BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen
(D) [ ] No distribution

Datasheet for the decision of 15 May 2013

Case Number: T 0862/10 - 3.5.06

Application Number: 04755824.2

Publication Number: 1639428

IPC: G06F 9/46

Language of the proceedings: EN

Title of invention:
Positioning and rendering notification heralds based on user's focus of attention and activity

Applicant:
MICROSOFT CORPORATION

Headword:
Notification system/MICROSOFT

Relevant legal provisions:
EPC Art. 84

Relevant legal provisions (EPC 1973):
EPC Art. 56

Keyword:
"Inventive step (main request) - no"
"Inventive step (auxiliary request 1) - yes"
"Clarity (Claims 1 and 24 of auxiliary request 1) - yes"
"Clarity (Claims 2 to 23 and 25 to 53 of auxiliary request 1) - no"

Decisions cited:
T 1143/06, T 1741/08, T 0643/00

Catchword:
The choice of where to put an object on a computer display depending on a value assigned to that object (its "urgency") can not be considered to have a further technical effect. Furthermore, the movement of the object on the display in response to a change of said value is also considered not to have a further technical effect (see Reasons 3.3.1).

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0862/10 - 3.5.06

D E C I S I O N
of the Technical Board of Appeal 3.5.06
of 15 May 2013

Appellant: (Applicant)
MICROSOFT CORPORATION
One Microsoft Way
Redmond, WA 98052 (US)

Representative:
Grünecker, Kinkeldey
Stockmair & Schwanhäusser
Leopoldstraße 4
D-80802 München (DE)

Decision under appeal:
Decision of the Examining Division of the European Patent Office posted 7 December 2009 refusing European patent application No. 04755824.2 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: D. H. Rees
Members: G. Zucka
M.-B. Tardo-Dino

Summary of Facts and Submissions

I. The appeal is against the decision by the examining division, with reasons dispatched on 7 December 2009, to refuse European patent application 04755824.2, on the basis that the subject-matter of the independent claims 1, 23 and 24 of all four requests was not inventive, Article 56 EPC 1973, and claims 1 and 24 of the second auxiliary request were not clear, Article 84 EPC. The following documents were cited during the first instance procedure:

D1: US 2002/087649 A1
D2: WO 01/09755 A

II. A notice of appeal was received on 17 February 2010, the appeal fee being paid on the same day. A statement of the grounds of the appeal was received on 9 April 2010.

III. The appellant requested that the decision be set aside and a patent be granted on the basis of the main request or one of the auxiliary requests 1 and 2 filed with the grounds of appeal.

IV. The board issued a summons to oral proceedings. In an annex to the summons, the board set out its preliminary opinion on the appeal.

V. In reply to the summons, the appellant filed claim sets of a new main request and auxiliary requests 1 and 2, replacing all previous requests.

VI. In the oral proceedings the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the sets of claims 1-51 of the main request, or of claims 1-53 of one of the two auxiliary requests as submitted with the letter of 9 April 2013, and on the basis of page 1 of the description as filed with the letter of 9 April 2013, pages 3, 3a, 3b and 27 as filed on 22 January 2008 and pages 2, 4-26 as originally filed, and the drawing sheets 1-28 as originally filed.

VII. The independent claim 1 of the main request reads as follows:

A notification system (120), comprising:

an information display object (160) that presents summarized notifications (124); and

an information controller (130) that receives attentional inputs associated with a user to dynamically generate the information display object (160) on one or more display screens (150, 170) in order to facilitate user processing of the summarized notifications (124);

wherein the information controller is configured to control positioning of the information display object by dynamically moving the display object closer to the user's focus of visual attention if a notification is determined to be urgent, and

wherein the user's focus of visual attention is determined by at least one of determining the current cursor position, determining the place of an active cursor, using at least one head or gaze tracking component, using an attention model and determining the

user's activity or other input about focus of visual attention including gaze and pose information.

