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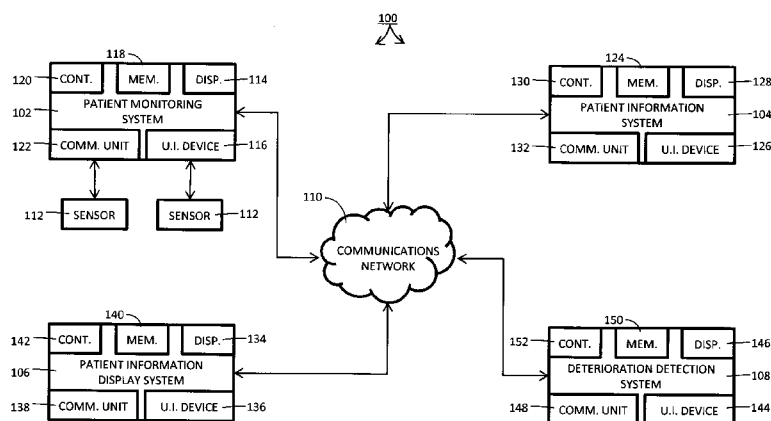


FIG. 1

(57) Abstract: A system (108) detects deterioration of a patient of a medical institution. A processor(152)receives attended physiological data for the patient from a user interface or a patient monitoring system (102) and obtains a baseline patient score from the attended physiological data and a scoring table. The scoring table is received from a memory (118). The processor (152) further receives physiological data, including at least one of unattended physiological data and attended physiological data, which includes measurements of one or more of the physiological parameters of the patient, from a patient monitoring system (102) for the patient. Scores of the physiological data measurements are compared to corresponding most recent attended physiological data measurements using the scoring table. A clinician is notified of patient deterioration if the score of one or more physiological data measurements has deteriorated as compared to the scores of the corresponding most recent attended physiological data measurements.

WO 2012/117316 A3

# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/IB2012/050796</b>
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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. A61B5/00 ADD.				
According to International Patent Classification (IPC) or to both national classification and IPC				
<b>B. FIELDS SEARCHED</b>				
Minimum documentation searched (classification system followed by classification symbols) G06F A61B				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	WO 2010/024738 A1 (ST JUDE MEDICAL [SE]; BJOERLING ANDERS [SE]; PANESCU DORIN [US]; ZHAO) 4 March 2010 (2010-03-04) figures 2, 4 page 3, line 29 - page 4, line 8 page 17, line 31 - page 18, line 29 page 19, line 7 - page 22, line 18 -----	1-6, 12-17		
X	US 2007/265542 A1 (BARDY GUST H [US]) 15 November 2007 (2007-11-15) paragraphs [0010] - [0014], [0032], [0034], [0047], [0060] - [0076] figure 1 ----- -/--	1-6, 12-17		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.</td> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> See patent family annex.</td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.			
* Special categories of cited documents :				
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family			
Date of the actual completion of the international search	Date of mailing of the international search report			
16 May 2012	26/10/2012			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Vanderperren, Yves			

## INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2009/118399 A2 (UNIV RENNES [FR]; CENTRE NAT RECH SCIENT [FR]; LAVASTRE OLIVIER [FR]) 1 October 2009 (2009-10-01) page 17, line 3 - page 18, line 25 page 23, line 4 - line 14 -----	1-6, 12-17
X	WO 2009/138976 A2 (EARLYSENSE LTD [IL]; MEGER GUY [IL]; KARASIK ROMAN [IL]; KLAP TAL [IL]) 19 November 2009 (2009-11-19) page 1, line 25 - line 30 page 12, line 16 - page 13, line 7 page 32, line 27 - line 31 page 35, line 14 - line 16 figure 2 -----	1-6, 12-17
X	US 2007/293736 A1 (CASSET CYRILLE [FR]) 20 December 2007 (2007-12-20) paragraphs [0046] - [0052], [0071] figure 1 -----	1-6, 12-17

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2012/050796
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Patent document cited in search report	A1	Publication date		Patent family member(s)	Publication date
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				US 2011112442 A1	12-05-2011
				WO 2009138976 A2	19-11-2009
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				EP 1867360 A2	19-12-2007
				US 2007293736 A1	20-12-2007
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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-17

A deterioration detection system comprising one or more processor programmed to receive physiological data for a patient, obtain a patient score, and compare the measured data with past measurements based on the patient score, and notify a clinician in case of patient deterioration. The method claim 7, apparatus claim 16 and computer medium claim 17 are related to the subject-matter of apparatus claim 1 and therefore are considered to belong to invention I.

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2. claims: 18-20

A method for verifying physiological data comprising the step of controlling a patient monitoring system to take additional measurements in response to intermittently receiving data. The apparatus claims 19 and 20 related to the method claim 18 are considered to belong to invention II.

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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.2

Claims Nos.: 7-11

Claims 7-11 are directed towards a scheme, rule and method for performing mental acts (Rule 39.1(iii) PCT)

Indeed, claim 7 is a method for detecting deterioration of a patient and consists of steps which can all be performed in the mind of a medical practitioner (receiving physiological data regarding a patient, obtaining a patient score from a scoring table [ such a scoring table could be for example reference data or basic knowledge about the data considered as normal and abnormal, present in the mind of the medical practitioner ], comparing the measured data to previous data, notifying a clinician of a patient deterioration). A similar reasoning applies to claims 8-10. regarding claim 8, the history of the patient can be in the memory of the practitioner. Claims 9-11 are directed towards additional score determination and comparison steps which can all be performed in a person's mind.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2012/050796

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 7-11  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1-17

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.