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**Datasheet for the decision
of 31 January 2022**

Case Number: T 0549/19 - 3.4.03

Application Number: 11815701.5

Publication Number: 2636031

IPC: G07F17/32, G06F3/048

Language of the proceedings: EN

Title of invention:

APPARATUS AND SYSTEM FOR REVEALING GRAPHICAL ITEMS ON A MULTI-TOUCH INTERFACE

Applicant:

Novomatic AG

Headword:

Relevant legal provisions:

EPC Art. 56, 123(2), 84
RPBA 2020 Art. 13

Keyword:

Inventive step - main request (no)

Amendments - added subject-matter - 1st to 3rd auxiliary requests (yes)

Late-filed 4th auxiliary request - gives rise to new objections - admitted (no)

Decisions cited:

Catchword:



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Case Number: T 0549/19 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 31 January 2022

Appellant: Novomatic AG
(Applicant) Wiener Strasse 158
2352 Gumpoldskirchen (AT)

Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 26 September 2018 refusing European patent application No. 11815701.5 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair M. Stenger
Members: M. Papastefanou
E. Mille

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division refusing the European patent application No. 11 815 701.5 (published as WO 2012/059822 A1).

The decision under appeal is a so called "decision on the state of the file" in which the examining division made reference to its communication dated 11 September 2018. In that communication the examining division had raised objections for lack of novelty, lack of inventive step, and added subject-matter against the requests then on file.

II. Reference is made to the following document:

D2: US 2010/0130280 A1

III. At the end of the oral proceedings before the board, the appellant-applicant ("appellant") requested that the decision under appeal be set aside and that a patent be granted on the basis of the Main Request or one of the 1st to 4th Auxiliary Requests. The Main Request, and the 1st and 2nd Auxiliary Requests correspond to the respective requests underlying the impugned decision. The 3rd Auxiliary Request was filed with the statement of the grounds of the appeal, while the 4th Auxiliary Request was filed with the appellant's letter dated 29 November 2021.

IV. Claim 1 of the **Main Request** is worded as follows:

*An apparatus for selectively displaying a graphical item (50; 60; 68), comprising:
a multi-touch interface (12) including a display for*

displaying a graphical item (50; 60; 68) having a value, the graphical item (50; 60; 68) being displayable in a first state where the value is viewable and a second state where the value is hidden from view, the multi-touch interface (12) being adapted to detect touch;

a computer (84) in operative communication with the multi-touch interface (12), the computer (84) having memory (88), a processor (90) and software for operating the multi-touch interface (12), the memory (88) stores data characteristic of at least one human hand; and

a means for determining if the touch is caused by a human hand, said means being in operative communication with the computer (84) for detecting multiple points of contact and comparing the multiple points of contact to the stored data characteristic of at least one human hand;

wherein when the interface (12) senses the touch, and the means for determining determines when the touch is caused by a human hand, the computer (84) causes the multi-touch interface (12) to display the value;

wherein the touch has curved pattern having multiple points of contact (42) with the interface (12) and an orientation indicative of the lateral edge of a human hand contacting the multi-touch interface (12) and the means for determining detects the curved pattern and its orientation to determine when the touch is caused by a human hand.

- V. Claim 1 of the **1st Auxiliary Request** has the same wording as claim 1 of the Main Request with the addition at the end of the following feature:

wherein the position of the graphical item (40; 60; 68) to be displayed is determined by the position

information of the multiple points of contact (42) and the orientation.

- VI. Claim 1 of the **2nd Auxiliary Request** has the same wording as claim 1 of the Main Request with the additional specification of the multi-touch interface (12) including a display *having predefined user areas (122a, 122b, 122c)*, and of the following feature at the end of the claim:

wherein the position of the graphical item (40; 60; 68) to be displayed on the predefined user areas (122a, 122b, 122c) is determined by the position information of the multiple points of contact (42) and the orientation.

- VII. Claim 1 of the **3rd Auxiliary Request** has the same wording as claim 1 of the Main Request with the addition, at the end of the claim, of the following feature:

wherein the position of the graphical item (40; 60; 68) to be displayed is determined by the position information of the multiple points of contact (42) and the orientation such that the displayed graphical item (40; 60; 68) will be positioned in the near vicinity of the hand respectively the touch pattern.

