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Datasheet for the decision of 17 November 2015

Case Number: T 0339/13 - 3.5.06

Application Number: 02804680.3

Publication Number: 1440414

IPC: G06G7/48

Language of the proceedings: EN

Title of invention:
METHODS AND APPARATUS FOR PROVIDING HAPTIC FEEDBACK IN INTERACTING WITH VIRTUAL PETS

Applicant:
Immersion Corporation

Headword:
Interacting with virtual pets/IMMERSION

Relevant legal provisions:
EPC 1973 Art. 56
EPC R. 111(2)
EPC R. 103(1)(a)
Guidelines for examination G-VII, 5.2

Keyword:
Substantial procedural violation (no)
Reimbursement of appeal fee (no)
Technical effect of physically interacting with a virtual pet
Inventive step - main request (no) - auxiliary request (yes)

Decisions cited:

Catchword:

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Case Number: T 0339/13 - 3.5.06

D E C I S I O N
of Technical Board of Appeal 3.5.06
of 17 November 2015

Appellant: (Applicant)	Immersion Corporation 30 Rio Robles San Jose, CA 95134 (US)
Representative:	Müller-Boré & Partner Patentanwälte PartG mbB Friedenheimer Brücke 21 80639 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 2 October 2012 refusing European patent application No. 02804680.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	W. Sekretaruk
Members:	M. Müller
	A. Teale

Summary of Facts and Submissions

I. The appeal lies against the decision of the examining division, with reasons dispatched with the letter of 2 October 2012, to refuse European patent application No. 02804680.3. The decision referred to US patent Nos. 5 734 373 A and 6 211 861 B1 as D1 and D2, respectively, and argued that claim 1 of the main and auxiliary requests lacked an inventive step over D1. In the course of this argument, reference was also made to D2.

II. In the annex to its summons to oral proceedings, the examining division made reference *inter alia* to the following documents:

D1: US 6 273 815 B1 and
D2: US 5 734 373 A,

and argued lack of inventive step over D1 alone. The US Patent No. 6 211 861 B1 was also mentioned as D3. It is this document labelling which the board uses below.

III. A notice of appeal was filed on 30 November 2012, the appeal fee being paid on the same day. A statement of grounds of appeal was received on 30 January 2013. The appellant requested that the decision under appeal be set aside, that a patent be granted based on one of the then pending requests, and that the appeal fee be reimbursed under Rule 103(1)a) EPC.

IV. In an annex to a summons to oral proceedings, the board informed the appellant of its preliminary opinion. Firstly, the board considered that no substantial procedural violation in the first instance proceedings was apparent that would justify immediate remittal under Article 11 RPBA without assessment of the merits of the

appeal, or which could justify the reimbursement of the appeal fee under Rule 103(1)a) EPC. Secondly, the board raised a number of terminological issues and expressed its preliminary opinion that the claimed invention lacked an inventive step over D1, Article 56 EPC 1973.

V. During oral proceedings, the appellant filed amended claims 1-13 according to new main and auxiliary requests, and amended description pages 6 and 9 according to the auxiliary request.

Claim 1 of the main request reads as follows:

"A method for providing haptic feedback in interacting with virtual pets, comprising:

receiving a signal relating to a biological status of a virtual pet, wherein the biological status refers to a health state of the virtual pet, the biological status having a haptic effect associated therewith;

outputting, to a user-interface object, the associated haptic effect based on said received signal; and

displaying the virtual pet on a display screen that is coupled to the user-interface object;

wherein the haptic effect is a pulsing sensation, wherein the rate or magnitude of the pulsing sensation indicates the health state of the virtual pet."

