

EXHIBIT 3
U.S. FILE HISTORY



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/097,121	04/19/2016	9314192	2005P02656WOUS	8272

24737 7590 03/30/2016

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 1352 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Annelies Goris, Eindhoven, NETHERLANDS;
 Maarten Peter Bodlaender, Eindhoven, NETHERLANDS;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
 or **Fax** **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

24737 7596 12/17/2015
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/097,121	06/12/2008	Annelies Goris	2005P02656WOUS	8272

TITLE OF INVENTION: Detection and Compensation Method for Monitoring the Place of Activity on the Body

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	03/17/2016

EXAMINER	ART UNIT	CLASS-SUBCLASS
LLOYD, EMILY M	3739	600-595000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1 (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. _____ 2 _____ 3
--	--

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: **Koninklijke Philips N.V.**

(B) RESIDENCE: (CITY and STATE OR COUNTRY) **Eindhoven, the Netherlands**

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

4a. The following fee(s) are submitted:

Issue Fee
 Publication Fee (No small entity discount permitted)
 Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

A check is enclosed.
 Payment by credit card. Form PTO-2038 is attached.
 The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 14-1270 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29
 Applicant asserting small entity status. See 37 CFR 1.27
 Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
 NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
 NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Kyle J. Trout/ Date March 9, 2016
 Typed or printed name Kyle J. Trout Registration No. 68791

Electronic Patent Application Fee Transmittal

Application Number:	12097121			
Filing Date:	12-Jun-2008			
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body			
First Named Inventor/Applicant Name:	Annelies Goris			
Filer:	Kyle J. Trout/Jacqueline Andreu			
Attorney Docket Number:	2005P02656WOUS			
Filed as Large Entity				
Filing Fees for U.S. National Stage under 35 USC 371				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				960

Electronic Acknowledgement Receipt

EFS ID:	25146567
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Kyle J. Trout/Jacqueline Andreu
Filer Authorized By:	Kyle J. Trout
Attorney Docket Number:	2005P02656WOUS
Receipt Date:	09-MAR-2016
Filing Date:	12-JUN-2008
Time Stamp:	13:58:53
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$960
RAM confirmation Number	208
Deposit Account	141270
Authorized User	TROUT, KYLE J.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.492 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 CFR 1.19 (Document supply fees)

Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

Charge any Additional Fees required under 37 CFR 1.492(a) (basic national fee only)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	2005P02656WOUSIssueFee.pdf	175435 db065a1a465c3b0ffe13956c2040a114441007ce	no	1

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30818 b621322901580ba1860c4e9cb1ff5536779000d4	no	2
---	----------------------	--------------	---	----	---

Warnings:

Information:

Total Files Size (in bytes):			206253		
-------------------------------------	--	--	--------	--	--

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

24737 7590 12/17/2015
 PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT PAPER NUMBER

3739

DATE MAILED: 12/17/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/097,121

06/12/2008

Annelies Goris

2005P02656WOUS

8272

TITLE OF INVENTION: Detection and Compensation Method for Monitoring the Place of Activity on the Body

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
-------------	---------------	---------------	---------------------	----------------------	------------------	----------

nonprovisional

UNDISCOUNTED

\$960

\$0

\$0

\$960

03/17/2016

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

24737 7590 12/17/2015
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/097,121	06/12/2008	Annelies Goris	2005P02656WOUS	8272

TITLE OF INVENTION: Detection and Compensation Method for Monitoring the Place of Activity on the Body

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	03/17/2016

EXAMINER	ART UNIT	CLASS-SUBCLASS
LLOYD, EMILY M	3739	600-595000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____</p> <p>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____</p> <p>3 _____</p>
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent) : Individual Corporation or other private group entity Government

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
---	--

5. **Change in Entity Status** (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29

Applicant asserting small entity status. See 37 CFR 1.27

Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/097,121	06/12/2008	Annelies Goris	2005P02656WOUS	8272

24737 7590 12/17/2015
 PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT	PAPER NUMBER
3739	

3739

DATE MAILED: 12/17/2015

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
 (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 12/097,121	Applicant(s) GORIS ET AL.	
	Examiner EMILY LLOYD	Art Unit 3739	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to Applicant's 29 October 2015 amendment.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. The allowed claim(s) is/are 1-8,10-19,21 and 22. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/oph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some *c) None of the:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. | <ol style="list-style-type: none"> 5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 7. <input type="checkbox"/> Other _____. |
|---|--|

/EMILY LLOYD/
 Examiner, Art Unit 3739

Application/Control Number: 12/097,121
Art Unit: 3739

Page 2

EXAMINER'S AMENDMENT

The present application is being examined under the pre-AIA first to invent provisions.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael Marcin on 10 December 2015.

The application has been amended as follows:

Claims 2, 8, 17 and 21 are amended as follows:

2. (Currently Amended) The measuring system as claimed in claim 1, wherein the sensor is arranged to be attached at the plurality of positions ~~are the following that~~ include: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head.

8. (Currently Amended) A measuring system comprising:

Application/Control Number: 12/097,121

Page 3

Art Unit: 3739

a sensor arranged to be attached at any one of a plurality of positions on a body of a subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and

a processor coupled to said sensor, said processor being arranged to determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent,

wherein said processor is further arranged[[],]:

to convert the measured value into an estimated measured value related to a reference position on the subject, and

to derive a subject-related value from the estimated measured value.

17. (Currently Amended) The measuring system as claimed in claim 10, further comprising:

a storage medium for storing at least one pattern related to performing a predetermined activity in a predetermined manner,

and wherein said processor is further arranged;

to establish that the subject is performing the predetermined activity,

to determine how ~~at least one~~ of the plurality of measured values

compares to the stored pattern, and

to provide feedback in dependence on the comparison.

Application/Control Number: 12/097,121

Page 4

Art Unit: 3739

21. (Currently Amended) A method of deriving a value relating to a subject, the method comprising:

attaching a sensor to any one of a plurality of positions on the subject;

obtaining, in a processor, at least one measured value from the sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject;

determining, using the processor, ~~any~~ the one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent; and

deriving, using the processor, a subject-related value from the measured value in dependence on ~~any~~ the one of the plurality of positions of the sensor on the subject.

The above amendment is being made to render the claims definite in the sense of 35 U.S.C.112.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY LLOYD whose telephone number is (571)272-2951. The examiner can normally be reached on Monday through Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 12/097,121
Art Unit: 3739


Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily M Lloyd
Examiner
Art Unit 3739

/EMILY LLOYD/
Examiner, Art Unit 3739

/Lee S. Cohen/
Primary Examiner, Art Unit 3739
December 11, 2015

Search Notes 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

CPC- SEARCHED		
Symbol	Date	Examiner
A61B 5/065, 5/1118, 5/1123, 5/6802, 5/681, 5/7278, 2560/0223, 2562/0219	2/2015	EL

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
600	595	5/22/2010	EL
702	160	10/31/2010	EL

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	5/22/2010	EL
Text Search	5/22/2010	EL
EAST Search	5/22/2010	EL
Updated EAST Search	10/31/2010	EL
Brief Google Scholar Search, requested NPL documents	11/2/2010	EL
Reviewed requested NPL documents	11/4/2010	EL
Updated EAST Search	4/23/2011	EL
Updated search	6/2014	EL
Updated EAST search	2/2015	EL
Updated EAST search	7/2015	EL
Updated EAST search	12/2015	EL

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

--	--

INTERFERENCE SEARCH

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
A61B	5/065, 5/1118, 5/1123, 5/6802, 5/681, 5/7278, 2560/0223, 2562/0219	12/2015	EL
600	595	12/2015	EL
702	160	12/2015	EL

--	--

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12097121
	Filing Date		2008-06-12
	First Named Inventor	Annelies Goris	
	Art Unit		3739
	Examiner Name	Emily M. Lloyd	
	Attorney Docket Number		2005P02656WOUS