- VIII. Claim 1 of the **4th Auxiliary Request** is worded as follows:

*An apparatus for selectively displaying a graphical item (50; 60; 68), comprising:
a multi-touch interface (12) including a display having predefined user areas (122a, 122b, 122c) for displaying a graphical item (50; 60; 68) having a value, the*

graphical item (50; 60; 68) being displayable in a state where the value is viewable and a state where the value is hidden from view, the multi-touch interface (12) being adapted to detect touch caused by a user hand placed on a user area;

a computer (84) in operative communication with the multi-touch interface (12), the computer (84) having memory (88), a processor (90) and software for operating the multi-touch interface (12), the memory (88) stores data characteristic of at least one human hand; and

a means for determining if the touch is caused by a human hand, said means being in operative communication with the computer (84) for detecting multiple points of contact and comparing the multiple points of contact to the stored data characteristic of at least one human hand;

wherein when the interface (12) senses the touch, and the means for determining determines when the touch is caused by a human hand, the computer (84) causes the multi-touch interface (12) to display the value;

wherein the touch has curved pattern having multiple points of contact (42) with the interface (12) and an orientation indicative of the lateral edge of a human hand contacting the multi-touch interface (12), wherein the means for determining detects the curved pattern and its orientation to determine when the touch is caused by a human hand, wherein when the orientation matches certain pre-defined, or machine learned criteria, the means for determining enables the value to be displayed.

IX. The appellant argued essentially that D2 neither disclosed nor suggested that the determination that the touch on the interface was caused by a human hand was based on the detection of the curved pattern and the

orientation of the multiple points of contact. Claim 1 of the main request was thus new and inventive.

The appellant's arguments are dealt with in detail in the reasons for the decision.

Reasons for the Decision

1. The claimed invention

The invention relates to user interaction with a multi-touch interface and, in particular, to ways of concealing revealed items in a card game.

In a virtual card game, played usually on a touch screen, the cards are "dealt" to each player and displayed initially with their face (value) hidden, like in a conventional card game. The user/player usually has to activate the interface somehow, e.g. by pressing a (virtual) button, by touching with their finger the displayed card or by dragging their finger over it, in order to "turn" the card so that its value is displayed. When a card is "turned", its value is displayed on the game screen, so that the players can see it. In a game like e.g. poker, however, the players sometime need to see the value of their cards without the other players being able to see it.

The application proposes a way for a user to display the value of a card, while hiding it from the other players. The game interface recognises a touch of a user's hand, more precisely the multiple contact points and the orientation of the curved pattern of the lateral edge of the user's hand on the display surface and "turns" only a small part of the card (e.g. a

corner) so that its value is revealed to the user, while the placement of the user's hand on the display keeps the revealed value hidden from the other players (see e.g. Figure 3 of the published application).

2. Main Request

2.1 It is common ground that document D2 represents an appropriate starting point for the skilled person.

2.1.1 D2 discloses a multi-player, multi-touch table for use in wagering game systems, like a card playing system (see e.g. Figure 3). The system comprises a multi-touch interface including a display for displaying a graphical item having a value, like a game card, for example. The graphical item (card) can be displayed in a first state, where the value is visible and is a second state, where the value is hidden (see Figure 11a). The board considers at least implicit that the system of D2 comprises a computer with memory, a processor and software for operating the multi-touch interface.

As it is described in paragraphs [0116] and [0117], the card is initially displayed with its value hidden. When the system recognises a touch of the user's (player's) hand on the multi-touch interface, the value of the card is revealed, e.g. by graphically "turning" a part of the displayed card to the user can see it (see Figure 11c).

2.2 A first argument by the appellant was that in the system of D2, the user had to place their hand within a specific area ("hand placement area" 1134; see also Figure 11b) for the touch to be recognised and the value of the card to be displayed. In the claimed

apparatus, there was no limitation as to where the user can place their hand.

