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**Datasheet for the decision
of 25 March 2022**

Case Number: T 1463/20 - 3.5.05

Application Number: 13174426.0

Publication Number: 2818980

IPC: G06F3/0354

Language of the proceedings: EN

Title of invention:

Method and apparatus pertaining to a stylus having a multi-level force-sensitive user interface

Applicant:

BlackBerry Limited

Headword:

Stylus for electronic display/BLACKBERRY

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - (yes)

Decisions cited:

Catchword:



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Case Number: T 1463/20 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 25 March 2022

Appellant: BlackBerry Limited
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 10 December
2019 refusing European patent application No.
13174426.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: P. Cretaine
E. Mille

Summary of Facts and Submissions

I. This appeal is against the examining division's decision posted on 10 December 2019, refusing European patent application No. 13 174 426.0. The application was refused for lack of inventive step (Article 56 EPC) of a main request and a first and a second auxiliary request in view of the disclosure of:

D3: US 2012/331546 alone or in combination with

D1: US 2001/006383.

Additionally, the second auxiliary request was refused for non-compliance with Article 123(2) EPC.

II. Notice of appeal was received on 12 February 2020, and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 20 April 2020. The appellant requested that the decision be set aside and that a patent be granted on the basis of a main request or a first auxiliary request, both filed with the statement setting out the grounds of appeal. Oral proceedings were requested in the event that none of the requests was allowed.

III. A summons to oral proceedings was issued on 12 January 2022. In a communication pursuant to Article 15(1) RPBA, sent on 11 February 2022, the board gave its preliminary opinion, which was that the main request and the first auxiliary request did not meet the requirements of Article 56 EPC in the light of the disclosure of D3 in combination with that of D1.

- IV. By letter dated 3 March 2022, the appellant provided further arguments with respect to inventive step.
- V. Oral proceedings were held on 25 March 2022. The appellant withdrew the first auxiliary request and requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims in the main request filed with the statement setting out the grounds of appeal. The board's decision was announced at the end of the oral proceedings.
- VI. Claim 1 of the main request reads as follows:

" A stylus (100) configured for use with a scribing surface of an electronic device, the stylus comprising:
a barrel (101);
a multi-level force-sensitive scribing nib (104) disposed at one end of the barrel (101) and configured to sense multiple different levels of force applied to the scribing nib (104);
at least one multi-level force-sensitive user interface (108) supported by the barrel (101) and configured to sense at least two different non-zero levels of force applied to the multi-level force-sensitive user interface (108);
a control circuit (102) operably coupled to the multi-level force-sensitive user interface (108) and to the multi-level force-sensitive scribing nib (104), the control circuit (102) being configured to detect multiple different non-zero levels of force applied to the multi-level force-sensitive user interface (108);
and
a wireless transmitter (106) operably coupled to the control circuit (102) and at least partially disposed within the barrel (101);
wherein the stylus is configured such that detected

force levels as applied to one of said multi-level force-sensitive interface (108) and said multi-level force-sensitive nib (104) serve to modify changes made to a scribing interaction between the nib (104) and the scribing surface in response to detected force levels applied to the other of said multi-level force-sensitive interface (108) and said multi-level force-sensitive scribing nib (104); and wherein the control circuit (102) is configured to respond differently to each of at least two detected different non-zero levels of force as applied to the multi-level force sensitive user interface (108) by: transmitting (304), via the wireless transmitter (106) to said electronic device, a first signal in response to detecting (303) a first non-zero level of applied force via the multi-level force-sensitive user interface (108), the first signal influencing a scribing interaction between the multi-level force-sensitive scribing nib (104) and the scribing surface of the electronic device in a first way; and transmitting (306), via the wireless transmitter (106) to said electronic device, a second signal that is different from the first signal in response to detecting (305) a second level of non-zero applied force different than the first non-zero level of applied force via the multi-level force-sensitive user interface (108), the second signal influencing a scribing interaction between the multi-level force-sensitive scribing nib (104) and the scribing surface of the electronic device in a second way different than the first way; and wherein the control circuit (102) is further configured to: temporarily freeze (302) signal transmission to the electronic device in response to changes in force as applied to the multi-level force-sensitive scribing nib

(104) while responding to changing levels of force as applied to the multi-level force-sensitive user interface (108)."

The main request includes a further independent claim directed to a corresponding method (claim 3).

