.2 The Board considers that the Examining Division erroneously assumed that a mobile audio player comprising a text-to-speech audio converter was notoriously known at the priority date (see points 1.3 to 1.6 of the contested decision). It is possible that such a player was well-known, but the appellant contested this, and there is no relevant evidence on file. Hence, the reasoning of the contested decision is not convincing.

4. **Document D2 as starting point**

4.1 In its statement of grounds of appeal, the appellant argued that document D2 was the closest prior art on file. D2 disclosed a mobile audio player which selected audio files for a playlist randomly from a plurality of audio files that matched user preferences and current

ambient influence information (see D2, paragraphs [0026] and [0055]).

D2 did not disclose that the mobile player generated content, meaning that it was limited to playing back previously existing media files. On the other hand, according to features (d) and (e) of claim 1, the invention generated content, i.e. it created new content that was not present before.

The objective technical problem was how to provide a mobile audio player which could provide a user with a radio station-like listening experience and could be used anywhere and everywhere (see description, paragraph [0009], and statement of grounds of appeal, section 2.2.4). This problem was solved by distinguishing features (d) and (e) of claim 1 in a particularly beneficial way.

Starting from D2, a straightforward solution would be to play back audio files of pre-recorded radio programs. Here the mobile player of D2 would merely be used to play back different content. For a more interesting radio experience, the skilled person could modify the player of D2 so that the radio programs were segmented into individual audio files (music and speech data) and played back in a sequence that mimicked a radio station. However, D2 provided no motivation to arrive at this solution. Moreover, the invention was not limited to playing back existing content, but instead generated audio content during generation of the individualised radio program.

- 4.2 The Board considers that D2 is not a promising starting point for the assessment of inventive step, as it is concerned neither with the generation of a personalised

radio program that includes non-music content nor with the compilation of a radio program in the absence of a connection to a radio station. Consequently, the Board in the following considers document D3, which was cited only in the appeal proceedings.

5. Document D3 as starting point

5.1 Document D3 discloses a mobile entertainment device for compiling a personalised radio program for playback from currently or previously received multimedia data as well as from locally stored multimedia data. Hence, it constitutes a promising starting point for the problem-and-solution approach.

5.2 Document D3 discloses a mobile audio player storing multimedia data and a user profile in a memory (D3, Figure 1, column 1, lines 15 to 22; column 1, line 64, to column 2, line 2; column 2, lines 35 to 40). The user enters his personal priorities for different classifications of the multimedia data in a user profile using an input device (D3, Figure 1 (10), column 2, lines 52 to 54; column 3, lines 27 to 30). For example, a user may choose that traffic reports have the highest priority, followed by normal news, then classical music and finally commentaries (D3, column 2, lines 56 to 58).

The multimedia data may be audio, video, graphic or text data (D3, column 3, lines 1 to 3). The entertainment device is capable of compiling a personalised radio program for playback both from received multimedia data and from stored multimedia data (D3, column 1, lines 15 to 22 and 34 to 38; column 4, lines 28 to 35). The user preferences expressed in the user profile are used to generate the radio program

(see column 1, lines 30 to 33; column 2, line 52, to column 3, line 1; Figure 2, column 3, lines 27 to 42). The radio program is played back using the speaker of the device (D3, Figure 1 (6), column 2, lines 45 to 47 and 61 to 64, column 3, lines 14 to 19; claim 1). The multimedia data may be presented as audio or text to speech (D3, column 4, lines 11 to 15). Consequently, D3 discloses features (a), (b) and (c) of claim 1.

As radio program generation can be done without a connection to a radio station based on the multimedia data available on the mobile player (D3, column 3, lines 32 to 42 and 63 to 67), D3 also discloses feature (d) of claim 1.

Since the multimedia data comprises text, which is presented as text to speech, the Board concludes that D3 implicitly discloses that the entertainment device comprises a text-to-speech synthesiser. However, it agrees with the appellant that D3 does not disclose in detail how text-to-speech conversion is actually used.

5.3 Consequently, the difference of the claimed mobile audio player over document D3 is that the claimed player is adapted to generate audio content during generation of the individualised radio program (see feature (e) of claim 1).

5.4 As stated above, document D3 discloses the use of a text-to-speech synthesising means to create audio data from text (see D3, column 3, lines 1 to 3, and column 4, lines 11 to 15). Consequently, the difference has the effect that the synthesising means of the known audio player is used to create audio data during generation of the individualised radio program.

The decision which content should be presentable in the radio program is a non-technical choice which has to be taken by a non-technical person such as a radio DJ. Hence, it is not the skilled person tasked with the implementation of the audio player, but the radio DJ who will set the aim of presenting newly generated audio content in the radio program. According to the established case law of the boards of appeal, when assessing inventive step in accordance with the problem-and-solution approach, an aim to be achieved in a non-technical field may legitimately be added to the problem as a constraint to be met (COMVIK approach; see decisions T 641/00, OJ EPO 2003, 352; T 154/04, OJ EPO 2008, 46). Consequently, the aim of generating new audio content when the radio program is generated can be added to the problem to be solved.