2.2.1 The board notes at first that the multi-touch interface of D2 is not limited to the "hand placement area" (1134). Figure 11b, for example shows how a user can place a wager by graphically "pushing" their chips to the centre of the table (see also paragraph [0116]). Hence, the "hand placement area" 1134 is part of the multi-touch interface and does not constitute the multi-touch interface alone. The board notes also that claim 1 of the main request does not contain any limitation as to where the hand has to be placed so that the touch is to be sensed by the interface. The board, thus, does not see this as a difference between the claimed subject-matter and the disclosure of D2.

2.3 The main point of contention related to how the touch of the hand is recognised by the apparatus in the claim and in D2.

2.3.1 The appellant pointed out that the claimed apparatus comprised means for detecting multiple points of contact and comparing them to characteristics of a human hand stored in the memory. This comparison was based on the fact that the detected multiple points of contact constituted a curved pattern. The determination of whether the multipoint touch was caused by the human hand took into account this curved pattern and its orientation as indicative of the lateral edge of a human hand.

In contrast to that, in D2 the interface comprised antennas within the hand placement area. The system determined that a hand was placed at the hand placement area when the number of antennas activated by the touch

exceeded a threshold (see also last lines of paragraph [0117] in D2). There was no mention of a curved pattern of the multiple points of contact or its orientation in D2. The apparatus of D2 could ensure, therefore, neither that the sensed contact was caused by the hand of the user (and not by a finger for example) nor that the position of the hand on the interface was such that the displayed value of the card was hidden from the other players. Moreover, the detected touch could have been caused by any of the other users and not necessarily by the one sitting in front of the cards, i.e. the one who was supposed to be the only one to whom the value was to be revealed. Moreover, in the apparatus of D2 there was no comparison to characteristics of a human hand stored in the memory for determining whether the detected touch was caused by a human hand.

2.3.2 The board does not share the appellant's interpretation of D2.

As a first point, D2 defines that the controller may be programmed to only reveal the card value *when the player's hand is in contact with enough of the hand placement area 1134 to insure effective concealment of the card values* (see penultimate sentence of paragraph [0117]).

The system has, therefore, to determine when the contact of the player's hand with the hand placement area 1134 is sufficient to insure effective concealment of the card values.

The use of the activation of a certain number of antennas in the interface as a way to determine that a hand is touching the interface is mentioned only as an example, see last sentence of paragraph [0117]: "*The*

threshold contact may be the activation of a certain number of antennas within the hand placement area 1134."

In any case however, the mention of a "threshold contact" excludes that a touch of only a finger would be sufficient to reveal the values. The board considers implicit that when the touch of a hand is sought to be sensed, the "threshold contact" would be set in such a way as to exclude that touches with relatively small area of contact with the interface are recognised as hands and trigger the revealing of the hidden values.

2.3.3 Moreover, relating to the example of the activation of a certain number of antennas, the system of D2 compares the detected touch (number of activated antennas) with a predetermined threshold value stored in the memory. Since the threshold number of activated antennas is held to indicate a touch of a (human) hand on the interface ("hand placement area" 1134), the board considers that it is a characteristic of a (human) hand in the sense of the claim. Hence, there is a comparison with a characteristic of a human hand stored in the memory.

2.3.4 In addition, as it can be seen in Figures 11b and 11c, these antennas to be activated do not seem to be placed in one single row. The "hand placement area" 1134 has a rectangular shape (with rounded edges) and, as Figure 11c shows, the user's hand is also placed on it in such a way that the points of contact with the interface form a curved pattern. The antennas of the interface which are activated by the touch of the hand are not, thus, in a single row, but rather correspond to the points where the hand of the user contacts the interface (in the "hand placement area" 1134).

Hence, although the system of D2 does not use the curvature of the detected pattern of the contact points of the hand with the interface and its orientation to determine that the sensed touch is caused by a human hand, the board considers that it could do so, i.e. it could readily be adapted to do so.

2.3.5 Finally, regarding the determination of whether the detected touch is caused by the player to whom the cards belong to (i.e. the one who is sitting in front of the cards) or another player, the claim does not contain any such limitation. The orientation mentioned in the claim refers to the orientation of the curved pattern, which is used as a characteristic of the lateral edge of a human hand. In other words, the orientation of the curved pattern is used only in the determination of whether the detected multiple point touch corresponds to a human hand and not to determine whether such a hand belongs to the player sitting in front of the cards and not to somebody else.