Reasons for the Decision

1. Main request - admission

Independent claims 1 and 3 have been amended compared with independent claims 1 and 3 of the previous main request on which the decision was based. The amendments comply with the requirement of Article 123(2) EPC. Furthermore, as argued by the appellant, the amendments improve the clarity of the claims with a view to better distinguishing their subject-matter from the cited prior art, thereby aiming to overcome the inventive-step objection forming the basis of the decision.

For these reasons, during oral proceedings the board decided to admit the main request into the appeal proceedings (Article 12(4) RPBA 2020).

2. Prior art

2.1 D1 discloses a stylus for scribing on a surface of an electronic device. The stylus is provided with a user interface consisting of a finger wheel (reference sign 7 in Figure 1) or of a sensitive surface (reference sign 51 in Figure 9) to vary the scribing interaction, e.g. the thickness or color of the line, on the surface (see the abstract and paragraphs [0047] and [0056]). The scribing nib of the stylus includes a tuning

circuit capable of communicating with the electronic device in order to enable the electronic device to detect the presence and location of the stylus (see paragraph [0065] and Figure 12). This tuning circuit (reference sign 61 in Figures 12 and 13) comprises a variable capacitor (reference sign 91 in Figure 13) which represents a pressure-sensing switch (reference sign 13 in Figure 1) for sensing the pressure applied to the surface by the stylus nib (see paragraphs [0045] and [0067]).

- 2.2 D3 discloses a stylus including pressure sensors to modify the scribing interaction based on the detected pressure (see paragraph [0041]). An exemplary stylus includes a sensor for measuring the pressure applied by the scribing nib to the surface (see paragraph [0044] and Figure 4). A further exemplary stylus includes a push button on the barrel for sensing a push applied by the user (see paragraph [0050] and Figure 7). Paragraph [0066] in combination with Figure 14 teaches that the stylus can include multiple sensors in various combinations and a multiplexer for selecting which sensor(s) to enable and transmit a measurement to the processor of the stylus for processing.

3. Article 56 EPC

It was common ground in the oral proceedings before the board that D3 represents the closest prior art.

The nib of the stylus in D3, when equipped with a pressure sensor 414 as described in paragraph [0044] in combination with Figure 4, can be interpreted as the multi-level force-sensitive scribing nib defined in claim 1. Furthermore, the push button 717 described in paragraph [0050] in combination with Figure 7 of D3 can

be considered a force-sensitive user interface that is supported by the barrel and is capable of modifying the scribing interaction. The possibility of having both a push button and a pressure sensor in the nib for modifying the scribing interaction is taught in paragraph [0066] of D3.

Therefore, the subject-matter of claim 1 differs in substance from the disclosure of D3 in that:

a) the force-sensitive user interface in claim 1 is configured to sense at least two different non-zero levels of applied force which are used to generate different corresponding signals influencing the scribing interaction depending on the level of the applied force, whereas the push button in D3 senses when an applied force is above a threshold and, in response, generates a signal influencing the scribing interaction independently of the level of the applied force, and in that

b) the stylus is configured to temporarily freeze signal transmission to the electronic device in response to changes in force as applied to the multi-level force-sensitive scribing nib while responding to changing levels of force as applied to the multi-level force-sensitive user interface. By contrast, paragraph [0066] of D3 teaches that sensors are selected according to the capabilities of the touch screen having logic to interpret all the various combinations of sensor information. In particular, D3 does not teach that the touch-sensitive user interface overrides the touch-sensitive scribing nib.

3.1 The technical effect of feature a) is that different amounts of applied force can be detected by the user

interface, resulting in the user being able to influence the scribing interaction differently depending on the force applied to the force-sensitive user interface.

The technical effect of feature b) is that when the user is modifying the scribing interaction by using the force-sensitive user interface, any change in the force applied by the force-sensitive scribing nib to the surface is not taken into account for modifying the scribing interaction, i.e. the processing due to the user interface unconditionally overrides the processing due to the scribing nib. Therefore, when the user holding the stylus in one hand deliberately applies a force pressure to the user interface to modify the scribing interaction, any inadvertent change in the force pressure applied by the nib to the surface is not taken into account and, as a consequence, any contradictory order is avoided.

The two distinguishing features a) and b) are juxtaposed in the sense that them being combined in claim 1 does not provide a technical effect that goes beyond the sum of their respective technical effects. Their respective contributions to inventive step can thus be examined separately.