Claim 8 reads as follows:

"Use of an apparatus for providing haptic feedback in interacting with a virtual pet, comprising:

a user-interface object having a haptic feedback assembly;

a display screen coupled to said user-interface object;

a memory coupled to the user-interface object, the memory storing a computer-executable software including:

code to display said virtual pet on said display screen;

code to receive a signal relating to a biological status of a virtual pet, wherein the biological status refers to a health state of the virtual pet, the biological status having a haptic effect associated therewith; and

code to command the associated haptic effect based on said received signal to said haptic feedback assembly;

wherein the haptic feedback assembly is configured to output the haptic effect to said user-interface object;

wherein the haptic effect is a pulsing sensation, wherein the rate or magnitude of the pulsing sensation indicates the health state of the virtual pet."

Claim 1 according to the auxiliary request reads as follows:

"A method for providing haptic feedback in interacting with a virtual pet, comprising:

controlling a virtual pet via a software application, wherein the virtual pet is a cat;

receiving a signal from the software application relating to a biological status of the virtual pet, wherein the biological status refers to a health state of the virtual pet, the biological status having a haptic effect associated therewith;

outputting, to a user-interface object, the associated haptic effect based on said received signal;

displaying the virtual pet on a display screen that is coupled to the user-interface object;

wherein the haptic effect is a pulsing sensation, wherein the rate or magnitude of the pulsing sensation indicates the health state of the virtual pet;

receiving input from a user, wherein the user moves a cursor back and forth over the display of the virtual pet; and

triggering, in response to the input, a purring sensation, wherein the purring sensation is delivered in the form of a periodic vibration;

wherein the magnitude and frequency of the periodic vibration vary with time depending upon the input from the user."

Claim 8 according to the auxiliary request reads as follows:

"An apparatus for providing haptic feedback in interacting with a virtual pet, comprising:

a software application to control a virtual pet, wherein the virtual pet is a cat;

a user-interface object having a haptic feedback assembly; a display screen coupled to said user-interface object;

a memory coupled to the user-interface object, the memory storing a computer-executable software including:

code to display said virtual pet on said display screen;

code to receive a signal from the software application relating to a biological status of a virtual pet, wherein the biological status refers to a health state of the virtual pet, the biological status having a haptic effect associated therewith;

code to command the associated haptic effect based on said received signal to said haptic feedback assembly;

wherein the haptic feedback assembly is configured to output the haptic effect to said user-interface object;

wherein the haptic effect is a pulsing sensation, wherein the rate or magnitude of the pulsing sensation indicates the health state of the virtual pet; wherein the computer-executable software further includes:

code to receive input from a user, wherein the user moves a cursor back and forth over the display of the virtual pet; and

code to trigger, in response to the input, a purring sensation, wherein the purring sensation is delivered in the form of a periodic vibration;

wherein the magnitude and frequency of the periodic vibration vary with time depending upon the input from the user."

VI. At the end of the oral proceedings, the chairman announced the decision of the board.

Reasons for the Decision

Alleged fundamental deficiencies, Article 11 RPBA

1. The following considerations are based on the preliminary opinion of the board, as expressed in the annex to the summons to oral proceedings, and on which the appellant chose not to comment in writing or orally during oral proceedings.

2. In the grounds of appeal (see pages 1 and 2), the appellant argued that the decision was not clear because it referred to the wrong documents and because the decision was ambiguous as to whether the examining division

considered D1 to disclose a haptic effect. It may have been the appellant's intention to argue that these deficiencies rendered the decision insufficiently reasoned (Rule 111(2) EPC). The appellant also argued that the examining division had interpreted too narrowly the expression "technical problem", contrary to what was prescribed in the Guidelines G-VII, 5.2 (see grounds of appeal, page 3).

2.1 As regards the documents, the board notes firstly that the documents referred to by the examining division as D1 and D2 in its decision are not the same as the documents referred to as D1 and D2 in the annex to its summons to oral proceedings. Secondly, on reading the passages in D1 referred to in the decision, the reader would immediately realize that they cannot belong to the '373 patent.

2.1.1 In particular, the passage bridging columns 7 and 8 was cited earlier during examination with reference to D1=US 6 273 815 B1 (see the summons to oral proceedings). In the board's judgment it was thus obvious which document the examining division intended to cite as D1 in the decision. Indeed, the appellant was also able to resolve this discrepancy.