2.4 Summarising, the board considers that the claimed apparatus differs from D2 only in the way it determines that the detected touch is caused by a human hand. The claimed apparatus uses the pattern and the orientation of the detected touch and compares it to stored characteristics of a human hand. The apparatus of D2 *senses the position of the hand... or hands on the hand placement area* and determines whether the hand *is in contact with enough of the hand placement area*. Whether the contact is sufficient can be determined by comparing the number of activated antennas with a predetermined threshold.

2.5 According to the appellant, these distinguishing features provided for a more reliable determination that a user's hand is placed on the interface. This improved the running of the game, since it minimised the risk that the hidden value of the card would be revealed in circumstances that would render it visible to the other players.

2.6 The board is not convinced by this argument. In both the claimed apparatus and D2, the multi-touch interface operates in the same way: electronic sensors (antennas in D2) in the touch screen detect single points of contact of the hand with the screen/interface (see also Figure 9 and paragraph [0108] of D2). The aim is, in both cases, to arrive at a determination that the sensed multi-point touch belongs to a hand which is placed on the interface so that it would conceal the revealed card value from the other players.

In the board's view, both the claimed apparatus and D2 can be deceived in the same way. The activation of the multiple points of contact detected can be caused by other means, such as a series of fingers for example, which are placed on the interface in such a way as to activate the necessary number of antennas (in the case of D2) or to generate a curved pattern with an orientation corresponding to the lateral edge of a human hand (in the case of the claimed apparatus). In such a case, both the claimed apparatus and the one disclosed in D2 would falsely determine that the sensed touch is caused by a human hand and reveal the hidden value.

The board does not see, therefore, any improvement or advantage in the determination of the placement of a hand on the interface by the claimed apparatus,

especially as far as reliability of the result is considered. The board takes the view, therefore, that the claimed apparatus provides only for an alternative way of determining that the detected multiple point touch on the interface is caused by a human hand.

- 2.7 As explained previously, the board holds that the apparatus of D2 has all the relevant technical features of the claimed apparatus: it has a memory with pre-stored characteristics of a human hand, it has means to determine that the detected touch has been caused by a human hand by comparing the characteristics of the detected touch to characteristics of a hand stored in the memory and, as explained previously, it can be readily adapted to detect a curved pattern of a multiple point touch.

In the board's view, therefore, it would be obvious to the skilled person to use other characteristics of the human hand instead of the area of the touch on the interface, such as the curved pattern and the orientation in order to arrive at the same result. Especially since this alternative way does not solve any particular technical problem or provide any advantage.

The board's conclusion is, thus, that the subject-matter of claim 1 of the main request does not involve an inventive step within the meaning of Article 56 EPC.

3. 1st to 3rd Auxiliary Requests

- 3.1 Claim 1 of each of the 1st to 3rd auxiliary requests comprises the feature:

"wherein the position of the graphical item (40;60;68)

to be displayed is determined by the position information of the multiple points of contact (42) and the orientation".

- 3.2 The examining division had pointed out that the only disclosure of this feature in the originally filed application was in paragraph [0050], where this feature was combined with the disclosure that the displayed object (60) will be positioned in the near vicinity of the hand respectively the touch pattern. Since the latter part was missing from the claim, the added feature constituted an intermediate generalisation, which had no basis in the originally filed application (see point 3.1 of the communication of 11 September 2018).
- 3.3 The appellant made reference to paragraphs [0050], [0052] and Figures 4, 6 and 7 of the application as support for this feature (see also page 9 of the statement of the grounds of appeal).
- 3.4 Paragraph [0050] does disclose the contested feature (without the reference to the orientation), however, only in combination with the disclosure that the displayed object (60) will be positioned in the near vicinity of the hand respectively the touch pattern, as also the examining division stated.

Paragraph [0052] describes that the position of the secret value 68 on the display *may be dependent on the position of the touch pattern defined by means of the hand 30 respectively by the multiple points of contact 42*, without any mention that the value 68 is positioned in the near vicinity of the hand or the touch pattern.

So, while paragraph [0050] calls for the object 60 to be placed in the near vicinity of the detected hand, paragraph [0052] does not make such a limitation concerning the position of the secret value 68 on the display.

The question is, therefore, whether the graphical item of the claims corresponds to the object 60 of paragraph [0050] or to the secret value 68 of paragraph [0052].

- 3.5 According to claim 1, the graphic item has a value, which is initially hidden and is revealed when the touch of a hand on the interface is detected (see first paragraph of claim 1 of each of the 1st to 3rd auxiliary requests).

The application describes three different embodiments, involving different graphical items: the card of Figures 2 to 5, the virtual keypad of Figure 6, and the secret value of Figure 7.

- 3.5.1 In the embodiment of the card game, the card(s) are displayed on the interface before the user's hand touches the interface (see e.g. Figure 2). The cards are displayed with their values (faces) hidden at first, then the user places their hand on the interface, the touch of the hand is detected, and the value of the hidden card is revealed (see Figures 2 to 4). The card of this embodiment, therefore, corresponds to the definition of the graphical item in claim 1.

However, neither the card itself nor its position on the interface appear to be influenced by the position of the detected touch on the interface. Since the cards are displayed on the interface (display) before any contact from the user's hand, there is no relation

between the position of the card(s), i.e. of the graphic item(s), and the positions of the multiple contact points of the curved pattern (the user's hand).

Hence, while the definition of the graphical item in claim 1 corresponds to the card of the described card game, the position of the item to be displayed is completely independent from the position information of the multiple points of contact.

- 3.5.2 Paragraph [0050] of the originally filed (published) application, which the appellant referred to, describes that *the object 60 is being displayed upon recognition of the touch pattern of the multiple points of contact 42. In a case where the hand is being removed from the interface then the object 60 will be hidden again. The position of the object 60 on the display may be determined by the position information of the multiple points of contact 42...such that the displayed object 60 will be positioned in the near vicinity of the hand respectively the touch pattern.*

This passage refers to the virtual keypad embodiment of Figure 6. The board does not accept that this passage can support the generalised definition of the invention according to claim 1.

More specifically, the board is not persuaded that the "object 60" of paragraph [0050] corresponds to the "graphical item" of the claim. According to the claim, the graphical item has a value and is *displayable in a first state where the value is viewable and a second state where the value is hidden from view.* In the board's understanding, this means that the graphical item is always displayed (visible) but its value can be

hidden or visible.

According to paragraph [0050], however, the object 60 (i.e. the keypad of Figure 6) is not displayed at all before the multiple points of contact of the hand (curved pattern) on the interface are detected. This embodiment is, thus, different from the one relating to the card game where the cards are displayed before the contact of the hand on the interface is detected. The object 60 of paragraph [0050], therefore, does not correspond to the graphical item of claim 1 and, hence, it cannot provide any basis for the objected feature.

3.5.3 Similar considerations apply to paragraph [0052] as well. According to the sentence bridging pages 8 and 9 of the published application, the position of the "secret value 68" on the display may be dependent on the position of the touch pattern of the hand or the multiple points of contact (see also Figure 7). For the same reasons as with the object 60, the board does not accept that the secret value 68 can be generalised to the graphical item of claim 1.

3.6 The appellant argued that the keypad 60 of Figure 6 could be also seen as being displayed in two states, one in which the user has not yet entered the PIN and one after the PIN has been entered. According to this interpretation, the keypad of Figure 6 corresponded to the definition of the graphical item in the claim.

The board cannot accept this argument. There is no indication in the application about the image of the keypad being changed in anyway after the user has entered their PIN. And even if such an interpretation were to be accepted, the change from one state to the other would not have been caused by the detection of

the multiple point contact on the interface, since, as paragraph [0050] clearly describes, the detection of the touch causes the keypad to be displayed and there is no detection of a further such contact disclosed or suggested.

- 3.7 Just for the sake of completeness, the board notes that in claim 1 of the 3rd auxiliary request, the definition "*...such that the graphical item (40;60;68) will be positioned in the near vicinity of the hand (30) respectively the curved pattern*" has been added.