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20030226695	A1	2003-12-11	MAULT	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2003102692	JP	A	2003-04-08	OUCHI KAZUNARI		<input checked="" type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button. Add

NON-PATENT LITERATURE DOCUMENTS				Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
 (Not for submission under 37 CFR 1.99)

Application Number	12097121		
Filing Date	2008-06-12		
First Named Inventor	Annelies Goris		
Art Unit	3739		
Examiner Name	Emily M. Lloyd		
Attorney Docket Number	2005P02656WOUS		

1		<input type="checkbox"/>
---	--	--------------------------

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/EMILY M LLOYD/	Date Considered	12/10/2015
--------------------	-----------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
 (Not for submission under 37 CFR 1.99)

Application Number	12097121		
Filing Date	2008-06-12		
First Named Inventor	Annelies Goris		
Art Unit	3739		
Examiner Name	Emily M. Lloyd		
Attorney Docket Number	2005P02656WOUS		

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Kathleen A. Asher/	Date (YYYY-MM-DD)	2015-05-13
Name/Print	Kathleen A. Asher	Registration Number	43194


This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

#2861
Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:


1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Issue Classification 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY LLOYD	Art Unit 3739

CPC						
Symbol					Type	Version
A61B		5		1118	F	2013-01-01
A61B		5		061	I	2013-01-01
A61B		5		065	I	2013-01-01
A61B		5		681	I	2013-01-01
A61B		2560		0223	A	2013-01-01
A61B		2562		0219	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

/EMILY LLOYD/ Examiner.Art Unit 3739 (Assistant Examiner)	12/10/2015 (Date)	Total Claims Allowed: 20	
/LEE S COHEN/ Primary Examiner.Art Unit 3739 (Primary Examiner)	12/11/2015 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1A

Issue Classification 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY LLOYD	Art Unit 3739

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant																<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original						
1	1	15	17																		
2	2	16	18																		
3	3	18	19																		
4	4		20																		
5	5	20	21																		
6	6	7	22																		
8	7																				
19	8																				
	9																				
9	10																				
10	11																				
11	12																				
12	13																				
13	14																				
14	15																				
17	16																				

/EMILY LLOYD/ Examiner.Art Unit 3739 (Assistant Examiner)	12/10/2015 (Date)	Total Claims Allowed: 20	
/LEE S COHEN/ Primary Examiner.Art Unit 3739 (Primary Examiner)	12/11/2015 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1A



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 8272

SERIAL NUMBER 12/097,121	FILING or 371(c) DATE 06/12/2008	CLASS 600	GROUP ART UNIT 3739	ATTORNEY DOCKET NO. 2005P02656WOUS		
APPLICANTS						
INVENTORS Annelies Goris, Eindhoven, NETHERLANDS; Maarten Peter Bodlaender, Eindhoven, NETHERLANDS;						
** CONTINUING DATA ***** This application is a 371 of PCT/IB06/54599 12/05/2006						
** FOREIGN APPLICATIONS ***** EUROPEAN PATENT OFFICE (EPO) 05112250.5 12/15/2005						
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 07/30/2008						
Foreign Priority claimed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 35 USC 119(a-d) conditions met <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Verified and Acknowledged		<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY NETHERLANDS	SHEETS DRAWINGS 5	TOTAL CLAIMS 21 20	INDEPENDENT CLAIMS 2 3
ADDRESS PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510 UNITED STATES						
TITLE Detection and Compensation Method for Monitoring the Place of Activity on the Body						
FILING FEE RECEIVED 980	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit			

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:50
L2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:50
L3	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:50
L4	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:50
L5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:50
L6	168	L1 or L2 or L3 or L4 or L5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:50
L7	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:51
L8	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:51
L9	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:51
L10	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:51
L11	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:51
L12	168	L7 or L8 or L9 or L10 or L11	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/12/07 11:51

L13	11	L12 and ((location located locating; 2867 locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2015/12/07 11:51
L14	366	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2015/12/07 11:51
L15	106	L14 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/12/07 11:51
L16	2752	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2015/12/07 11:51
L17	1249	L16 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/12/07 11:51
L18	17269	(wrist watch arm forearm waist belt leg chest neck head forehead sweatband) same (calorie energy) same (activity walk walking run running jog jogging standard standardized)	US-PGPUB; USPAT	OR	ON	2015/12/07 11:52
L19	9	L18 and ((compensat\$ or transfer or adjust\$) with (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/12/07 11:52
L20	7	L19 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/12/07 11:52
L21	664	A61B5/6802.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:52
L22	81	L21 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:52
L23	5445	A61B5/1118.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:54
L24	1848	A61B5/1123.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:54
L25	3471	A61B5/7278.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:54
L26	81	L21 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO;	OR	ON	2015/12/07 11:54

#2868

			JPO; DERWENT; IBM_TDB			
L27	575	L25 and (L23 L24)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:54
L28	83	L27 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:54
L29	38	L28 not L26	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:54
L30	83	L27 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:54
L31	2728	A61B5/065.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:55
L32	10	L31 and (L23 L24)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:55
L33	0	L32 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:55
L34	754	L31 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:55
L35	4957	A61B5/681.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:57
L36	995	L35 and (L23 L24)	US-PGPUB; USPAT; FPRS; EPO;	OR	ON	2015/12/07 11:57

#2869

			JPO; DERWENT; IBM_TDB			
L37	122	L36 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:57
L38	97	L37 not (L26 L28)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 11:57
L39	3273	A61B2560/0223.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:01
L40	80	L39 and (L23 L24)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:01
L41	13	L40 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:01
L42	13	L41 not (L26 L28 L37)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:01
L43	7002	A61B2562/0219.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:01
L44	2092	L43 and (L23 L24)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:01
L45	609	L44 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:01
L46	496	L45 not (L26 L28 L37 L41)	US-PGPUB; USPAT; FPRS; EPO;	OR	ON	2015/12/07 12:01

			JPO; DERWENT; IBM_TDB			
L47	6494	(L23 L24)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:03
L48	5805	L47 not (L26 L28 L37 L41 L45)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:03
L49	866	L48 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/12/07 12:03
S1	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S3	46	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S4	78	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S6	132	S1 or S2 or S3 or S4 or S5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S7	4	EP-1254629-\$.did. or US-5111826-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:34
S8	1198	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/14 20:41
S9	1	("20030065257").PN.	US-PGPUB; USPAT	OR	OFF	2008/12/18 14:03
S10	1201	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S11	275	S10 and accelerometer	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S12	2	Nasiff-Roger-E.in.	US-PGPUB;	OR	ON	2008/12/18

			USPAT			14:42
S13	1	(10/266272).APP.	USPAT; USOCR	OR	ON	2010/03/27 22:58
S14	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S15	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S16	56	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S17	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S18	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S19	143	S14 or S15 or S16 or S17 or S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S20	1	("20060161079").PN.	US-PGPUB; USPAT	OR	OFF	2010/03/27 23:03
S21	1	(11/332586).APP.	USPAT; USOCR	OR	ON	2010/03/27 23:03
S22	5	("20060052727" "20060161079" "20060255955" "7028547" "7127370").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/03/27 23:04
S23	2	Nasiff-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S24	86	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S25	23	S24 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S26	4	S22 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S27	21	S25 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:29
S28	1	S25 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:30
S29	1384	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:35
S30	8	Goris-Annelies.in.	US-PGPUB; USPAT;	OR	ON	2010/05/22 23:49

#2872

			EPO; JPO; DERWENT			
S31	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S32	57	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S33	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S34	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S35	144	S30 or S31 or S32 or S33 or S34	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S36	87	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S37	23	S36 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S38	1	S37 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S39	1411	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S40	5	"497572".ap.	US-PGPUB; USPAT	OR	ON	2010/10/30 14:41
S41	9	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S42	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S43	58	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S44	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S45	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S46	145	S41 or S42 or S43 or S44 or S45	US-PGPUB; USPAT; EPO; JPO;	OR	ON	2010/10/31 15:55

