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**Datasheet for the decision
of 25 July 2016**

Case Number: T 2481/10 - 3.5.05

Application Number: 05256084.4

Publication Number: 1643401

IPC: G06F19/00

Language of the proceedings: EN

Title of invention:

Method and apparatus for surgical operating room information
display gaze detection and user prioritization for control

Applicant:

GENERAL ELECTRIC COMPANY

Headword:

Eye tracking display/GEC

Relevant legal provisions:

EPC Art. 56, 84

Keyword:

Claims - clarity (yes)
Inventive step - after amendment

Decisions cited:

Catchword:



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Case Number: T 2481/10 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 25 July 2016

Appellant: GENERAL ELECTRIC COMPANY
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Representative: Illingworth-Law, William Illingworth
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 20 July 2010
refusing European patent application No.
05256084.4 pursuant to Article 97(2) EPC.

Composition of the Board:

Chair A. Ritzka
Members: P. Cretaine
D. Prietzel-Funk

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse the present European patent application on the grounds of lack of clarity (Article 84 EPC) and lack of inventive step (Article 56 EPC), having regard to the disclosure of

D1: "Cardio-Thoracic Surgeons First to Evaluate MD-6 Critical Data Viewer for Viewing Patient Monitoring Data", MICROOPTICAL TO INTRODUCE MD-6 CRITICAL DATA VIEWER AT THE 40TH ANNUAL MEETING AND EXHIBITION FOR THE SOCIETY OF THORACIC SURGEONS, 19 January 2004, pages 1 and 2, retrieved from the Internet:
URL: <http://www.microoptical.net>,

in combination with the disclosure of

D2: ZHIWEI ZHU et al.: "Eye and Gaze Tracking for Interactive Graphic Display", MACHINE VISION AND APPLICATIONS, vol. 15, no. 3, 1 July 2004, pages 139 to 148, Germany.

II. The notice of appeal was received on 28 September 2010. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 29 November 2010. The appellant requested that the appealed 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 as an auxiliary request.

III. By communication pursuant to Rule 100(2) EPC and dated 15 March 2016, the board expressed its preliminary opinion that claim 1 of the main request and claim 1 of

the first auxiliary request lacked clarity (Article 84 EPC). The board however made a suggestion for amending the claims in order to overcome this clarity objection. Further, the board expressed its view that the subject-matter of claim 1 according to the main request and amended as suggested by the board would meet the requirements of Article 56 EPC, having regard to the disclosure of D1 and D2.

IV. By letter dated 16 May 2016, the appellant followed the suggestion of the board and submitted a set of amended claims to replace the claims of the main request.

V. Independent claim 1 of the main request reads as follows:

"A method (400) for displaying medical information on a display (350) to display information for a plurality of users based on gaze detection, the method (400) comprising:

determining a direction of a user's gaze in relation to a reference position (420) using a portable eyewear and eye tracking system;

identifying a user looking toward a display (350) to display information for a plurality of users based on the determined direction of the user's gaze in relation to the reference position; and

updating user specific information on the display (350) based on the direction of a user's gaze (430) and on the identity of the user,

wherein the identified user is allowed control of the display, based on the identity of the user, to allow display of specific information targeted to the identified user."

In view of the outcome of the appeal proceedings, the claims of the first auxiliary request are not relevant.

Reasons for the Decision

1. Admissibility

The appeal complies with Articles 106 to 108 EPC (see point II above). It is therefore admissible.

2. Main request - Article 84 EPC

The application was rejected because, *inter alia*, the examining division found the subject-matter of claim 1 according to the then sole request unclear.

2.1 The examining division first objected that the feature of "identifying a user looking toward a display" was not clear and that claim 1 was missing in that respect an essential feature defining how the user is identified based on the direction of the user's gaze. In the board's judgement, however, eye and gaze tracking systems able to determine the line of sight or point of fixation of a person wearing such a system were common knowledge at the priority date of the present application. Therefore, identifying a user looking toward a display can be obviously achieved by merely determining which portable eyewear and eye tracking system, worn by a particular user, indicates the direction of the display in relation to the reference position. The objected feature is thus clear and claim 1 is not missing any essential feature in respect of how a user looking toward a display is identified.

2.2 The examining division further objected that the feature "wherein the identified user is allowed control of the display to allow display of specific information targeted to the identified user" was not clear and that claim 1 was missing in that respect an essential feature defining how the priorities of the different users are set to control the display. In the board's judgment, giving control of a display to a user is a clear feature per se. Furthermore, the feature of claim 1 reciting that updating user specific information on the display is based, inter alia, on the identity of the user clearly defines a priority rule between users according to their identity: some users are entitled to view updated specific information on the display, some are not.

2.3 In its communication dated 15 March 2016, the board objected that the then last feature of claim 1, defining that "the identified user is allowed control of the display to allow display of specific information targeted to the identified user", was not supported by the description, contrary to the requirements of Article 84 EPC. In that respect, the board pointed out that the paragraphs [0022], [0026] to [0033], [0036], [0037] and [0043] stated that control of the display was allocated to a user based on its identity. According to these passages, control of the display meant that the user was not only able to view user specific information but was also entitled to determine that the display showed information targeted to it. The above-mentioned feature however encompassed control of the display by every identified user looking toward the display. By amending the above-mentioned feature to specify that the identified user is allowed control of the display based on the identity of the user, the

objection raised by the board has been overcome.

2.4 The board is thus satisfied that claim 1 according to the main request meets the requirements of Article 84 EPC.

3. Main request - Article 56 EPC

3.1 Prior art

D1 discloses a head mounted display for projecting medical data as a free-floating image in front of a surgeon's eyes.

D2 discloses an eye and gaze tracking system for a single user, wherein the user's gaze direction on the display is used to interactively determine what to display on a screen (see section 1: "information the user is interested in", and section 5: "what to display", "what type of cars") and how to display it (see section 1: "increasing the resolution or increasing the size of the region where the user fixates, "how much details to display"). There is however no disclosure of several users looking at the same display, and a fortiori no disclosure of display control allocation to specific users.

The description of the present application mentions in paragraphs [0016], [0017], [0019] and [0020] a further prior art consisting of a system having multiple displays for several medical practitioners, each display being allocated to a single medical practitioner.

3.2 **D2** is the closest available prior art document, since it relates to an eye tracking system for controlling a

display, whereas D1 does not disclose any eye tracking or gaze detection system. D2 however does not disclose that the display is shared by multiple users. The differences between the subject-matter of claim 1 and the disclosure of D2 are the provision of multiple users, the identification of each user looking toward the display and the allocation of the display control based on the identity of the user. The technical objective problem can be formulated as how to adapt the system of D2 to multiple users. In the board's judgement the skilled person starting from D2 would not consider the solution of claim 1 without the use of hindsight, but would rather consider to have a display for each user, each display being controlled by eye tracking of the respective user.

3.3 When starting from the above-mentioned prior art acknowledged in the description, the objective technical problem can be formulated as how to reduce the number of displays in the medical room. Neither this problem nor the proposed solution to provide a single display for all users, the control of which being allocated based on eye tracking and identities of the user, are addressed or suggested by the other prior art documents, since both D1 and D2 deal with a display allocated to a single user.

3.4 For these reasons, the board judges that the subject-matter of claim 1 involves an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division with the order to grant a patent on the basis of claims 1 to 6 filed as main request with letter dated 16 May 2016 and a description to be adapted.

The Registrar:

The Chair:



L. Malécot-Grob

A. Ritzka

Decision electronically authenticated