- 3.2 The objective technical problem solved by feature a) can be formulated as how to improve the capabilities of the stylus in terms of its ability to change the scribing interaction. The skilled person trying to solve this problem would consult document D1, which deals with a stylus comprising a user interface, supported by the barrel, for modifying the scribing interaction (see point 2.1 above). When implemented as a touch-sensitive surface area (see paragraph [0056]

and Figures 8 and 9 of D1), the user interface in D1 is able to sense how much pressure the user is applying to the area such that each different level of pressure affects the scribing interaction differently. The skilled person would thus obviously implement this functionality by replacing the push button of the stylus in D3 with a user interface as described in D1 in order to arrive at the subject-matter of feature a).

- 3.3 The objective technical problem solved by feature b) can be formulated as how to improve the coexistence of the touch-sensitive user interface and the scribing nib in order to avoid the scribing nib being inadvertently selected when the intention is to apply pressure to the touch-sensitive user interface.

This problem is neither mentioned nor pointed out in D3. In the impugned decision, the examining division considered that the skilled person faced with this problem would program the multiplexer in Figure 14 of D3 to block the processing of the pressure signal issued by the scribing nib when a pressure signal is issued by the touch-sensitive user interface.

However, based on paragraphs [0031] and [0066] of D3 in particular, the appellant argued that the purpose of the multiplexer shown in Figure 14 of D3 is to select the information from the sensors in order to generate a combination of sensor information that is adjusted according to the logic capabilities of the paired touch-sensitive device in terms of interpreting and processing. When the stylus is paired with a touch-sensitive display device having minimal logic capabilities, the MCU sends a control signal to the multiplexer to disregard the information from all the sensors, so that, in that case, the stylus will just

act like a simple touch-input device. By contrast, when the stylus is paired with a touch-sensitive display device having maximal logic capabilities, the MCU sends a control signal for selecting the sensed information available from several sensors, so that, in that case, the stylus will act as a device that is more intelligent than just a touch-input device. Therefore, D3 teaches selecting as much sensed information from the sensors as is made possible and is permitted by the logic capabilities of the paired electronic device. As a consequence, the MCU will use both a sensed force applied to the scribing nib and a push indication provided by the push button if the paired touch-sensitive display device has sufficient capabilities for processing these combined pieces of information. Therefore, the appellant plausibly argued that, in D3, the skilled person will refrain from programming an unconditional override of the scribing nib when the touch-sensitive user interface is used because it would unambiguously be in contrast with the teaching of D3.

Furthermore, as argued by the appellant, the skilled person would realise that replacing the push button of the stylus in D3 with the touch-sensitive user interface in D1 (reference sign 51 in Figure 8) in order to arrive at distinguishing feature a) (see point 3.2 above) already avoids the scribing nib being inadvertently selected when the intention is to apply pressure to the touch-sensitive user interface. In that respect, the appellant pointed out that the force-sensitive surface disclosed in D1 (see paragraphs [0006] and [0060]) is not a generic touch pad, but has specific features for providing an input device that can be easily used during drawing strokes and does not require a sliding device movement parallel to the stylus longitudinal axis or a device or switch movement

along a side of the housing, i.e. movements likely to cause unwanted pressure on the scribing nib.

Therefore, the appellant plausibly argued that, by replacing the push button of the stylus in D3 (reference sign 717 in Figure 7) with the force-sensitive surface in D1 (reference sign 51 in Figure 8) in order to improve the capabilities of the stylus in terms of its ability to change the scribing interaction, the skilled person would only rely on the use of the surface 51 to mitigate changes in the force inadvertently applied by the user between the tip of the stylus and the scribing surface while they are working on the surface 51. Therefore, the teaching would lead the skilled person away from considering distinguishing feature b) and implementing it in the stylus in D3.

4. For these reasons, the board holds that the subject-matter of claim 1, and the subject-matter of the corresponding method claim, claim 3, involves an inventive step (Article 56 EPC) in view of the disclosures of D3 and D1.

Claim 2 is a claim dependent on claim 1 and, as such, also meets the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

The decision under appeal is set aside and the case is remitted to the examining division with the order to grant a patent based on:

- claims 1 to 3 of the main request filed with the statement setting out the grounds of appeal,
- description pages 1 and 3 to 9 as originally filed and page 2 filed with letter dated 14 March 2016, and
- drawings sheets 1/3 to 3/3 as originally filed.

The Registrar:

The Chair:



G. Nachtigall

A. Ritzka

Decision electronically authenticated