2.1.2 As regards D2, it is not evident whether the document cited in the decision or that cited in the summons to oral proceedings was being referred to. This is due to the fact that the decision referred to D2 only in passing, without citing any particular passage, and in such a way that either of the two documents might have been meant. If one assumes that, as with D1, the document numbering in the summons to oral proceedings is authoritative, then it follows that a reference to D2=US 5 734 373 A was intended. However, it has not been

disputed that the relevant disclosure of "D2" was known in the art, so that it does not matter for the examining division's argument whether any prior art document is referred to or, if so, which one. Moreover, the disclosure of D2 was only cited to illustrate, by way of contrast, a deficiency of the application (see decision, reasons 9.2.2, page 5, 2nd paragraph), and therefore is not, in the board's judgment, a significant part of the reasons for the decision.

2.2 As regards the alleged ambiguity in the examining division's argument, the board disagrees with the appellant's point of view. Haptic feedback was mentioned as a difference between the claimed invention and D1 only "according to the applicant's argument" and in contrast to what had been argued by the examining division (see reasons 9.1, 3rd paragraph, reasons 9.2, and reasons 9.2.2, 1st paragraph). The argument that feature (b) might not be a distinguishing feature is made in the conditional form (reason 9.2.2, 1st paragraph, last sentence), which the board takes to mean that the examining division left this issue open, even though it appears that the examining division in fact tended to the opinion that D1 did disclose feature (b). The examining division, giving the appellant the "benefit of the doubt" in this respect (reasons 9.2.2, 2nd paragraph, 1st sentence), then argued that difference (b) did not solve a technical problem and could therefore not establish an inventive step (see reasons 9.2.2, paragraph bridging pages 4-5, and reasons 9.3).

2.3 The board concludes that the reasons given for the decision are clearly understandable and that the decision therefore is not insufficiently reasoned.

2.4 As regards the allegation that the examining division did not interpret the term "technical problem" as prescribed in the Guidelines the board first notes that this, even if true, would not constitute a procedural violation. Secondly, the board disagrees with the appellant's position in substance. In the board's understanding, the cited section of the Guidelines (G-VII, 5.2, the applicable version being that of June 2012) specifies that the "technical problem" should be "interpreted broadly" so as not to imply that the claimed solution must be a "technical improvement" over the art. That section further requires that it be made "credible that substantially claimed embodiments exhibit the technical effects upon which the invention is based". As the board understands the decision under appeal, the argument that the "success of the solution" could not be quantified or demonstrated implied that the achieved technical effect was not made credible. To dismiss a technical problem as inappropriate on this basis is not, in the board's view, in conflict with the cited passage of the Guidelines.

3. In summary, the board concludes that the procedure before the examining division does not exhibit any substantial procedural violation - nor any other fundamental deficiency - which could have required a direct remittal of the case to the first instance under Article 11 RPBA.

The invention

4. The application relates to what is referred to as a "virtual pet". It is disclosed that a virtual pet could be "any simulated creature or character, which may or may not have a 'real-life' counterpart" (page 1, lines

7-8 and 21-23). As a specific example of a pet which does, a cat is disclosed (see page 9, line 16).

4.1 In general, the user ("owner") of a virtual pet is meant to interact with it in a way which resembles the interaction with a real pet. For example, if the virtual pet signals that it is "hungry", the owner is supposed to "feed" it and make it "happy" (see e.g. page 5, lines 5-8, and page 9, lines 14-17). The virtual pet provides feedback, for instance in the form of visual or audio effects (page 3, lines 11-13).

4.2 The application states that the feedback from the virtual pet relates to its "biological status" and explains that this is to be construed broadly as its "state of being", such as its "health or emotional state" (see page 2, lines 22-25).

