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**Datasheet for the decision
of 23 April 2018**

Case Number: T 1882/14 - 3.5.05

Application Number: 08833872.8

Publication Number: 2203798

IPC: G06F3/01

Language of the proceedings: EN

Title of invention:

Multi-touch device having dynamic haptic effects

Applicant:

Immersion Corporation

Headword:

Multi-touch haptic effects/IMMERSION

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - (no)



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Case Number: T 1882/14 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 23 April 2018

Appellant: Immersion Corporation
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 16 April 2014
refusing European patent application
No. 08833872.8 pursuant to Article 97(2) EPC**

Composition of the Board:

Chair A. Ritzka
Members: K. Bengi-Akyuerek
F. Blumer

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse the present European patent application for lack of novelty (Article 54 EPC) in respect of the claims of a main request, having regard to the disclosure of

D2: US-A-2002/0044132,

and for lack of inventive step (Article 56 EPC) in respect of the claims of an auxiliary request in the light of D2 combined with the disclosure of

D1: US-A-2006/0119586 or

D3: US-B-7 084 859.

II. In its statement setting out the grounds of appeal, the appellant requested that the examining division's decision be set aside and that a patent be granted on the basis of either of the main request and auxiliary request underlying the appealed decision. In addition, it requested that the appeal fee be reimbursed on the grounds that the examining division had committed a substantial procedural violation by not considering one of the fundamental features of claim 1 on file.

III. In a communication under Rule 100(2) EPC, the board gave its preliminary opinion on the appeal. In particular, it indicated that claim 1 of the main request lacked novelty (Article 54 EPC) over D2 and that the independent claims of the auxiliary request comprised unallowable amendments (Article 123(2) EPC) and lacked inventive step (Article 56 EPC) in view of D2. Moreover, as regards the request for reimbursement of the appeal fee, the board also noted that,

regardless of whether or not the appeal was allowable, it could not recognise that any substantial procedural violation within the meaning of Rule 103(1)(a) EPC had occurred in the examination proceedings.

IV. In a letter of reply, the appellant submitted counter-arguments to the objections raised in the board's communication under Rule 100(2) EPC and maintained its requests that a patent be granted on the basis of the sets of claims on file and that the appeal fee be reimbursed.

V. With an annex to the summons to oral proceedings pursuant to Article 15(1) RPBA, the board, in response to the counter-arguments brought forward by the appellant as regards D2 and D1, introduced the following document into the appeal proceedings:

D4: WO-A-01/54109.

It indicated that claim 1 of both claim requests on file lacked novelty and/or inventive step (Articles 54 and 56 EPC) in view of D1 and D4 and that it maintained its objection under Article 123(2) EPC with regard to the auxiliary request. The board also maintained its view that the appeal fee could not be reimbursed.

VI. With a letter of reply dated 22 March 2018, the appellant submitted amended claims according to first and second auxiliary requests, replacing the former auxiliary request on file, along with counter-arguments on the objections raised in the board's communication under Article 15(1) RPBA.

VII. Oral proceedings were held on 23 April 2018, during which the appellant withdrew the first auxiliary

request on file. All the pending claim requests were discussed.

The appellant's final request was that the decision under appeal be set aside and that a patent be granted on the basis of the main request as filed with the statement setting out the grounds of appeal or, in the alternative, on the basis of the second auxiliary request as filed with the letter dated 22 March 2018.

At the end of the oral proceedings, the board's decision was announced.

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

"A method of generating haptic effects comprising sensing at least two generally simultaneous touches (31, 32) on one or more touchscreens (11); generating multiple dynamic haptic effects in response to the sensing; and characterized by the further step of generating different dynamic haptic effects at different contact points of the touches (31, 32)."

Claim 1 of the **second auxiliary request** reads as follows:

"A method of generating haptic effects comprising sensing at least two generally simultaneous touches (31, 32) on a touchscreen (11); generating multiple dynamic haptic effects in response to the sensing; and characterized by the further step of generating different dynamic haptic effects at different contact points of the touches (31, 32), wherein each dynamic haptic effect is a vibration that

comprises a variation of at least one parameter when the haptic effect is generated and wherein the at least one parameter is one or more of amplitude, frequency and duration."