- 5.5 A skilled person facing the problem of how to generate a personalised radio program comprising new audio content would consider generating such new audio data from the available stored text data using the text-to-speech synthesiser of the entertainment device implicitly disclosed in document D3.
- 5.6 As discussed during the oral proceedings, document D3 in column 3, lines 3 to 19, teaches that the entertainment device may also be used to present further expanded multimedia data during playback of the radio program. However, the Board is not convinced that this additional functionality disclosed in D3 would lead the skilled person away from the solution, as argued by the appellant during the oral proceedings. Rather, the option of showing an HTML page with additional information (such as a commercial web page) on a display fits very well with the inclusion of a

commercial in the radio program.

5.7 As to the appellant's argument that the invention solved the technical problem of providing radio when the audio player was out of reach of a transmitter of a radio station, this is not convincing, as the problem of how to generate a radio program when no transmission is available is already solved by document D3 (see, for example, column 1, lines 15 to 22, and column 4, lines 28 to 35).

5.8 It follows that claim 1 of the main request lacks inventive step over D3 (Article 56 EPC).

Auxiliary request 1

6. Claim 1 of auxiliary request 1 adds the following feature to claim 1 of the main request:
"wherein said content generating means (5) comprises a synthesizing means adapted to create audio data from raw data stored in said memory means during the generation of the individualized radio program."

7. Inventive step

7.1 As stated above in the reasoning for the main request, document D3 discloses the use of a text-to-speech synthesising means to create audio data from text (see D3, column 3, lines 1 to 3, and column 4, lines 11 to 15). The difference of the claimed audio player over document D3 is thus only that the synthesising means is used to create audio data during generation of the individualised radio program. As the Board has already dealt with this issue in the above reasoning for the main request, it follows that claim 1 of auxiliary

request 1 lacks inventive step (Article 56 EPC).

Auxiliary request 2

8. Claim 1 of auxiliary request 2 essentially adds the following feature to claim 1 of auxiliary request 1: "wherein said radio program generating means (4) comprises a commercials generating means adapted to generate commercials during the generation of the individual radio program on the basis of context parameters".

9. **Inventive step**

9.1 D3 discloses that expanded multimedia data may offer e-commerce possibilities (D3, column 4, lines 6 to 9), but it does not disclose the commercials generating means added by auxiliary request 2. The generation of personalised commercials for inclusion in a personalised radio program serves the business purpose of personalised advertising. Hence, the purpose of generating personalised commercials is not technical. Moreover, the claimed commercials generating means does not specify implementation details. It specifies that "context parameters" are used, but this functionality is also based on a business decision and does not imply technical means beyond known means for automated processing, as the context may be defined merely by the played-back content (see also paragraph [0058] of the application: "a clothing commercial for an assumed fashion taste that is derived from the type of music the user is usually listening to"). Consequently, the claimed commercials generating means makes no contribution to the solution of a technical problem beyond the mere automation of a non-technical business

method. Consequently, claim 1 of auxiliary request 2 lacks inventive step (Article 56 EPC).

Admission of auxiliary requests 3 to 5

10. Since these auxiliary requests were submitted as a legitimate reaction to the prior-art documents introduced at the appeal stage, the Board admits them into the proceedings.

Auxiliary request 3

11. Claim 1 of auxiliary request 3 essentially adds the following features to claim 1 of auxiliary request 1:
"- context detecting means (6) adapted to detect one or more context parameters regarding the context of the mobile audio player and/or the user, wherein said context detecting means (6) comprises a location detecting means adapted to detect a current location of the mobile audio player,
wherein said radio program generating means (4) comprises a commercials generating means adapted to generate commercials during the generation of the individual radio program on the basis of said context parameters."

12. Inventive step

- 12.1 In substance, the subject-matter of claim 1 of auxiliary request 3 differs from the subject-matter of claim 1 of auxiliary request 2 in that it adds a location detecting means, which detects the current location of the mobile audio player, as a context detecting means and in that it uses the detected location of the mobile audio player to generate the

commercials.

12.2 The Board considers that the aim of providing location-based advertising such as an advert for a nearby restaurant (see paragraph [0058] of the application) on the mobile player is a business aim which is not determined by the technical expert. Following the above-mentioned COMVIK approach, this aim may legitimately be added to the problem to be solved. Consequently, what needs to be assessed is whether the skilled person, starting from document D3 and faced with the problem of how to implement location-based advertising in the radio program, would arrive at the claimed location detecting means in an obvious manner.

12.3 The claimed location detecting means could be interpreted merely as input means prompting the user to enter his location (for example, by entering a zip code as known from document D2, paragraph [0063]). However, even if the location detecting means is interpreted as a GPS device (as disclosed in paragraph [0051] of the application), the Board considers that the use of a location detecting means such as a GPS device in order to support location-aware services was, at the priority date, well-known in the context of multimedia devices (see D2, paragraphs [0012] and [0063]; see D4, page 618, right-hand column, second paragraph). Even if it were to be considered that GPS devices were not well-known, the skilled person searching for a solution could and would have consulted either of documents D2 or D4 and would there have found the suggestion to determine the location by means of a GPS device, for example.

12.4 The appellant argued that the skilled person would not combine document D3 with D4, as D4 was based on

continuously available data streams and was thus not compatible with D3 from a technical point of view. However, as discussed during the oral proceedings, D3 explicitly refers to the reception of digital radio signals broadcast as streams (D3, column 1, lines 23 to 43). Hence, there is no reason why the skilled person starting from document D3 would not consider document D4.

- 12.5 As to document D2, the appellant argued that the skilled person would arrive at a different solution when combining D3 with D2, as D2 was about correlation of locations with content, but not about content generation.

This argument however is not convincing, as the aim of generating location-aware commercials is already given to the skilled person as part of the objective technical problem to be solved. Hence, the skilled person would arrive at the claimed solution in an obvious manner.

- 12.6 The appellant also argued that the skilled person would not have arrived at the claimed subject-matter in view of D2 or D4, as these prior-art documents did not disclose or suggest the use of context parameters such as location to generate commercials.

The Board agrees that there is no relevant document on file for the generation of commercials. However, since the generation of commercials involves non-technical aspects, in the present case the decisive point for the assessment of inventive step is that the use of GPS to provide a location was well-known (or at least known from D2 or D4). Consequently, the Board is not convinced by the appellant's arguments.

12.7 It follows that claim 1 of auxiliary request 3 lacks inventive step (Article 56 EPC).

Auxiliary request 4

13. Claim 1 of auxiliary request 4 adds the following feature to claim 1 of auxiliary request 3:
"wherein the commercials generating means is adapted to generate tailored commercials based on commercial templates containing raw material, said raw material including text, music and sounds; and tailoring directives for adapting the commercial towards the user, wherein the commercials generating means is adapted to mix the raw material and the user context parameters into a final commercial."

14. **Inventive step**

14.1 The additional feature specifies that commercials are generated by mixing raw material including music, text and sound as described in a template and the user context parameters and by using tailoring directives to adapt the commercial towards the user. These features concern the selection or compilation of content. The task of designing the commercial is performed by the content creator, not by the technically skilled person, who comes into play only for its implementation on a computer system. Consequently, the use of templates to describe which raw materials to use and the creation of tailoring directives are not the task of the skilled person. Moreover, the added feature does not involve any considerations concerning the internal functioning of a computer which go beyond the mere automation of a business method. A skilled person tasked with the

automation of the generation process would be able to provide an implementation as a matter of routine design using the input provided by the content creator.

14.2 In the oral proceedings, the appellant argued that the skilled person would find no hint towards the solution in the prior art, and there was in fact no prior art on file that was relevant for the automated generation of commercials.

However, the Board considers that it was self-evident that the raw material for generating commercials needed to be stored in some form and that it was obvious how to implement templates for that purpose, since templates in general were well-known in program development at the priority date.

As to the tailoring directives, paragraph [0058] of the application explains the following:

"These templates contain raw material (such as texts, music, and sounds) that can be used for creating the commercials and some "tailoring directives" that allow this component to adapt the commercial towards the user using any information about the user and its situation that can be found in the system such as the currently played out song, song lists, the individual radio program setup, the current time and date, the current location, the current traffic situation, the mood of the user, the stress level of the user, etc,".

Consequently, the Board understands that the tailoring directives merely explain how to adapt the commercial to a particular user using the available information about the user context such as the "currently played out song", for example. In view of the non-technical

aim to be achieved, i.e. the generation of context-aware commercials, the tailoring directives define which context information to use and how to use it. This information is evidently necessary to achieve the aim of context-aware commercials and does not involve any technical considerations. It follows that the skilled person, at the priority date, could and would have implemented the solution as a matter of routine program development. Consequently, claim 1 of auxiliary request 4 lacks inventive step (Article 56 EPC).

Auxiliary request 5

15. Claim 1 of auxiliary request 5 adds the following feature to claim 1 of auxiliary request 4:

"- a sweepstake manager (37) adapted to provide a sweepstake to the user, wherein a user input to the sweepstake is effected by the input means."

16. **Inventive step**

16.1 The added feature of a sweepstake manager is another business-related feature. According to the application, paragraph [0060], sweepstakes are used as a means of compensation for listening to a number of commercials. The sweepstake manager is automated using well-known technical means: the claim refers only to unspecified input means, which are already known from document D3 (see the above reasoning for the main request). As the aim of providing a sweepstake manager has to be regarded as a non-technical aim, and as its implementation does not go beyond the use of well-known technical means for automation, the added sweepstake manager cannot be the basis for the acknowledgement of an inventive step. Consequently, claim 1 of auxiliary

request 5 lacks inventive step (Article 56 EPC).

Conclusion

17. As none of the appellant's requests can form the basis for the grant of a patent, 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