4.3 The virtual pet is "simulated" by a suitable software application, which may be part of a stand-alone toy (such as those known as "Tamagotchi"; see page 1, lines 8-10) or other hand-held device (page 7, lines 29-31), or be executed remotely on a network resource (see page 2, line 29, to page 3, line 1; and the reference to "Neopets.com" on page 8, lines 18-20). In the latter case, the feedback from the virtual pet is communicated to some "local device for interaction with the user" (see page 3, lines 1-3, and page 7, lines 18-20).

4.4 The application is specifically concerned with a virtual pet which is capable of giving "haptic feedback" - explained as "any type of force feedback, such as tactile or kinesthetic feedback" (see page 4, lines 26-30) - to produce, for instance, tactile sensations, such as vibrations or pulses (see page 8, line 27).

The prior art

5. As mentioned above, the application itself acknowledges that virtual pets in general were known in the art (see, in particular, the references to "Tamagotchi" and "Neopets.com", *loc. cit.*). D1 also states that virtual pets were known in the art before the present priority date (see esp. column 1, lines 14-23). Moreover, D1 discloses a specific virtual pet in the form of a portable device which provides visual feedback on a display screen (see figure 9, column 3, lines 27-37 and 62-64, and column 7, lines 25-34). D1 also discloses a toy which can actually perform (rather than only display) the relevant activities and behaviours by means of electronically controlled movements. In this embodiment, the portable device becomes a remote control (see figure 11, column, 7, line 66, to column 8, line 10).

6. The application also states that "haptic-enabled" user-interfaces such as computer mouses were known in the art (see page 8, lines 4-24). Examples of such devices are known from D2 (see e.g. column 3, lines 50-56), as are examples of specific kinds of haptic feedback (see column 4, lines 27-34). D2 also gives examples of kinds of haptic sensations (such as "vibration", "wobble", "jolt" or "button" forces; column 4, lines 27-31; column 35, line 33, to column 36, line 6) and their use in the context of games (see column 1, lines 27-29), for instance to evoke the feeling of an obstruction, a textured surface, an explosion, or a viscous fluid (column 19, lines 44-45 and 53-63; column 20, lines 42-45; column 37, lines 18-28). The board notes that D2 is acknowledged in the description (page 8, line 13).

Claim interpretation

7. The claimed invention is directed at the production of a haptic effect as feedback on the "biological status" of a "virtual pet" and, more specifically, on its "health state". It is evident that a virtual pet has neither a "biological status" nor a "health state" in the literal sense of these terms and that both terms can only refer to properties of a *model*, in particular a software program meant to evoke the illusion of a real pet. The board therefore takes the terms "biological status" and "health state" to be metaphorical ones referring to the *perception* of a human observer in view of their expectations about the behavior of a real pet, especially a living animal. In technical terms, however, both are essentially undefined parameters of the internal state of the virtual pet software or device.

8. The claims refer to the "biological status having a haptic effect *associated* therewith" (emphasis by the board). The board takes this to refer to an association chosen by the toy designer which *per se* does not imply any realism.

9. It is stated in the description that the term "haptic effect" should be "construed broadly as encompassing any type of force feedback, such as tactile or kinesthetic feedback, that is deemed appropriate for conveying a particular biological status of the virtual pet" (page 4, lines 26-30). Notwithstanding this statement, however, the term "haptic effect" must, in the board's understanding, be one which is meant to be felt rather than seen and which can be identified by touch rather than by sight. Accordingly, the "user-interface object" specified in the claims is meant to be held or touched by the user so as to feel the haptic effect produced by

the object. On the other hand, any part of the toy in question which the user is meant to touch or hold qualifies as the claimed user-interface object, including, for instance, the casing of a hand-held device.

10. In summary, the board construes claim 1 of the main request as specifying a method of outputting, through some sort of "user-interface" and based on some signal meant to *represent* the pet's internal state, a "haptic sensation" which is selected to represent that state.