Reasons for the Decision

1. MAIN REQUEST

Claim 1 of the main request includes the following limiting features (as labelled by the board):

A method of generating haptic effects comprising the steps of

- A) sensing two generally simultaneous touches on a touch screen;
- B) generating multiple dynamic haptic effects in response to the sensing;
- C) generating different dynamic haptic effects at different contact points of the touches.

1.1 *Novelty (Article 54 EPC) over D2*

1.1.1 In the impugned decision, it was held that claim 1 of the main request lacked novelty having regard to prior-art document **D2** (see Reasons 6.1). As regards that novelty objection, the appellant argued that D2 was concerned only with a "touch pad" rather than with a "touch screen" providing graphical output as claimed, and that it therefore concerned a completely different category.

1.1.2 In that respect, it is apparent to the board that D2 relates to an input/output device which comprises a two-dimensional area which can be touched

simultaneously via pointing devices for graphical user interfaces (see e.g. paragraphs [0003] and [0019]) and relies on a direct mapping (i.e. one-to-one correspondence) between the screen and the user's hand (see e.g. [0008]).

Moreover, D2 expressly mentions that touchpads generally lack a direct mapping and that they support only a single interaction at a time, while conventional touch screens do not include any haptic feedback (see e.g. [0008], second sentence; [0009], last sentence; [0011], first sentence; [0016]). In particular, D2 refers to a "haptic display" (see [0070]) which may include pixels on the display which cannot be touched by the user (see [0075], penultimate sentence), while users can adapt to differences in actuation force for different parts of the display (see [0077], penultimate sentence). In addition, it is also apparent that D2 refers to an input/output device having a display (i.e. a screen) which is coupled to the corresponding haptic elements, enabling haptic feedback and concurrent input/output when touched concurrently (see e.g. claims 10 and 13).

1.1.3 However, the board concedes that the passages cited above do not disclose *directly and unambiguously* a touch screen that provides haptic feedback *on the touch screen itself*, as called for by feature A). Thus, the subject-matter of present claim 1 is considered to be novel over document D2.

1.2 *Novelty (Article 54 EPC) over D1*

1.2.1 As to feature A) of claim 1, document **D1** teaches that a touch input device such as touchpad 16 or touch screen 82 includes a plurality of sensors (see e.g. D1,

paragraph [0053], emphasis added: *"In the present invention, the touch input device (touchpad 16 or touch screen) is provided with ..."*; [0059], second sentence: *"... appropriate sensors ... are used to report the position of the user's finger ..."* in conjunction with Figures 8A and 8B). Moreover, user touches can apparently be detected by those sensors at multiple locations at the same time (see e.g. D1, [00125], third sentence, emphasis added: *"... the process can be activated by a user who touches a touch-sensitive panel possibly in a predetermined location or locations"*). Hence, the corresponding sensors are evidently able to also sense "generally simultaneous touches" of a user in accordance with feature A).

In that regard, the board is not persuaded by the appellant's argument that using multiple sensors as in D1 did not mean that this supported multi-touch functionality by a "special controller". This is because the implementation of any such multi-touch functionality or the use of a "special controller" is apparently neither explicitly nor implicitly reflected in claim 1.

1.2.2 As to feature B), it is uncontested that D1 also teaches that touch screen 82, in response to detecting user contacts, is able to provide haptic feedback to the user e.g. by means of actuators 86 (see e.g. D1, [0097] in conjunction with Fig. 8A).

1.2.3 As to feature C), D1 discloses that the actuators of the touch input device (such as actuators 86 of touch screen 82; see e.g. Fig. 8A) may output different haptic/tactile sensations to the user touching the device (see e.g. D1, [0054]: *"Using one or more actuators coupled to the touch input device, a variety*

of haptic sensations can be output to the user who is contacting the touch input device ..." and [0057], penultimate sentence: *"This allows the host to control multiple different tactile sensations simultaneously to the user ..."*).

However, the board accepts that D1 fails to directly and unambiguously disclose that *different* dynamic haptic effects are generated at *different* contact points of simultaneously performed touches. Thus, D1 does not anticipate feature C) of present claim 1.