#2873 DERWENT

S47	5	S46 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:00
S48	167	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09
S49	1502	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09
S50	135	S48 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple different) with (body user subject wearer person human))	US-PGPUB; USPAT	OR	ON	2010/10/31 16:10
S51	1	(10/986303).APP.	USPAT; USOCR	OR	ON	2010/10/31 17:02
S52	0	("7107180").URPN.	USPAT	OR	ON	2010/10/31 17:04
S53	1	("6560903").PN.	US-PGPUB; USPAT	OR	OFF	2010/10/31 18:21
S54	7	"942802".ap.	US-PGPUB; USPAT	OR	ON	2010/10/31 18:22
S55	21	("6560903").URPN.	USPAT	OR	ON	2010/10/31 18:25
S65	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S66	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S67	61	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S68	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S69	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S70	153	S65 or S66 or S67 or S68 or S69	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S71	184	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2011/04/23 22:30
S72	1592	600/595.ccls.	US-PGPUB;	OR	ON	2011/04/23

			USPAT			22:42
S73	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S74	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S75	73	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S76	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S77	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S78	165	S73 or S74 or S75 or S76 or S77	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S79	301	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
S80	106	S79 and @ad< "20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
S81	2337	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
S82	1245	S81 and @ad< "20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
S83	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S84	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S85	73	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S86	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S87	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S88	165	S83 or S84 or S85 or S86 or S87	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S89	10	S88 and ((location located locating	US-PGPUB;	OR	ON	2014/06/16

		locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	USPAT			02:47
S90	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S91	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S92	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S93	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S94	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S95	168	S90 or S91 or S92 or S93 or S94	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S96	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S97	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S98	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S99	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S100	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S101	168	S96 or S97 or S98 or S99 or S100	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S102	11	S101 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust	US-PGPUB; USPAT	OR	ON	2015/02/07 18:44

		adjusting adjusted adjustment various numerous many multiple) with (body user subject wearer person human)).clm.				
S103	341	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:45
S104	106	S103 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/02/07 18:45
S105	2555	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:50
S106	1248	S105 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/02/07 18:50
S107	15922	(wrist watch arm forearm waist belt leg chest neck head forehead sweatband) same (calorie energy) same (activity walk walking run running jog jogging standard standardized)	US-PGPUB; USPAT	OR	ON	2015/02/07 18:55
S108	13028	S107 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/02/07 18:56
S109	8	S107 and ((compensat\$ or transfer or adjust\$) with (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/02/07 18:57
S110	7	S109 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/02/07 18:57
S111	2	((("8795137") or ("20040102931")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/02/07 19:38
S112	688	A61B5/065.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:44
S113	1566	A61B5/1118.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S114	541	A61B5/1123.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S115	1316	A61B5/681.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S116	719	A61B5/7278.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:46
S117	200	A61B5/6802.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:46
S118	2196	A61B5/065.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S119	3931	A61B5/1118.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S120	1343	A61B5/1123.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT;	OR	ON	2015/02/07 19:46

S121	3854	A61B5/681.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S122	1665	A61B5/7278.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:47
S123	440	A61B5/6802.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:47
S124	73	S123 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:48
S125	357	S122 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:52
S126	82	S125 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:52
S127	0	S126 not S125	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:53
S128	39	S126 not S124	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:53
S129	10	S118 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S130	0	S129 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT;	OR	ON	2015/02/07 19:58

S131	738	S118 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S132	623	S121 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:06
S133	109	S132 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:06
S134	85	S133 not (S124 S126)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:06
S135	2792	A61B2560/0223.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:26
S136	5945	A61B2562/0219.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:27
S137	54	S135 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:27
S138	13	S137 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:28
S139	13	S138 not (S124 S126 S133)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:28
S140	1729	S136 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT;	OR	ON	2015/02/07 20:30

S141	591	S140 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:31
S142	481	S141 not (S124 S126 S133 S138)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:31
S143	4758	(S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:40
S144	4097	S143 not (S124 S126 S133 S138 S141)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:43
S145	807	S144 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:43
S146	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S147	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S148	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S149	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S150	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S151	168	S146 or S147 or S148 or S149 or S150	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S152	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12

S153	1	Goris-Annelies-Heleen-Carolien.in. #2880	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S154	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S155	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S156	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S157	168	S152 or S153 or S154 or S155 or S156	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S158	11	S157 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2015/07/24 15:12
S159	362	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2015/07/24 15:12
S160	106	S159 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/07/24 15:12
S161	2678	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2015/07/24 15:13
S162	1249	S161 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/07/24 15:13
S163	16672	(wrist watch arm forearm waist belt leg chest neck head forehead sweatband) same (calorie energy) same (activity walk walking run running jog jogging standard standardized)	US-PGPUB; USPAT	OR	ON	2015/07/24 15:14
S164	8	S163 and ((compensat\$ or transfer or adjust\$) with (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/07/24 15:14
S165	7	S164 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/07/24 15:14
S166	569	A61B5/6802.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:14
S167	75	S166 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:14

S168	4837	A61B5/1118.cpc.	#:2881	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S169	1646	A61B5/1123.cpc.		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S170	2711	A61B5/7278.cpc.		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S171	75	S166 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S172	463	S170 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S173	83	S172 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S174	38	S173 not S171		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S175	83	S172 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17
S176	2487	A61B5/065.cpc.		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17
S177	10	S176 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17

S178	0	S177 and @ad<"20061205" #2882	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17
S179	734	S176 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:18
S180	4447	A61B5/681.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S181	821	S180 and (S168 S169)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S182	109	S181 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S183	85	S182 not (S171 S173)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S184	3040	A61B2560/0223.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S185	63	S184 and (S168 S169)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S186	13	S185 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S187	13	S186 not (S171 S173 S182)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20

S188	6509	A61B2562/0219.cpc.	#:2883	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S189	1922	S188 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S190	599	S189 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S191	488	S190 not (S171 S173 S182 S186)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S192	5775	(S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:21
S193	5106	S192 not (S171 S173 S182 S186 S190)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:21
S194	855	S193 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:21
S195	1	("7450002").PN.		US-PGPUB; USPAT; USOCR	OR	OFF	2015/07/24 15:24
S196	4	"36684901".FMI D.		US-PGPUB; USPAT; FPRS	OR	ON	2015/07/24 21:58

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L50	2752	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2015/12/07 13:04
L51	366	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2015/12/07 13:04
L52	841	A61B5/065.cpc.	US-	OR	ON	2015/12/07

			PGPUB; USPAT			13:05
L53	2153	A61B5/1118.cpc.	US- PGPUB; USPAT	OR	ON	2015/12/07 13:05
L54	731	A61B5/1123.cpc.	US- PGPUB; USPAT	OR	ON	2015/12/07 13:05
L55	284	A61B5/6802.cpc.	US- PGPUB; USPAT	OR	ON	2015/12/07 13:05
L56	1734	A61B5/681.cpc.	US- PGPUB; USPAT	OR	ON	2015/12/07 13:05
L57	1535	A61B5/7278.cpc.	US- PGPUB; USPAT	OR	ON	2015/12/07 13:05
L58	1256	A61B2560/0223.cpc.	US- PGPUB; USPAT	OR	ON	2015/12/07 13:06
L59	2513	A61B2562/0219.cpc.	US- PGPUB; USPAT	OR	ON	2015/12/07 13:06
L60	10775	50 51 52 53 54 55 56 57 58 59	US- PGPUB; USPAT	OR	ON	2015/12/07 13:06
L61	0	60 and ("position-dependent".clm. with feature.clm.)	US- PGPUB; USPAT	OR	ON	2015/12/07 13:08
L62	2	60 and "position-dependent".clm. \	US- PGPUB; USPAT	OR	ON	2015/12/07 13:08
S56	4	Goris-Annelies.in.	US- PGPUB; USPAT; * No UPAD	OR	ON	2010/10/31 16:01
S57	1	Goris-Annelies-Heleen-Carolien.in.	US- PGPUB; USPAT; * No UPAD	OR	ON	2010/10/31 16:01
S58	55	Bodlaender-Maarten-Peter.in.	US- PGPUB; USPAT; * No UPAD	OR	ON	2010/10/31 16:02
S59	3	Bodlaender-Maarten-P.in.	US- PGPUB; USPAT; * No UPAD	OR	ON	2010/10/31 16:02
S60	0	Bodlaender-Maarten.in.	US- PGPUB; USPAT; * No UPAD	OR	ON	2010/10/31 16:02
S61	60	S56 S57 S58 S59 S60	US-	OR	ON	2010/10/31

			PGPUB; USPAT; *No UPAD			16:02
S62	5	S61 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US- PGPUB; USPAT; *No UPAD	OR	ON	2010/10/31 16:03
S63	2	S61 and (wrist arm leg shank ankle shoe chest neck head waist belt back).clm.	US- PGPUB; USPAT; *No UPAD	OR	ON	2010/10/31 16:05
S64	1	("2008/0281234").URPN.	USPAT	OR	ON	2010/10/31 16:05

12/7/2015 1:10:12 PM

C:\Users\elloyd1\Documents\EAST\Workspaces\12097121.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body
Group Art Unit : 3739
Examiner : Emily M. Lloyd
Confirmation No. : 8272

Mail Stop: Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

In response to the Non-Final Office Action mailed July 29, 2015, in the above-identified application, please enter the following amendments and consider the following remarks:

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A measuring system comprising:

a sensor arranged to be attached at any one of a plurality of positions on ~~the~~a body of a subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and

a processor coupled to said sensor, said processor being arranged to:

determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent, and

~~to~~ derive a subject-related value from the measured value, where the derivation of the subject-related value also depends on the one of the plurality of positions of the sensor on the subject.

2. (Currently Amended) The measuring system as claimed in claim 1, wherein the plurality of positions are the following ~~includes two or more of the following~~: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head.

3. (Currently Amended) The measuring system as claimed in claim 1, wherein the ~~derived~~ subject-related value comprises an activity parameter of the subject.

4. (Previously Presented) The measuring system as claimed in claim 3, wherein the activity parameter comprises energy expenditure.

5. (Previously Presented) The measuring system as claimed in claim 3, wherein the activity parameter represents a degree of activity of a body part associated with the one of the plurality of positions on the subject where the sensor is attached.

6. (Currently Amended) The measuring system as claimed in claim 1, wherein the ~~measured~~

subject-related value comprises at least one of temperature, ECG, or acceleration.

7. (Previously Presented) The measuring system as claimed in claim 1, wherein the processor is further arranged to select a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the one of the plurality of positions of the sensor on the subject, and the sensor is configured to generate a further measured value for each quantity in the selected subset.

8. (Currently Amended) A measuring system comprising:

a sensor arranged to be attached at any one of a plurality of positions on ~~the~~a body of a subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and

a processor coupled to said sensor, said processor being arranged to determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent,

wherein said processor is further arranged ~~to convert~~,

to convert the measured value into an estimated measured value related to a reference position on the subject, and

to derive a subject-related value from the estimated measured value.

9. (Cancelled)

10. (Currently Amended) The measuring system as claimed in claim ~~[[9]]~~1, wherein the ~~measuring system processor~~ is further arranged to obtain, from the sensor, the measured value or a plurality of measured values measured during a time interval, and wherein the processor, ~~in determining one of the plurality of positions on the subject to which the sensor is attached,~~ is further arranged to determine any one of the plurality of positions on the subject ~~perform the identification~~ in dependence on the measured value or measured values measured during the time interval.

11. (Currently Amended) The measuring system as claimed in claim 10, wherein the processor;

~~in determining one of the plurality of positions on the subject to which the sensor is attached, is arranged to~~ determine any one of the plurality of positions on the subject ~~further perform the identification~~ on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval.

12. (Currently Amended) The measuring system as claimed in claim 10, wherein the processor; ~~in determining one of the plurality of positions on the subject to which the sensor is attached, is arranged to~~ determine any one of the plurality of positions on the subject using ~~further perform the identification~~ a pattern recognition of a signal derived from the measured values measured during the time interval.

13. (Currently Amended) The measuring system as claimed in claim ~~[[9]]~~ 10, wherein the processor is further arranged to:

determine that the subject is performing a standardized activity; ~~[[,]]~~ and

~~wherein the processor, determining one of the plurality of positions on the subject to which the sensor is attached, is arranged to use~~ determine any one of the plurality of positions on the subject using at least one of the plurality of measured values obtained from the sensor, the at least one of the plurality of measured values relating to a time the subject is performing the standardized activity.

14. (Currently Amended) The measuring system as claimed in claim 13, wherein the processor; ~~in determining that the subject is performing a standardized activity, is arranged to perform the determination~~ determine any one of the plurality of plurality of positions on the subject in dependence on the at least one of the plurality of measured values during the time the subject is performing the standardized activity.

15. (Currently Amended) The measuring system as claimed in claim 13, ~~wherein said measuring system further comprises~~ further comprising:

a user interface for receiving input from the subject to indicate when the subject is performing the standardized activity.

16. (Currently Amended) The measuring system as claimed in claim 1, ~~wherein said measuring system further comprises~~ further comprising:

a user interface for receiving input from the subject related to the one of the plurality of positions of the sensor on the subject.

17. (Currently Amended) The measuring system as claimed in claim ~~[[1]]~~10, ~~wherein said measuring system further comprises~~ further comprising:

a storage ~~means~~ medium for storing at least one pattern related to performing a predetermined activity in a predetermined manner,

and wherein said processor is further arranged to establish that the subject is performing the predetermined activity,

to determine how at least one of the plurality of measured values compares to the stored pattern, and

to provide feedback in dependence on the comparison.

18. (Currently Amended) The measuring system as claimed in claim 17, wherein the processor, ~~in establishing that the subject is performing the predetermined activity,~~ is further arranged to establish that the subject is performing at least one of a predetermined number of predetermined activities.

19. (Currently Amended) A measuring system as claimed in claim 1, ~~wherein said measuring system further comprises~~ further comprising:

a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject; ~~[[,]]~~ and

wherein the processor, ~~in deriving the subject-related value,~~ is arranged to derive the measured value, ~~where the derivation of the subject-related value also depends on~~ is further arranged to derive the subject-related value from the further measured value.

20. (Cancelled)

21. (Currently Amended) A method of deriving a value relating to a subject, the method comprising:

attaching a sensor to any one of a plurality of positions on the subject;

obtaining, in a processor, at least one measured value from the sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject;

determining, using the processor, any one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent; and

deriving, using the processor, a subject-related value from the measured value in dependence on ~~the position~~ any one of the plurality of positions of the sensor on the subject.

22. (Previously Presented) The measuring system as claimed in claim 6, wherein the acceleration is a tri-axial acceleration.

REMARKS

I. INTRODUCTION

Claims 1, 2, 3, 6, 8, 10-19, and 21 have been amended. No new matter has been added. Claim 9 has been cancelled and claim 20 was previously cancelled. Claims 1-8, 10-19, and 21-22 remain pending in the present application. Applicants thank the Examiner for noting that claims 1-8, 10-19, and 21-22 contain allowable subject matter. In light of the above amendments and the following remarks, Applicants respectfully submit that all presently pending claims are in condition for allowance.

II. THE 35 U.S.C. § 112(f) INTERPRETATION SHOULD NOT APPLY

The Examiner interpreted the limitation in claim 17 of a “storage means for storing at least one pattern related to performing a predetermined activity in a predetermined manner,” as invoking 35 U.S.C. § 112(f) because it uses “a generic placeholder ‘means’ coupled with functional language. (*See* 07/29/2015 Office Action, p. 4). Claim elements that do not use the word “means” (or “step for”) are presumed not to invoke 35 U.S.C. 112(f) except as otherwise indicated in an Office action. (*See Id.*). Applicants have amended claim 17 to recite “medium” in place of “means.” Applicants respectfully submit that claim 17 does not invoke 35 U.S.C. § 112(f) and request it be interpreted accordingly.

III. THE CLAIM OBJECTION SHOULD BE WITHDRAWN

Claims 3, 8, 15-17 and 19 stand objected to for informalities. In view of the amendments to these claims, the withdrawal of this objection is respectfully requested.

IV. THE 35 U.S.C. § 112 REJECTIONS SHOULD BE WITHDRAWN

Claim 6 stands rejected under 35 U.S.C. § 112(a) as failing to comply with the written description requirement. (*See* 07/29/2015 Office Action, p. 6). Specifically, the Examiner asserts that the “Applicant’s disclosure, as originally filed, did not enable one of ordinary skill in the art at the time the invention was made, to use both ‘a user interface for receiving input from the subject related to the one of the plurality of positions of the sensor on the subject’ (claim 16 lines 2-3) and to also ‘determine one of the plurality of positions on the subject to which the

sensor is attached by analyzing the measured value for features that are position-dependent' (claim 1 lines 5-8)." (*See Id.*, pp. 6-7). Applicants respectfully disagree.

The specification as originally filed states that determining the position of the sensor on the subject in dependence on the measured value, "allows the sensor to be attached at different positions on the subject, without any additional user interaction to indicate the actual position of the device." (*See Original Specification*, page 5 lines 28-32). The specification further states that the "user interface for receiving input from a user related to the position of the sensor on the subject... allows a very economical implementation of the activity monitor." (*See Original Specification*, page 6 lines 30-32). Thus, the specification makes it clear that if the user chooses forgo the convenience of having the processor guess the position of the sensor, and instead elects the more economical option of inputting the position themselves, then their inputted value overrides the processor's guess of the position. This is not required to be further described in the specification because a person of ordinary skill in the art is able to take two inputs and have one of them override the other. Accordingly, Applicants respectfully submit that the subject matter of claim 16 was sufficiently described to convey that the inventor had possession of the claimed invention. Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(a) rejection of claim 6.

Claims 1-19, 21 and 22 are rejected under 35 U.S.C. § 112(b) as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor regards as the invention. (*See 07/29/2015 Office Action*, p. 7).

Regarding claims 1 and 8, the Examiner asserts the "the body of the subject" lacks antecedent basis. (*See 07/29/2015 Office Action*, p. 7). The claims have been amended to recite, "a body of the subject." Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejections of claim 1 its dependent claims 2-7, 9-19, and 22 and claim 8.

Regarding claim 1, the Examiner asserts it is unclear if "to derive a subject-related value" is intended to further limit the processor. (*See 07/29/2015 Office Action*, p. 7). Claim 1 has been amended to clarify that the processor is arranged to "derive a subject-related value."

Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejections of claim 1 and its dependent claims 2-7, 9-19, and 22.

Regarding claims 9-14, the Examiner asserts “determining...” is drawn to a step within a system claim. (*See* 07/29/2015 Office Action, p. 8). Claim 9 has been cancelled. Claims 10-14 have been amended to remove the word “determining,” and the Applicants submit the claims are clearly not drawn to a step within a system. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejections of claims 9-14.

Regarding claims 9-13, the Examiner asserts that it is unclear if “one of the plurality of positions on the subject to which the sensor is attached” is drawn to any of the plurality of positions, an undetermined position, the determined position, or another interpretation. (*See* 07/29/2015 Office Action, p. 8). Claim 9 has been cancelled. Claims 10-13 have been amended to include the word “any,” thus, it is clear that “one of the plurality of positions” is drawn to “any one of the plurality of positions.” Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejections of claims 9-13.

Regarding claim 10, the Examiner asserts that it is unclear if “wherein the measuring system if further arranged to...” is intended to claim that the system as a whole is arranged to perform the claimed function, that a specific portion of the system is arranged to perform the claimed function, or if it is drawn to another interpretation. (*See* 07/29/2015 Office Action, p. 8). Claim 10 has been amended to specify that the “processor” performs the claimed function. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 10.

Further regarding claim 10, the Examiner asserts that “the identification” lacks antecedent basis. (*See* 07/29/2015 Office Action, p. 8). In the claim as amended, “the identification” has been removed. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 10.

Regarding claim 13 and 14, the Examiner asserts that is unclear if “at least one measured value” is the same or different from the “measured value” of claims 1 and 9. (*See* 07/29/2015 Office Action, p. 8 and 9). Applicants have amended the claims and submit that it is clear that “at least one of the plurality of measured values” is drawn to the “plurality of measured values” in claim 10. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejections of claims 13 and 14.

Regarding claim 14, the Examiner asserts it is unclear what “the determination” is referring to. (*See* 07/29/2015 Office Action, p. 8). Claim 14, as amended, no longer contains “the determination.” It has been replaced by “to determine,” and it is clear what it “to determine” refers to. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 14.

Regarding claim 17, the Examiner asserts that it is unclear if Applicant intended to claim comparing a single value (“the measured value”) to a plurality of values over time (“the stored pattern”). (*See* 07/29/2015 Office Action, p. 8). Applicants have amended “the measured value” to “at least one of the plurality of measured values.” Applicants submit claim 17 makes it clear what the “plurality of measured values” is drawn to. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 17.

Regarding claim 18, the Examiner asserts that the claim is unclear since “establishing” is drawn to a method step within a system claim. (*See* 07/29/2015 Office Action, p. 9). Claim 18 has been amended to remove the clause containing the term “establishing” and it is clear that claim 18 is drawn to a system claim. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 18.

Regarding claim 19, the Examiner asserts that the claim is unclear since “deriving” is drawn to a method step within a system claim. (*See* 07/29/2015 Office Action, p. 9). Claim 19 has been amended to remove the clause containing the term “deriving” and it is clear that claim 19 is drawn to a system claim. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 19.

Further regarding claim 19, the Examiner asserts it is unclear if lines 4-6 are intended to further limit claim 1 or if they duplicate the functionality of claim 1. (*See* 07/29/2015 Office Action, p. 9). Applicants respectfully submit, that the amended claim 19 is clear that the amended lines 4-6 further limit claim 1. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 19.

Regarding claim 21, the Examiner asserts it is unclear if “one of the plurality of positions on the subject to which the sensor is attached” is drawn to any one of the plurality of positions, an undetermined position, “the position of the sensor on subject,” or another interpretation. (*See* 07/29/2015 Office Action, p. 9). Applicants have amended claim 21 to recite “any one of the plurality of positions on the subject to which the sensor is attached.” Applicants respectfully submit that it clear which element “any one of the plurality of positions” is drawn to. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claim 21.

Regarding the Examiners comment that “[t]he claims are generally narrative and indefinite, failing to conform with current U.S. practice.” (*See* 07/29/2015 Office Action, p. 9). Applicants have amended the claims and respectfully submit that the claims, as amended, conform with current U.S. practice and are in condition for allowance.

Claims 2-4, 6 and 22 are rejected under 35 U.S.C. § 112(d) as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends. (*See* 07/29/2015 Office Action, p. 10). Specifically, the Examiner asserts the claims are purely drawn to functional language without any association to structural elements; such as, the claims appear to be drawn to functions that the system is able to do without further limiting the structural elements. (*See Id.*).

Claims 2-4, 6 and 22 all depend from independent claim 1 which recites, “[a] measuring system comprising: a sensor arranged to be attached at any one of a plurality of positions on a body of a subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and a processor coupled to said sensor, said processor being arranged to:

determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent, and derive a subject-related value from the measured value, where the derivation of the subject-related value also depends on the one of the plurality of positions of the sensor on the subject.”

Claim 2, as amended, recites, “[t]he measuring system as claimed in claim 1, wherein the plurality of positions are the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head.”

Applicants submit that claim 2 limits the subject matter of claim 1. Specifically, claim 2 limits the arrangement of the sensor and the processor in claim 1. For example, the sensor in claim 1 is limited by claim 2 to only sensors arranged to be attached to any one of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head. Thus, a sensor that is only arranged to be attached to position on the body that is not listed would infringe the sensor element of claim 1 without infringing the more limited sensor in claim 2.

Regarding the Examiner’s assertion that the claims are purely drawn to functional language, MPEP 2173.05(g) states:

A claim term is functional when it recites a feature “by what it does rather than by what it is” (e.g., as evidenced by its specific structure or specific ingredients). In *reSwinehart*, 439 F.2d 210, 212, 169 USPQ 226, 229 (CCPA 1971). **There is nothing inherently wrong with defining some part of an invention in functional terms.** Functional language does not, in and of itself, render a claim improper. *Id.* In fact, 35 U.S.C. 112(f) and pre-AIA 35 U.S.C. 112, sixth paragraph, expressly authorize a form of functional claiming (means- (or step-) plus- function claim limitations discussed in MPEP § 2181et seq.). **Functional language may also be employed to limit the claims without using the means-plus-function format.** See, e.g., *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1363 (Fed. Cir. 1999). Unlike means-plus-function claim language that applies only to purely functional limitations, *Phillips v. AWH Corp*, 415 F.3d 1303, 1311 (Fed. Cir. 2005) (en banc) (“Means-plus-function claiming applies only to purely functional limitations that do not provide the structure that performs the recited function.”), functional claiming often involves the recitation of some structure followed by its function. For example, in *In re Schreiber*, the claims were directed to a conical spout (the structure) that “allow[ed] several kernels of popped popcorn to pass through at the same

time” (the function). In *re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997). As noted by the court in *Schreiber*, “[a] patent applicant is free to recite features of an apparatus either structurally or functionally.” *Id.*

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.

A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. In *Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004), the court noted that the claim term “operatively connected” is “a general descriptive claim term frequently used in patent drafting to reflect a functional relationship between claimed components,” that is, the term “means the claimed components must be connected in a way to perform a designated function.” “In the absence of modifiers, general descriptive terms are typically construed as having their full meaning.” *Id.* at 1118, 72 USPQ2d at 1006. In the patent claim at issue, “subject to any clear and unmistakable disavowal of claim scope, the term ‘operatively connected’ takes the full breath of its ordinary meaning, i.e., ‘said tube [is] operatively connected to said cap’ when the tube and cap are arranged in a manner capable of performing the function of filtering.” *Id.* at 1120, 72 USPQ2d at 1008.

(Emphasis added.)

In claim 2, applicants submit that a person of ordinary skill in the art would recognize how a sensor would be limited when it must be arranged to be attached to any one of the following positions: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head. Accordingly, Applicants respectfully submit that claim 2 further limits claim 1 and request the withdrawal of the 35 U.S.C. § 112(d) rejection of claim 2.

Regarding the rejection to claim 3, claim 3 recites, “[t]he measuring system as claimed in claim 1, wherein the subject-related value comprises an activity parameter of the subject.” Since the subject related value must comprise an activity parameter, the claim is further limited in comparison to independent claim 1. For example, a system that infringes all the elements of claim 1 and derives a subject-related value that only comprises a non-activity parameter of the subject would only infringe claim 1 and not claim 2. Applicants note that there is no requirement to include an analysis of the significance of activity parameters. Applicant’s respectfully remind

the Examiner that “[a] dependent claim does not lack compliance with 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, fourth paragraph, simply because there is a question as to the significance of the further limitation added by the dependent claim.” (*See* MPEP 608.01(n)). Accordingly, Applicants respectfully submit that claim 3 further limits claim 1 and request the withdrawal of the 35 U.S.C. § 112(d) rejection of claim 3.

Regarding the rejection to claim 4, claim 4 recites, “[t]he measuring system as claimed in claim 3, wherein the activity parameter comprises energy expenditure.” For the same reasoning discussed above, and because the activity parameter in claim 4 must comprise energy expenditure, claim 4 is further limited in comparison to claim 3. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(d) rejection of claim 4.

Regarding the rejection to claim 6, claim 6 recites, “[t]he measuring system as claimed in claim 1, wherein the subject-related value comprises at least one of temperature, ECG, or acceleration.” For the same reasoning discussed above, and because the measured value representing a physical or a physiological quantity of the subject must comprise at least one of temperature, ECG, or acceleration, claim 6 is further limited in comparison to claim 1. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(d) rejection of claim 6.

Regarding the rejection to claim 22, claim 22 recites, “[t]he measuring system as claimed in claim 6, wherein the acceleration is a tri-axial acceleration.” For the same reasoning discussed previously, and because the acceleration is limited to tri-axial acceleration, claim 22 is further limited in comparison to claim 6. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(d) rejection of claim 22.

Claim 5 is rejected under 35 U.S.C. § 112(d) as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends. (*See* 07/29/2015 Office Action, pp. 10-11). Specifically, the Examiner asserts the claim is drawn to functional language without any association to structural elements; such as, the claims appear to be drawn

to functions that the system is able to do without further limiting the structural elements. (*See Id.*).

Claim 5 recites, “[t]he measuring system as claimed in claim 3, wherein the activity parameter represents a degree of activity of a body part associated with the one of the plurality of positions on the subject where the sensor is attached.” For the same reasoning discussed above, and because the activity parameter in claim 5 must represent a degree of activity of a body part associated with the one of the plurality of positions on the subject where the sensor is attached, claim 5 is further limited in comparison to claim 3. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(d) rejection of claim 5.

Claim 9 is rejected under 35 U.S.C. § 112(d) as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends. (*See* 07/29/2015 Office Action, p. 11). Claim 9 has been cancelled. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(d) rejection of claim 9.

Electronic Acknowledgement Receipt

#2902

EFS ID:	23928891
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Daniel J. Piotrowski/Patti DeMichele
Filer Authorized By:	Daniel J. Piotrowski
Attorney Docket Number:	2005P02656WOUS
Receipt Date:	29-OCT-2015
Filing Date:	12-JUN-2008
Time Stamp:	13:23:04
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2005P02656WOUS_AMD_2015 OCT29.pdf	82596 665333641c9e30b48e8f5723f5532774e213 a741	yes	16

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Amendment/Req. Reconsideration-After Non-Final Reject	1	1	
Claims	2	6	
Applicant Arguments/Remarks Made in an Amendment	7	16	

Warnings:

Information:

Total Files Size (in bytes):	82596
-------------------------------------	-------

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	10/29/2015	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	* 20	Minus	** 22	= 0	X \$80 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/KIMBERLY WHITE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
12/097,121 06/12/2008 Annelies Goris 2005P02656WOUS 8272

24737 7590 07/29/2015
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT PAPER NUMBER

3739

NOTIFICATION DATE DELIVERY MODE

07/29/2015

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

debbie.henn@philips.com
marianne.fox@philips.com

Application No.
#2986
12/097,121Applicant(s)
GORIS ET AL.**Office Action Summary**Examiner
EMILY LLOYDArt Unit
3739AIA (First Inventor to File)
Status
No**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 5/15/2015.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) Claim(s) 1-19,21 and 22 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 6) Claim(s) _____ is/are allowed.
- 7) Claim(s) 1-19,21 and 22 is/are rejected.
- 8) Claim(s) 3,8,15-17 and 19 is/are objected to.
- 9) Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some** c) None of the:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date _____
- 3) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 4) Other: _____

Application/Control Number: 12/097,121
Art Unit: 3739

Page 2

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 April 2015 and 15 May 2015 has been entered.

The Office acknowledges Applicant's amendments to claims 1, 2, 5, 7-14, 16-19 and 21. Currently, claims 1-19, 21 and 22 are pending.

The Office notes that Applicant's 10 April 2015 amendment lists claim 16 as "Previously presented" but that the claim contains amendments.

The Office further notes that Applicant indicated that "two" (in "two or more" lines 2-3) in claim 2 was added, but that "two" was already in the claim as part of "at least two."

Application/Control Number: 12/097,121
Art Unit: 3739

Page 3

Claim Interpretation - 35 USC § 112, Sixth Paragraph

The following is a quotation of 35 U.S.C. 112(f):

(f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Use of the word “means” (or “step for”) in a claim with functional language creates a rebuttable presumption that the claim element is to be treated in accordance with 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph). The presumption that 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph) is invoked is rebutted when the function is recited with sufficient structure, material, or acts within the claim itself to entirely perform the recited function.

Absence of the word “means” (or “step for”) in a claim creates a rebuttable presumption that the claim element **is not** to be treated in accordance with 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph). The presumption that 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph) is not invoked is rebutted when the claim element recites function but fails to recite sufficiently definite structure, material or acts to perform that function.

Application/Control Number: 12/097,121
Art Unit: 3739

Page 4

Claim elements in this application that use the word “means” (or “step for”) are presumed to invoke 35 U.S.C. 112(f) except as otherwise indicated in an Office action. Similarly, claim elements that do not use the word “means” (or “step for”) are presumed not to invoke 35 U.S.C. 112(f) except as otherwise indicated in an Office action.

Claim limitation “storage means for storing at least one pattern related to performing a predetermined activity in a predetermined manner” has/have been interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, because it uses/they use a generic placeholder “means” coupled with functional language “for storing at least one pattern related to performing the predetermined activity in a predetermined manner” without reciting sufficient structure to achieve the function. Furthermore, the generic placeholder is not preceded by a structural modifier.

Since the claim limitation(s) invokes 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, claim(s) 17 and 18 has/have been interpreted to cover the corresponding structure described in the specification that achieves the claimed function, and equivalents thereof.

A review of the specification shows that the following appears to be the corresponding structure described in the specification for the 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph limitation: “a storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk” ([0074] of Applicant’s specification as published).

Application/Control Number: 12/097,121
Art Unit: 3739

Page 5

If applicant wishes to provide further explanation or dispute the examiner's interpretation of the corresponding structure, applicant must identify the corresponding structure with reference to the specification by page and line number, and to the drawing, if any, by reference characters in response to this Office action.

If applicant does not intend to have the claim limitation(s) treated under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, applicant may amend the claim(s) so that it/they will clearly not invoke 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, or present a sufficient showing that the claim recites/recite sufficient structure, material, or acts for performing the claimed function to preclude application of 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph.

For more information, see MPEP § 2173 *et seq.* and *Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications*, 76 FR 7162, 7167 (Feb. 9, 2011).

Claim Objections

Claims 3, 8, 15-17 and 19 are objected to because of the following informalities: claim 3 line 1 "the derived value" should be "the subject-related value"; claim 8 line 9 "arranged to convert," should be "arranged:" and line 11 "the measured value" should be "to convert the measured value"; claims 15-17 and 19 "wherein said measuring system further comprises" (claim 15 lines 1-2, claim 16 lines 1-2, claim 17 lines 1-2, claim 19 line 1-2) should be "further comprising:". Appropriate correction is required.

Application/Control Number: 12/097,121
Art Unit: 3739

Page 6

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 16 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 16 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant's disclosure, as originally filed, did not enable one of ordinary skill in the art at the time the invention was made, to use both "a user

Application/Control Number: 12/097,121

Page 7

Art Unit: 3739

interface for receiving input from the subject related to the one of the plurality of positions of the sensor on the subject" (claim 16 lines 2-3) and to also "determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent" (claim 1 lines 5-8).

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19, 21 and 22 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Regarding claim 1 line 3 and claim 8 line 3, "the body of a subject" lacks antecedent basis.

Regarding claim 1 line 10, it is unclear if "to derive a subject-related value..." (line 10) is intended to further limit the processor (from "said processor being arranged to..." in line 5), or if this is intended to claim that the system is able to perform this function or step.

Claims 2-7, 9-19 and 22 are rejected as ultimately depending on claim 1 and any rejected intervening claims.

Application/Control Number: 12/097,121

Page 8

Art Unit: 3739

Regarding claims 9-14, "determining..." (claim 9 line 2, claim 10 line 4, claim 11 line 2, claim 12 line 2, claim 13 line 4, claim 14 line 2) is drawn to a step within a system claim.

Regarding claims 9-13, it is unclear if "one of the plurality of positions on the subject to which the sensor is attached" (claim 9 lines 2-3, claim 10 lines 4-5, claim 11 lines 2-3, claim 12 lines 2-3, claim 13 lines 4-5) is drawn to any one of the plurality of positions, an undetermined position, the determined position (claim 1 lines 5-8 as described in claim 21 line 11 as "the position of the sensor on the subject"), or another interpretation.

Regarding claim 10, it is unclear if "wherein the measuring system is further arranged to..." (claim 10 lines 1-2) is intended to claim that the system as a whole is arranged to perform the claimed function (e.g. the sensor, processor and/or other structures), that a specific portion of the system (e.g. the processor) is arranged to perform the claimed function, or if this is drawn to another interpretation.

Regarding claim 10, "the identification" (line 6) lacks antecedent basis.

Regarding claim 13 line 6, it is unclear if "at least one measured value" is the same as or different from the "measured value" of claims 1 and 9.

Regarding claim 14, it is unclear if "the determination" (line 3) is referring to the determination of claim 13 lines 2-3 and claim 14 lines 2-3, or if this is referring to the determination of claim 1 lines 5-6 and claim 13 line 4.

Application/Control Number: 12/097,121
Art Unit: 3739

Page 9

Regarding claim 14 lines 3-4, it is unclear if “at least one measured value” is intended to be drawn to the same “at least one measured value” of claim 13 line 6, or if this is an additional “at least one measured value.”

Regarding claim 17 line 7, it is unclear if Applicant intended to claim comparing a single value (“the measured value”) to a plurality of values over time (“the stored pattern”).

Claim 18 line 2 is unclear as “establishing” is drawn to a method step within a system claim.

Claim 19 line 4 is unclear as “deriving” is drawn to a method step within a system claim.

Regarding claim 19, it is unclear if lines 4-6 are intended to further limit claim 1, or if they duplicate the functionality of claim 1.

Regarding claim 21, it is unclear if “one of the plurality of positions on the subject to which the sensor is attached” (claim 21 lines 6-7) is drawn to any one of the plurality of positions, an undetermined position, “the position of the sensor on the subject” (per claim 21 line 11), or another interpretation.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

The following is a quotation of 35 U.S.C. 112(d):

(d) REFERENCE IN DEPENDENT FORMS.—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further

Application/Control Number: 12/097,121

Page 10

Art Unit: 3739

limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), fourth paragraph:

Subject to the [fifth paragraph of 35 U.S.C. 112 (pre-AIA)], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

Claims 2-4, 6 and 22 are rejected under 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Claims 2-4, 6 and 22 are purely drawn to functional language without any association to structural elements; as such, the claims appear to be drawn to functions that the system is able to do without further limiting the structural elements. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements. Amending these claims to clearly link the appropriate structural elements to the claimed functions will overcome the rejections of this paragraph.

Claim 5 is rejected under 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Claim 5 is drawn to functional language without an association to structural elements for performing the functional language; as such, the

Application/Control Number: 12/097,121

Page 11

Art Unit: 3739

claims appear to be drawn to functions that the system is able to do without further limiting the structural elements. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements. Amending these claims to clearly link the appropriate structural elements to the claimed functions will overcome the rejections of this paragraph.

Claim 9 is rejected under 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Claim 9 does not further limit claim 1. See lines 7-8 of claim 1 with respect to the processor being configured to perform the determination. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

Allowable Subject Matter

Claims 1, 8 and 21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action. The Office notes that the claims are also rejected as unclear for appearing to be a foreign translation.