11. Beyond that, claims 1 and 8 of the auxiliary request specify a physical interaction between the user and a device, according to which the device responds with a periodic vibration to the user moving a cursor back and forth over the display of the virtual pet.

Inventive step

12. The decision under appeal assessed inventive step starting from D1, and the board agrees that this is a suitable choice. As explained above (point 10), the board considers that the movements of eyes, mouth or limbs of the virtual electronic pet according to D1 (see column 7, line 66, to column 8, line 10; figure 11, item 510) do not qualify as haptic feedback. Instead of a virtual electronic pet which the user is not supposed to handle, the board considers that the starting point for the assessment of inventive step must rather be a device which the user is supposed to hold. In D1, this is, in particular, the hand-held device displaying the virtual pet according to figure 9.

Main request

13. D1 discloses a method and apparatus for providing feedback to a user interacting with a virtual pet, the feedback relating to the virtual pet being "hungry, bored, dirty, sick, bad or tired" (see column 1, lines 18-21, and column 3, lines 29-31). At least "hungry", "sick" and "tired" indicate "biological status" of the virtual pet, when broadly construed as explained above, and at least one of them ("sick") even specifically relates to the "health state" of the virtual pet.

14. Claim 1 of the main request thus differs from D1 in that it relates to a virtual pet

(a) being equipped to provide haptic feedback, and

(b) providing a "pulsing sensation, wherein the rate or magnitude of the pulsing sensation indicates the health state of the virtual pet".

15. As regards feature (a), the board takes the view that it is well-known in the art (see D2) to use haptic feedback in computer games so as to increase the player's perception of interacting with the "real thing".

15.1 Even though the particular games and game situations discussed in D2 do not include virtual pets, the board is of the opinion that the skilled person would consider, without exercising an inventive step, incorporating a haptic feedback assembly into other game devices simply in order to increase the variety of feedback modalities available to the interface designer (see D2, column 1, lines 58-59).

15.2 The appellant argued during oral proceedings that the haptic feedback according to D2 is limited to peripheral user interface "objects" which users are to grasp, such as joysticks (see column 1, lines 41-44; column 1, lines 19-21; column 3, lines 50-52) and that the hand-held device of D2 does not provide or easily lend itself to the incorporation of such components. The board, in contrast to the appellant, cannot see any technical difficulty that would prevent the skilled person from extending the device of D2 by adding a peripheral interface object such as, say, a stylus. More than that, however, the board considers that the entire casing of the hand-held device can easily, and obviously so, serve as the claimed user-interface object to which the haptic effect is "output".

15.3 Therefore, the board concludes that the provision of haptic feedback in a hand-held virtual pet such as that of D1 is, in itself, insufficient to establish an inventive step.

16. As regards feature (b), the appellant argued in its grounds of appeal (page 4, point 5) that it "enhances the realism of the user's relationship" or interaction "with the virtual pet" and, during oral proceedings, argued that it increased the players' "engagement" with their virtual pets.

16.1 The board considers that these problems are not technical, nor are they necessarily always solved, so that they are unsuitable for characterizing a technical effect achieved by feature (b).

16.2 Whether players can be said to "engage" more in a given game will depend, *inter alia*, on how interesting entertaining or otherwise attractive the game appears. This

however depends on an entirely subjective assessment by players. Therefore, whether players find a game more interesting, entertaining or attractive does not, in the board's judgment, constitute a technical effect of a new game or game device.

16.3 A haptic sensation generated in a game context might, in the board's view, be claimed to be "realistic" when it is derived from and is physically comparable to haptic sensations that arise in the real situation. In the present case however, the claims do not set out the specific phenomenon that the claimed "pulsing sensation" is to mimic, so that it is impossible to assess whether an increased perception of "realism" is actually achieved by the claimed invention in this respect. Even on the understanding that the pulsing sensation is meant to convey information about the pet's "health state" by evoking the perception of a heart beat, the board remains unconvinced, *inter alia* because the claimed invention does not explain how "rate or magnitude of the pulsing sensation" is meant to correlate with the perception of health and thus does not allow an assessment of whether the claimed invention could be said to evoke that perception in users in a reliable and reproducible manner. Therefore, the subject-matter of the claims of the main request does not realize the alleged increased "realism".