1.2.4 In view of the above, the board concludes that present claim 1 is also novel over prior-art document D1.

1.3 *Inventive step (Article 56 EPC)*

1.3.1 The board considers D1 to be the most suitable starting point for assessing inventive step for the subject-matter claimed. Moreover, based on distinguishing feature C), the board takes the view that the objective technical problem to be solved by present claim 1 may be framed as "how to extend the functionality of the haptic feedback system of D1 to multi-touch user inputs".

1.3.2 Setting out from the teaching of D1, which already provides some hints towards dynamic feedback mechanisms (see point 1.2.3 above), the person skilled in the field of touch-screen devices would seek ways of implementing dynamic *multi-touch* feedback systems. To this end, when consulting the prior art, the skilled person would consider prior-art document **D4**, which stems from the same applicant and is likewise concerned with the provision of dynamic haptic feedback for touch input devices (including the same embodiment relating

to portable touch-screen device 80, based on Figures 8A and 8B along with a more detailed description on page 19, last two paragraphs of D4).

In particular, in order to solve the above-mentioned objective technical problem, the board considers that the skilled person would deduce from D4 that different haptic effects can be obtained by activating different actuators and that different types of graphical object can be associated with tactile sensations (see e.g. page 19, last paragraph, in conjunction with page 10, first paragraph, or page 14, second paragraph).

Furthermore, D4 also indicates that each contact control provided with haptic feedback may also provide tactile feedback *independently* of each other (see page 7, last paragraph, last sentence: "*Each other ... control provided with haptic feedback can also provide tactile feedback independently from the other controls*"). Thus, the skilled person would infer from that teaching that at different locations associated with user touches different haptic effects may be generated, in accordance with feature C) of claim 1. Accordingly, the skilled person would readily adapt this dynamic scheme to the system of D1 in a straightforward way, such that e.g. different types of vibration are generated at distinct contact points, and would arrive at the solution of present claim 1.

- 1.3.3 The appellant's argument that D4 did not teach providing different haptic effects on the *same* part of a touch screen is not persuasive, since the provision of different haptic effects on the *same* part (whatever that means) of the touch screen is neither explicitly nor implicitly specified in claim 1.

1.4 Consequently, the main request is not allowable under Article 56 EPC.

2. SECOND AUXILIARY REQUEST

Claim 1 of this auxiliary request differs from claim 1 of the main request essentially in that it further specifies that (emphasis added by the board)

D) each dynamic haptic effect is a vibration that comprises a variation of at least one of amplitude, frequency and duration.

The board is satisfied that newly introduced feature D) is supported e.g. by claims 4 and 5 or claims 12, 16 and 22 of the present application as filed and thus complies with the provisions of Article 123(2) EPC.

2.1 *Inventive step (Article 56 EPC)*

2.1.1 The observations set out in points 1.3.1 to 1.3.3 above as regards the main request apply equally to claim 1 of this auxiliary request.

2.1.2 As to added feature D), the appellant argued that it had the effect of providing additional information to the user in contrast to a *static* haptic effect as disclosed in D1 and D4, and solved the problem of providing "more information to a user by means of haptic feedback". It also submitted that the vibration generated as haptic feedback in D1 and D4 was dependent on user behaviour, whereas according to present claim 1 the vibration was user-independent.

However, the board first notes that it is commonly known that any mechanical vibration on a portable

device is typically caused by a variation of parameters such as the amplitude, frequency or duration of an electrical signal. Secondly, it cannot be deduced from the wording of claim 1 whether or not any such vibration is independent of user behaviour. Lastly, it is apparent to the board that both D1 and D4 clearly disclose the use of vibrations as an example of a *dynamic* haptic effect on a touch-screen device (see e.g. D1, paragraph [0064]: "*The frequency of a vibration output by an actuator 42 can be varied by providing different control signals to an actuator 42. Furthermore, the magnitude of a ... vibration can be controlled based on the applied control signal ...*"; D4, page 19, penultimate paragraph, and claim 21).

2.2 Hence, the second auxiliary request is likewise not allowable under Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated