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Datasheet for the decision of 30 August 2012

Case Number: T 2250/08 - 3.2.02

Application Number: 01310663.8

Publication Number: 1219235

IPC: A61B 5/00

Language of the proceedings: EN

Title of invention:
Automated scheduling of emergency procedure based on identification of high-risk patient

Applicant:
GE Medical Systems Information Technologies, Inc.

Headword:
-

Relevant legal provisions:
EPC Art. 56
RPBA Art. 13(1)

Keyword:
"Inventive step (no)"
"Admissibility of new requests (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 2250/08 - 3.2.02

D E C I S I O N
of the Technical Board of Appeal 3.2.02
of 30 August 2012

Appellant: (Applicant)
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Representative:
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Decision under appeal:
Decision of the Examining Division of the European Patent Office posted 14 April 2008 refusing European patent application No. 01310663.8 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: E. Dufrasne
Members: C. Körber
M. Stern

Summary of Facts and Submissions

I. On 14 April 2008 the Examining Division posted its decision according to the state of the file to refuse European patent application No. 01310663.8 for lack of novelty.

II. An appeal was lodged against this decision by the applicant by notice received on 16 June 2008, with the appeal fee being paid on the same day. The statement setting out the grounds of appeal was received on 15 August 2008.

III. By communication of 3 May 2012, the Board summoned the appellant to oral proceedings and forwarded its provisional opinion.

IV. With letter dated 26 July 2012 the appellant submitted a main request and auxiliary requests 1 and 2.

V. Oral proceedings were held on 30 August 2012. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or, in the alternative, of one of the auxiliary requests 1 and 2, all filed with letter dated 26 July 2012.

VI. The following documents are of importance for the present decision:

D1: WO-A-99/55227;
D4: "Lifenet® RS Receiving Station from Medtronic Physio-Control Can Help Improve Heart Attack Diagnosis and Treatment" MEDTRONIC NEWS RELEASE, [Online]

7 October 1999, XP-002195316 (retrieved from the Internet: <URL: http://www.medtronic.com/newsroom/news_19991007114910.htm1> on 5 April 2002).

VII. Claim 1 of the main request reads:

"1. A method for scheduling an emergency procedure, the method comprising the steps of:
acquiring an electrocardiogram record for a particular patient, the electrocardiogram record comprising simultaneously acquired 12-lead electrocardiograms;
sending the electrocardiogram record to a computer;
the computer determining that said particular patient has a high probability of acute coronary syndrome based on an automated analysis of data in said electrocardiogram record;
the computer automatically routing at least results of said automated analysis to an electronic device which is accessible by a cardiologist on call in response to the determination by the computer that said particular patient has a high probability of acute coronary syndrome, the results of said automatic analysis including the electrocardiogram record;
the computer receiving a message from the cardiologist after the routing to the electronic device;
in response to a decision to proceed with a requested emergency treatment from the cardiologist, automatically scheduling an emergency procedure at an emergency coronary treatment facility."

Independent claim 5 corresponds to claim 1 in terms of apparatus features. Claims 2 to 4, 6 and 7 are dependent claims.

Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request with the following insertion at the end of the fourth paragraph beginning with the words "the computer determining ...":

"the automated analysis comprising comparing each current ECG record with a previous ECG record for the same patient, if only the current ECG record includes a diagnostic statement indicating LBBB, measurements related to the LBBB criteria are compared and if changes of a predetermined percentage are present the ECG wave forms are compared using cross correlation;".

Independent claim 5 corresponds to claim 1 in terms of apparatus features.

Claim 1 of auxiliary request 2 corresponds to claim 1 of the main request with the following insertion at the end of the fourth paragraph beginning with the words "the computer determining ...":

"the computer having a serial comparison program for detecting a new left branch bundle block in a series of ECGs; an ACI-TIPI (Acute Cardiac Ischemia Time-Insensitive Predictive Instrument) program for computing a score predictive of acute coronary syndrome and an ECG analysis program which elicits statements associated with acute coronary syndrome based on measurements taken from an ECG, each having logic for automatic routing which is configurable via a graphical user interface;".

Independent claim 5 also corresponds to claim 1 in terms of apparatus features.

VIII. The appellant's arguments are summarised as follows:

The system disclosed in Dl was for use with remote patients who had been discharged from a hospital and so had a relatively low risk of suffering coronary problems requiring emergency treatment. According to claim 1 of D1 the patients were even explicitly defined as being permitted to undertake normal activities. Since Dl related to remote patients the system could arrange to instruct the patient to report to a hospital in appropriate circumstances. However, it was likely to take a considerable period of time for a remotely located discharged patient to be able to make his way to a hospital. The system of Dl was not suitable for patients who were at a higher risk or who were candidates for an emergency procedure as described in the patent application. Time-to-treatment was particularly critical for these higher-risk patients. In contrast to Dl, which merely summoned a remote patient to a particular hospital, the invention as defined in claim 1 automatically scheduled an emergency procedure at an emergency coronary treatment facility. Automatically scheduling the emergency procedure at the emergency coronary treatment facility saved a considerable amount of time which was critical to the survival rate of patients. The arrangement of admission to a hospital as disclosed in Dl was not the same thing as automatically scheduling an emergency procedure as defined in claim 1. This would typically take a matter of a few minutes for patients in a hospital or other healthcare facilities. This was in clear contrast to the system discussed in Dl relating to remotely located patients who had been discharged from a hospital and who would, if necessary, receive a signal instructing them

to report to a hospital. Any subsequent treatment received in the arrangement of Dl was likely to take several hours after the first identification of any problems. The reference to a patient "having a specific problem as indicated by the EKG" in line 25 of page 31 of D1 did not indicate that this patient was a candidate for an emergency procedure as defined in claim 1. An emergency procedure comprised, for instance, the implantation of a stent, which was to be distinguished from the much less critical administration of medications described at the bottom of page 32 of D1.

The recommended time-to-treatment for a PTCA procedure was often exceeded because once a high-risk patient had been identified in the emergency department, several subsequent manual steps had to be taken to get the patient to the lab, including locating the cardiologist on call, manually calling or paging the cardiologist, waiting for the called cardiologist to arrive, looking at the ECG upon arrival and then making a decision, and manually calling the lab to schedule the procedure.

D4 also related only to remotely located patients and provided a link between paramedics in the field and hospital-based healthcare providers. By comparing a transmitted ECG to a patient's ECG stored at a hospital, the physician or cardiologist could detect subtle changes that helped determine whether or not a heart attack was in progress and if necessary instruct paramedics to administer treatment or to take the patient to the nearest hospital. Taking a patient to the nearest hospital was very different from automatically scheduling an emergency procedure as defined in claim 1, which saved a considerable amount of critical time,

significantly increasing the likelihood of survival of the patient.

The auxiliary requests were filed after the appellant became aware of the unexpectedly negative preliminary opinion of the Board with respect to the main request as expressed in the communication annexed to the summons to oral proceedings. These requests represented a fallback position in the event that the Board did not allow the main request. The appellant was prepared to accept a possibly necessary remittal due to the fact that the features included in the independent claims of these requests were taken from the description and thus most likely not covered by the search report.

Reasons for the Decision

1. The appeal is admissible.

2. Main request - inventive step

2.1 Document D1 as closest prior art discloses (Figure 4), in the wording of claim 1, a method comprising the steps of:
acquiring an electrocardiogram record for a particular patient, the electrocardiogram record comprising simultaneously acquired 12-lead electrocardiograms (page 26, lines 31 to 32);
sending the electrocardiogram record to a computer (66, 72, 70);
the computer determining that said particular patient has a high probability of acute coronary syndrome based on an automated analysis of data in said

electrocardiogram record (page 28, line 30 to page 29, line 3);
the computer automatically routing at least results of said automated analysis to an electronic device which is accessible by a cardiologist on call in response to the determination by the computer that said particular patient has a high probability of acute coronary syndrome, the results of said automatic analysis including the electrocardiogram record (page 29, lines 4 to 10);
the computer receiving a message from the cardiologist after the routing to the electronic device (page 31, lines 19 to 22).

The appellant's argument that the system of D1 is only suitable for relatively low-risk remotely located patients discharged from a hospital, but not suitable for patients who are candidates for an emergency procedure, is not accepted by the Board. Firstly, the claim simply refers to "a particular patient" without any further specification of risks. The determination of whether or not the patient is at risk is actually part of the claimed method ("the computer determining that said particular patient has a high probability of acute coronary syndrome"). Secondly, the teaching of D1 is not limited to "relatively low risk remotely located discharged patients" (e.g. page 8, lines 31 to 33; page 11, lines 21 to 24; page 12, lines 1 to 4). Accordingly, the risk of the patient to be subjected to the claimed method cannot be considered to represent a distinguishing feature over D1.

2.2 It follows that the method of claim 1 is distinguished over D1 by "in response to a decision to proceed with a

requested emergency treatment from the cardiologist, automatically scheduling an emergency procedure at an emergency coronary treatment facility".

2.3 The technical effect achieved by this distinguishing feature is that the scheduling of the emergency procedure is expedited by avoiding several manual steps (e.g. locating and contacting the cardiologist on call and waiting for his arrival) once the patient has been identified as a high-risk patient.

2.4 The objective technical problem to be solved by the claimed method is to reduce the time-to-treatment for a patient classified to have a high probability of acute myocardial infarction (as indicated in the second paragraph of page 6 of the description as originally filed). No contribution towards inventive step can be recognised in the identification of this problem which is common to all emergency treatment facilities.

2.5 In the first paragraph of page 31 of D1, it is already taught that the patient can be sent a signal automatically instructing him to report immediately to "a staffed hospital emergency room having appropriate cardiology assistance" (lines 2 to 6). An emergency room having "appropriate cardiology assistance" qualifies as an "emergency coronary treatment facility". The fact that the emergency room is "staffed" implies the scheduling of some kind of emergency procedure, albeit not necessarily "automatically" as claimed. However, mere automation of such a scheduling step is an obvious time-saving measure and thus not sufficient to justify the presence of an inventive step.

The fact that the patient may not yet have arrived at the hospital in the situation described in D1 is of no relevance with respect to the wording of the claim, which is silent with regard to the location of the patient. Furthermore, in lines 1 to 3 of page 30 of D1 it is stated that the patient-mounted system 40 and the remote system 70 can be as little as "a few hundred yards" apart, implying that the patient could already be located at the premises of a (large) hospital.

Moreover, D1 discloses that the hospital is informed that "the arriving patient is having a specific problem as indicated by the EKG", either through the intervention of a cardiologist or automatically through the operation of the neural network 82 (page 31, lines 19 to 26). In view of this information, it would be immediately evident for the skilled person to "schedule" an emergency procedure if the "specific problem as indicated by the EKG" requires such a procedure. Finally, it is noted that the wording of the claim only requires the "scheduling of an emergency procedure", which encompasses any level and even just the very first step of such a procedure.

Consequently, the subject-matter of claim 1 is obvious from D1 and common general knowledge.

2.6 In addition, the subject-matter of claim 1 is obvious from D1 in view of document D4. In the first sentence of the fifth paragraph of D4, the above-mentioned problem of reducing time-to-treatment for heart-attack patients is explicitly addressed. Accordingly, the skilled person would take into consideration the teaching of this document. Already in the next sentence, the skilled

reader is informed that "[i]f necessary a team of physicians and nurses can the prepare cardiac catheterisation lab ...", i.e. schedule an emergency procedure at an emergency coronary treatment facility. Again, mere automation of this scheduling step does not contribute towards inventiveness.

2.7 From the above it follows that the subject-matter of claim 1 of the main request does not involve an inventive step within the meaning of Article 56 EPC. The same applies, a fortiori, to independent claim 5 which corresponds to claim 1 in terms of apparatus features, the above-mentioned distinguishing feature over D1 being defined as "means (2) for automatically scheduling an emergency procedure at said emergency coronary treatment facility in response to a decision from the cardiologist", i.e. any means suitable for the stated purpose.

3. Auxiliary requests 1 and 2 - admissibility

Auxiliary requests 1 and 2 were filed with the appellant's reply to the Board's communication annexed to the summons to oral proceedings about one month before these were held. They constitute amendments to the appellant's case which were submitted after the grounds of appeal had been filed. Pursuant to Article 13(1) RPBA, their admittance lies within the Board's discretion, which has to be exercised in view of, inter alia, the state of the proceedings, the complexity of the new subject-matter and the need for procedural economy.

The filing date of the auxiliary requests, i.e. just about one month before the oral proceedings, is undoubtedly at a very late stage in the proceedings. The appellant's argument that they were filed as a fallback position after the Board had expressed its negative preliminary opinion in the communication annexed to the summons is of no relevance in the present case, since the novelty objection vis-à-vis D1 raised therein was already present in the impugned decision, with the set of claims having remained unchanged.

Even at such a late stage of the proceedings, the Board would in some cases still admit amendments which made the request prima facie allowable, for reasons of procedural economy. Such amendments should in principle allow the granting of a patent based thereon. However, in the present case this criterion is not fulfilled for the following reasons. As indicated by the appellant, the features included in the independent claims of both requests were taken from the description. They correspond in no way to any of the features present in the original dependent claims. Accordingly, the Board has serious doubts whether the independent claims of both auxiliary requests were covered by the search report. As a consequence, if the Board admitted the new sets of claims it would have to remit the case to the department of first instance for further prosecution on the basis thereof. That would substantially prolong the grant procedure.

It is further noted that the Board cannot see any reason why these auxiliary requests could not have been filed already with the statement setting out the grounds of appeal as a fallback position in the event that the

Board was inclined to confirm the impugned decision on the main request.

In view of the above, admitting the request would (at best) substantially prolong the grant procedure. That goes against the requirement of procedural economy, which also serves to protect third parties against legal uncertainty resulting from pending patent applications.

Under the given circumstances, the Board declines to admit auxiliary requests 1 and 2 under Article 13(1) RPBA.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Hampe E. Dufrasne