17. In the board's judgment, therefore, the claims of the main request do not go beyond specifying the use of a known form of haptic feedback in a virtual electronic pet such as that known from D1, which, as argued above, the board considers to be obvious in the light of D2, and therefore do not involve an inventive step in the sense of Article 56 EPC 1973.

Auxiliary request

18. The independent claims of the auxiliary request specify, in addition to those of the main request, that the user interacting with the virtual electronic pet moves a cursor back and forth over the display of the virtual pet and, in response to this movement and varying with it, receives as haptic sensation a periodic vibration. The claim further specifies that the virtual pet in question is meant to "be" a cat and the haptic feedback to evoke a "purring sensation".

18.1 This interaction is modelled on a real interaction of an owner with an actual pet, more specifically on the response of a cat to its owner petting it. From this perspective, the board accepts the appellant's argument that the invention increases the similarity between the physical interaction between a user and its toy, the virtual pet, with that between an owner and his/her real pet.

18.2 The board notes that the owner of a toy must be willing to accept the toy's behaviour as real. This applies to a virtual pet just as well as to other toys such as, for instance, a doll equipped with means to "speak" or to move its eyelids. The board agrees with the examining division that the "increased realism" cannot be *quantified*, let alone measured, and considers that this makes it difficult in general to assess whether the goal of increased realism is actually achieved. However, the board accepts that it would, in individual cases, be possible to *demonstrate* whether this goal is achieved. In this regard, the board considers that producing a toy that mimics reality is not a "simulation" in the same sense of this term used in science and engineering. In the board's view, less is required for a toy to be

perceived as real, or to resemble a real object, than from a simulation in science, manufacturing or system control to achieve its technical purpose. Having said that, the board is satisfied that the user of the claimed method and apparatus has a sufficiently reliable and reproducible perception of physically interacting with a real pet - if only in very general terms, given the breadth of the claim language and the lack of detail in the description.

18.3 The board accepts as a technical problem in the context of virtual pets that of achieving the reliable and reproducible perception of a physical interaction with the real pet. Moreover, the board finds that the invention solves this problem with technical means, more specifically in terms of technical features of the device interface, namely a reciprocating cursor movement and haptic feedback.

19. Returning to D1, the board notes that D1, apart from not disclosing any haptic feedback, also does not disclose any direct interaction between the user and the displayed pet in a way physically resembling an interaction with a real pet. D2, while disclosing the use of haptic feedback in the context of computer games in general, does not disclose its use in the context of virtual pets and therefore, in the board's view, does not suggest the specifically claimed interaction between the user and the virtual pet.

20. Therefore, the board concludes that the subject-matter of claims 1 and 8 of the auxiliary request involves the required inventive step over D1 and D2, either separately or in combination.

Reimbursement of the appeal fee under Rule 103(1)a) EPC

21. A request for reimbursement of the appeal fee was made in the notice of appeal, but no specific reasons for the request were given in either the notice or the grounds of appeal. Also no reason was given why reimbursement of the appeal should be considered equitable.

22. As explained above with regard to Article 11 RPBA, the board is of the opinion that no substantial procedural violation occurred in the first instance proceedings. Therefore, the request for reimbursement of the appeal fee must be rejected.

Order

For these reasons it is decided that:

1. The case is remitted to the examining division, with the order to grant a European patent with the following documents:

claims, no.
1-13 according to the auxiliary request dated 17 November 2015;
description pages
1-5, 7, 8, and 10-12 as published,
6 and 9 dated 17 November 2015,
drawings, sheets
1/7-7/7 as published.

2. The request for reimbursement of the appeal fee is refused.

The Registrar: The Chairman:

L. Malécot-Grob W. Sekretaruk

Decision electronically authenticated