VIII. The independent claims of the auxiliary request 1 read as follows:

Claim 1

A notification system (120), comprising:

an information display object (160) that presents summarized notifications (124); and

an information controller (130) that receives attentional inputs associated with a user to dynamically generate the information display object (160) on one or more display screens (150, 170) in order to facilitate user processing of the summarized notifications (124);

wherein the information controller is configured to control positioning of the information display object by dynamically moving the display object closer to the user's focus of visual attention if a notification is determined to be urgent, and

wherein the information display object is configured to employ sound localization methods to localize an audio signal associated with the display object in a position at or near the location of the physical rendering of the display object.

Claim 23

A computer readable medium having computer readable instructions stored thereon for implementing the information display object (160) and the information controller (130) of claim 1.

Claim 24

A method for controlling notifications (124) to a user, comprising:

monitoring a user's activities;

providing one or more user controls to guide a display object (160); and

dynamically controlling the display object (160) based at least in part on the user's activities and the user controls,

wherein the display object is dynamically moved closer to the user's focus of visual attention if a notification is determined to be urgent, and

wherein the display object is configured to employ sound localization methods to localize an audio signal associated with the display object in a position at or near the location of the physical rendering of the display object.

Reasons for the decision

1. Reference is made to the transitional provisions in Article 1 of the Decision of the Administrative Council of 28 June 2001 on the transitional provisions under Article 7 of the Act revising the European Patent Convention of 29 November 2000, for the amended and new provisions of the EPC, from which it may be derived which Articles of the EPC 1973 are still applicable to the present application and which Articles of the EPC 2000 shall apply.

2. *The admissibility of the appeal*

In view of the facts set out at points I and II above, the appeal is admissible, since it complies with the EPC formal admissibility requirements.

3. *Main request*

3.1 *Interpretation of claim 1*

During the oral proceedings, the appellant argued that the expression "dynamically moving the display object" implies a smooth movement, not a "jump". However, the board considers that there is *a priori* no reason for such an interpretation and that, in fact, the description of the present application explicitly includes both possibilities of mapping a location either smoothly or in a step-function manner, *i.e.* by "jumping" in a non-continuous manner; see page 14, lines 1 to 5 of the description. According to the board, the broader interpretation given in this description passage is the one that should apply.

3.2 *Difference with the closest prior art*

The board considers, and the appellant has never disputed, that D1 represents the closest prior art for the subject-matter of claim 1. D1 discloses a notification system (paragraph [0050], first sentence), comprising an information display object that presents summarised notifications (paragraph [0103]: Notification Journal for items that have not yet been observed by the user) and an information controller (paragraph [0053]: "notification agent or manager 28")

that receives attentional inputs associated with a user (paragraph [0053]: "receives the notifications from the sources 12-16") to dynamically generate the information display object on one or more display screens in order to facilitate user processing of the summarised notifications (paragraph [0053]: "and directs the notifications to one or more clients/sinks").

This means that the following features distinguish the subject-matter of claim 1 from the disclosure of D1:

(1) The information controller is configured to control positioning of the information display object by dynamically moving the display object closer to the user's focus of visual attention if a notification is determined to be urgent.

(2) The user's focus of visual attention is determined by at least one of determining the current cursor position, determining the place of an active cursor, using at least one head or gaze tracking component, using an attention model and determining the user's activity or other input about focus of visual attention including gaze and pose information.

3.3 *Inventive step, Article 56 EPC 1973*

3.3.1 Looking first at the distinguishing feature (1), it is noted that it is largely similar to what was recognised in the appealed decision as distinguishing the subject-matter of claim 1 of the refused main request from the disclosure of D1. In the appealed decision (see Reasons 13.4), that feature was simply dismissed as non-technical and it was therefore concluded that there was