This amendment would have overcome the examining division's objection related to an unallowable intermediate generalisation (see point 3.2 above), if it were to be accepted that the graphical item of the claim corresponds to the object 60 of paragraph [0050].

As the board, however, does not consider that the object 60 can be generalised to the graphical item of the claim, the objection is not overcome.

- 3.8 The board's conclusion is, therefore, that claim 1 of the 1st to 3rd auxiliary requests comprises subject-matter extending beyond the originally filed content of the application, contrary to the requirements of Article 123(2) EPC.

4. 4th Auxiliary request - Admission

- 4.1 The 4th auxiliary request was submitted after the board had issued summons to oral proceedings and its preliminary opinion. It constitutes, thus, an amendment to the appellant's case, whose admission is to be decided upon according to Article 13 RPBA 2020.

- 4.2 The appellant referred to several points of the board's preliminary opinion and argued that they were raised for the first time, something that constituted exceptional circumstances in the sense of Article 13(2) RPBA 2020. These exceptional circumstances justified the admission of the 4th auxiliary request into the proceedings (see page 15 of the appellant's letter of 29 November 2021).
- 4.3 As a general point, the board notes that, in deciding upon the admission of amendments to a party's case, the criteria of Article 13(1) RPBA 2020 always apply, irrespective of the stage of the procedure. For amendments filed after the issuance of summons to oral proceedings the additional restrictions of Article 13(2) RPBA 2020 apply as well.
- 4.3.1 In the present case, the board decided to leave open the question of the existence of exceptional circumstances that could justify the filing (and the admission) of the 4th auxiliary request, and to apply the criteria of Article 13(1) RPBA 2020. One of the criteria to be used in the board's exercise of discretion in admitting (or not) an amendment to a patent application pursuant to Article 13(1) RPBA 2020 is whether such amendment *prima facie overcomes the issues raised... and does not give rise to new objections*.
- 4.4 Claim 1 of the 4th auxiliary request defines that *when the interface (12) senses the touch, and the means for determining determines when the touch is caused by a human hand, the computer (84) causes the multi-touch interface (12) to display the value [of the graphical item]* (see fourth paragraph of the claim).

According to the last lines of the claim, however, *the means for determining detects the curved pattern and its orientation to determine when the touch is caused by a human hand, wherein where the orientation matches certain...criteria, the means for determining enables the value to be displayed.*

The claim thus defines two different conditions under which the value of the graphical item is to be displayed: when it is determined that the touch is caused by a human hand and when the orientation of the curved pattern matches certain criteria. In the board's view, the skilled reader of the claim does not get a clear definition of when the hidden value is to be displayed.

4.5 According to the appellant, the second condition (that the orientation must match certain criteria) should be understood as a specification of the first, more general condition (that the touch is caused by a human hand). The skilled person would, thus, understand that the value will be displayed only when both conditions are fulfilled.

4.6 The board is not convinced by the this argument. Claim 1 states clearly that when it is determined that the touch is caused by a human hand, the value is displayed (first condition). There is no indication or reference to any further conditions that have to be fulfilled at that point.

In fact, in the board's view, the formulation of the last lines of claim 1 seem to refer to the combination of the two conditions that the appellant referred to. The determining means detects the curved pattern and its orientation and determines that the touch is caused

by a human hand (no reference to a display of the value at this point) and only when the orientation matches certain criteria the value is displayed. This formulation corresponds also to paragraph [0012], which is the only passage of the application referring to the use of the orientation of the curved pattern as a condition to display the value.

Reading the claim as a whole, however, it is not clear that the two conditions have to accumulate in order for the value to be displayed. The claim rather defines two independent and unrelated conditions with the result that it is not clear when exactly the value is to be displayed.

- 4.7 The board's conclusion is, therefore, that claim 1 lacks clarity (Article 84 EPC). Claim 1 of the 4th auxiliary request, thus, gives rise to new objections and for this reason the board, exercising its discretion under Article 13(1) RPBA 2020, does not admit the 4th auxiliary requests into the proceedings.
5. Since none of the admitted requests on file meets the requirements of the EPC, the appeal must fail.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



S. Sánchez Chiquero

M. Stenger

Decision electronically authenticated