no inventive step. The board however considers that feature (1) needs to be analysed in more detail. The display of an object near the centre of visual attention of a user (within the "foveal vision"), so that it is more-or-less guaranteed to be seen immediately, or its display simply within the visual field of the user, so that it *can* be seen, may well be seen as technical effects as compared to arbitrary placement on the screen or on one of a plurality of screens. Thus measures to assess where the user is looking and to place a display object in the light of that assessment do qualify as contributing to a technical effect. However, the board notes that in the case of one screen it is a matter of experience that the whole screen is normally within the field of vision of the user. Further, displaying a value assigned to an object by means of its relative positioning, or by moving it on the screen, is clearly a presentation of information. Reference is made to T 1143/06, as well as to T 1741/08, from this board in a different composition, which discusses the case law in this area, including the case cited by the appellant in the grounds of appeal, T 0643/00. The particular effects of the claimed invention put forward by the appellant, "minimising information overload and distraction", can not be considered technical in nature according to the case law, being determined by psychological factors and typical to the question of how to present information in a particular context. Overall the board judges that determining (or attempting to determine) a user's visual focus of attention as a point on a screen and displaying objects in positions relative to that point can be considered to have a technical effect, but that the particular choice of where to display an object

dependent on a value assigned to that object (its "urgency") cannot be. Thus for the question of inventive step the critical question is whether it would be obvious for the skilled person to adapt the notification system of D1 to take account of the visual focus of attention of the user when placing a notification on the screen.

In D1, the choice of when and how to display messages is based on their priority and on the state of the user (see abstract) and may use a different size and either a central or a peripheral location on a screen for a document or alerting window (paragraphs [0273] and [0338]). In D1, the "attentional focus" of a user indicates the activity or computer application on which the user is focused. It determines whether the user is "amenable to receiving notification alerts", in other words whether the user can be disturbed. In D1 the focus of attention can also be the focus of *visual* attention, *viz.* when the user is focusing on some application (paragraph [0328], lines 12 and 13), which will necessarily be at a particular position on the screen.

Given that D1 already clearly considers the question of how to present notifications in such a way that high priority messages attract attention, a skilled person will normally be tempted to continue along the same line, *i.e.* to ensure that urgent messages will receive even more attention. One way of grabbing the user's attention which will naturally come to mind is to place the urgent information in the user's focus of attention (visual or otherwise). Such attention grabbing is in fact part of human nature. For example, when a mother

wants to attract the attention of her child which has totally immersed itself in a television programme, she may decide to stand in front of the television, *i.e.* in the child's "focus of visual attention".

The system of D1 already contains the necessary means to determine the user's focus of visual attention (*viz.* the application on which the user is focusing at a given moment; see paragraph [0328], which is referred to above) and it will be a matter of trivial implementation for the skilled person to use these means to determine the user's focus of visual attention and to place an urgent message, *e.g.* from the periphery, at that focus of visual attention. Although it is not necessary to discuss the further issue of changing the position of messages according to their urgency, as argued above, the board also notes that in as much as D1 discloses placing non-urgent messages at the edge of a screen and urgent messages at the centre, it is also considered obvious to move a message to a position central to the focus of visual attention if its priority/urgency is increased.

As regards the expression "dynamically moving the display object", the board considers that this expression covers a "jump" from one place to another, according to the interpretation that should be given to the word "dynamic" following 3.1 above. In the remainder of this section, however, the board assumes, for the sake of argument, that the expression is somehow changed to reflect the meaning given to it by the appellant during the oral proceedings, *i.e.* that it implies a continuous movement.

The board already judged above that choosing the *location* of the display object in function of the urgency of the message is non-technical and hence does not contribute to the presence of an inventive step. The only matter left to consider is therefore whether some effect may be caused by the continuous nature of the *movement* itself, even if, as was argued by the appellant during the oral proceedings, any such effect would only be a side-effect.

Leaving aside the normal physical changes that would occur as a consequence of the inherent technical nature of a computer display, *e.g.* changes in the intensity of various pixels, the only effect that could possibly be caused by a continuous movement of the display object is to attract the attention of the person looking at the display and present information to him or her that a certain message is urgent. It may also imply a kind of time limit for reacting (before the object reaches the focus of attention). However this is also only a presentation of information; the application does not include any disclosure of any technical consequences of reacting or not within this implied time limit. In other words, continuously moving the display object can serve no other objective purpose than that of presenting information *as such*. It therefore produces no further technical effect (*i.e.* no technical effect apart from the normal physical changes which inherently take place in a computer display) and does not contribute to the presence of an inventive step.

3.3.2 Feature (2) includes several alternatives: the user's focus of visual attention is determined by any of a number of parameters, including "other input about

visual attention". This means that it clearly also includes the possibility of determining the user's focus of visual attention by establishing which application is currently receiving the focus of the user. This possibility is however made obvious by D1, as already covered by the reasoning given in 3.3.1 above.

3.3.3 The subject-matter of claim 1 of the main request is therefore not inventive (Article 56 EPC 1973).

3.4 For this reason, the main request is not allowable.

4. *Auxiliary request 1*

4.1 *Clarity of "sound localization", Article 84 EPC*

In the appealed decision, Reasons 19, the expression "sound localization" is considered unclear. In Reasons 20.2, the term "localize" is interpreted as "find" for the purpose of assessing inventive step. However, the implicit definition given for "sound localization" on page 10, lines 1 to 3 of the description corresponds to the meaning normally given to this expression in the field of acoustical engineering. It should furthermore be clear to the skilled person that to interpret the term "localize" as "find" would make no sense in the context of claim 1. The board therefore judges that not only is the term clear and unambiguous within the context of the claim itself but it also is consistent with the remainder of the application and requires no interpretation.

4.2 *Inventive step, Article 56 EPC 1973*

Claim 1 of the auxiliary request 1 distinguishes itself from claim 1 of the main request in that feature (2) mentioned above is replaced by the following feature:

(3) the information display object is configured to employ sound localization methods to localize an audio signal associated with the display object in a position at or near the location of the physical rendering of the display object.

The board considers that D1 represents the closest prior art also for claim 1 of the auxiliary request 1, the subject-matter of which distinguishes itself from the system disclosed by D1 by features (1) and (3).

Feature (3) solves the objective problem of making it easier for the user quickly to locate the position of the display object on the display screen. In this context both the problem and the means to solve it are considered technical. They do not depend on psychological or other subjective factors but on technical parameters (based, *inter alia*, on human physiology) that can be precisely defined.

Although it can not be denied that methods which simulate the placement of an auditory cue in a virtual space did exist before the priority date of the application (one of the more commonly known examples being "stereophonic sound"), the documents cited in the search report do not disclose the application of such a method within a system similar to that of claim 1. The first instance from its side did not introduce

additional documents disclosing said feature. It therefore has to be assumed that no such document exists.

For these reasons, the board considers that the subject-matter of claim 1 of the auxiliary request 1 is inventive (Article 56 EPC 1973). The subject-matter of the corresponding independent method claim 24 is considered inventive for the same reasons.

4.3 *Other issues*

4.3.1 Claim 22 makes reference to *parts* of the system of claim 1 (*viz.* the "information display object" and the "information controller"), not to the notification system as a whole. This renders the exact scope of the claim unclear (Article 84 EPC). The board notes that the appellant declared during the oral proceedings that it would be prepared to change the wording of the claim to "...implementing the notification system of claim 1".

4.3.2 It is immediately apparent that the dependent claims contain numerous formulations which would warrant additional objections under Article 84 EPC, such as (1) the incorrect and confusing use of a finite verb instead of a gerund in several places (*e.g.* in claim 2: "receives" instead of "receiving"), (2) the statement in claim 11 according to which "...the information controller includes *at least one of* [emphasis added] a dynamic position control...", which would imply that the position control is not necessarily a part of the system of claim 1, in contradiction with the wording of claim 1 and (3) the statement in claim 18 according to which the information controller "*only* [emphasis added]

uses the information audio object", which also contradicts the wording of claim 1. The board does not exclude that the claims contain other irregularities.

4.3.3 The board considers that oral proceedings before the board of appeal are not an appropriate forum for resolving the above issues, especially in view of the large number of irregularities in the dependent claims. Instead, they should be resolved by the first instance.

5. Given that the independent system and method claims of the auxiliary request 1 are allowable, there is no need to deal with the auxiliary request 2.

Order

For these reasons it is decided that:

1. The appealed decision is set aside.

2. The case is remitted to the department of first instance for further prosecution on the basis of claims 1 and 24 of auxiliary request 1 as submitted with letter of 9 April 2013.

The Registrar: The Chairman:

B. Atienza Vivancos D. H. Rees