Application/Control Number: 12/097,121
Art Unit: 3739

Page 12

The following is a statement of reasons for the indication of allowable subject matter: as noted on page 10 of Applicant's 10 April 2015 arguments, the processor being arranged to determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent is not disclosed or fairly taught in the prior art of record.

Response to Arguments

Applicant's arguments, see page 11, filed 10 April 2015, with respect to the prior art rejections have been fully considered and are persuasive. The prior art rejections of claims 1-19, 21 and 22 have been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY LLOYD whose telephone number is (571)272-2951. The examiner can normally be reached on Monday through Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 12/097,121
Art Unit: 3739

Page 13

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily M Lloyd
Examiner
Art Unit 3739

/EMILY LLOYD/
Examiner, Art Unit 3739

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S3	46	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S4	78	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S6	132	S1 or S2 or S3 or S4 or S5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S7	4	EP-1254629-\$.did. or US-5111826-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:34
S8	1198	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/14 20:41
S9	1	("20030065257").PN.	US-PGPUB; USPAT	OR	OFF	2008/12/18 14:03
S10	1201	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S11	275	S10 and accelerometer	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S12	2	Nasiff-Roger-E.in.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:42
S13	1	(10/266272).APP.	USPAT; USOCR	OR	ON	2010/03/27 22:58
S14	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S15	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02

S16	56	Bodlaender-Maarten-Peter.in. #2920	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S17	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S18	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S19	143	S14 or S15 or S16 or S17 or S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S20	1	("20060161079").PN.	US-PGPUB; USPAT	OR	OFF	2010/03/27 23:03
S21	1	(11/332586).APP.	USPAT; USOCR	OR	ON	2010/03/27 23:03
S22	5	("20060052727" "20060161079" "20060255955" "7028547" "7127370").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/03/27 23:04
S23	2	Nasiff-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S24	86	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S25	23	S24 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S26	4	S22 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S27	21	S25 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:29
S28	1	S25 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:30
S29	1384	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:35
S30	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S31	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S32	57	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S33	79	Bodlaender-Maarten-P.in.	US-PGPUB;	OR	ON	2010/05/22

			USPAT; EPO; JPO; DERWENT			23:49
S34	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S35	144	S30 or S31 or S32 or S33 or S34	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S36	87	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S37	23	S36 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S38	1	S37 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S39	1411	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S40	5	"497572".ap.	US-PGPUB; USPAT	OR	ON	2010/10/30 14:41
S41	9	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S42	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S43	58	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S44	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S45	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S46	145	S41 or S42 or S43 or S44 or S45	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S47	5	S46 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:00
S48	167	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09

#:2921

S49	1502	600/595.ccls.	#:2922	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09
S50	135	S48 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple different) with (body user subject wearer person human))		US-PGPUB; USPAT	OR	ON	2010/10/31 16:10
S51	1	(10/986303).APP.		USPAT; USOCR	OR	ON	2010/10/31 17:02
S52	0	("7107180").URPN.		USPAT	OR	ON	2010/10/31 17:04
S53	1	("6560903").PN.		US-PGPUB; USPAT	OR	OFF	2010/10/31 18:21
S54	7	"942802".ap.		US-PGPUB; USPAT	OR	ON	2010/10/31 18:22
S55	21	("6560903").URPN.		USPAT	OR	ON	2010/10/31 18:25
S65	12	Goris-Annelies.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S66	1	Goris-Annelies-Heleen-Carolien.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S67	61	Bodlaender-Maarten-Peter.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S68	83	Bodlaender-Maarten-P.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S69	4	Bodlaender-Maarten.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S70	153	S65 or S66 or S67 or S68 or S69		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S71	184	702/160.ccls.		US-PGPUB; USPAT	OR	ON	2011/04/23 22:30
S72	1592	600/595.ccls.		US-PGPUB; USPAT	OR	ON	2011/04/23 22:42
S73	12	Goris-Annelies.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S74	1	Goris-Annelies-Heleen-Carolien.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S75	73	Bodlaender-Maarten-Peter.in.		US-PGPUB; USPAT;	OR	ON	2014/06/16 01:45

#2923

			EPO; JPO; DERWENT			
S76	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S77	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S78	165	S73 or S74 or S75 or S76 or S77	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S79	301	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
S80	106	S79 and @ad< "20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
S81	2337	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
S82	1245	S81 and @ad< "20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
S83	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S84	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S85	73	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S86	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S87	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S88	165	S83 or S84 or S85 or S86 or S87	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S89	10	S88 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2014/06/16 02:47
S90	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42

S91	1	Goris-Annelies-Heleen-Carolien.in. #2924	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S92	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S93	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S94	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S95	168	S90 or S91 or S92 or S93 or S94	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S96	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S97	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S98	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S99	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S100	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S101	168	S96 or S97 or S98 or S99 or S100	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S102	11	S101 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:44
S103	341	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:45
S104	106	S103 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/02/07 18:45
S105	2555	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:50

S106	1248	S105 and @ad<"20061205" #.2925	US-PGPUB; USPAT	OR	ON	2015/02/07 18:50
S107	15922	(wrist watch arm forearm waist belt leg chest neck head forehead sweatband) same (calorie energy) same (activity walk walking run running jog jogging standard standardized)	US-PGPUB; USPAT	OR	ON	2015/02/07 18:55
S108	13028	S107 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/02/07 18:56
S109	8	S107 and ((compensat\$ or transfer or adjust\$) with (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/02/07 18:57
S110	7	S109 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/02/07 18:57
S111	2	((("8795137") or ("20040102931")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/02/07 19:38
S112	688	A61B5/065.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:44
S113	1566	A61B5/1118.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S114	541	A61B5/1123.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S115	1316	A61B5/681.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S116	719	A61B5/7278.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:46
S117	200	A61B5/6802.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:46
S118	2196	A61B5/065.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S119	3931	A61B5/1118.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S120	1343	A61B5/1123.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S121	3854	A61B5/681.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S122	1665	A61B5/7278.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2015/02/07 19:47

#2926

			DERWENT; IBM_TDB			
S123	440	A61B5/6802.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:47
S124	73	S123 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:48
S125	357	S122 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:52
S126	82	S125 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:52
S127	0	S126 not S125	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:53
S128	39	S126 not S124	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:53
S129	10	S118 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S130	0	S129 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S131	738	S118 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S132	623	S121 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2015/02/07 20:06

#2927

			DERWENT; IBM_TDB			
S133	109	S132 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:06
S134	85	S133 not (S124 S126)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:06
S135	2792	A61B2560/0223.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:26
S136	5945	A61B2562/0219.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:27
S137	54	S135 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:27
S138	13	S137 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:28
S139	13	S138 not (S124 S126 S133)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:28
S140	1729	S136 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:30
S141	591	S140 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:31
S142	481	S141 not (S124 S126 S133 S138)	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2015/02/07 20:31

#2928

			DERWENT; IBM_TDB			
S143	4758	(S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:40
S144	4097	S143 not (S124 S126 S133 S138 S141)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:43
S145	807	S144 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:43
S146	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S147	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S148	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S149	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S150	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S151	168	S146 or S147 or S148 or S149 or S150	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:11
S152	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S153	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S154	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S155	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO;	OR	ON	2015/07/24 15:12

#2929

			DERWENT			
S156	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S157	168	S152 or S153 or S154 or S155 or S156	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/07/24 15:12
S158	11	S157 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2015/07/24 15:12
S159	362	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2015/07/24 15:12
S160	106	S159 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/07/24 15:12
S161	2678	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2015/07/24 15:13
S162	1249	S161 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/07/24 15:13
S163	16672	(wrist watch arm forearm waist belt leg chest neck head forehead sweatband) same (calorie energy) same (activity walk walking run running jog jogging standard standardized)	US-PGPUB; USPAT	OR	ON	2015/07/24 15:14
S164	8	S163 and ((compensat\$ or transfer or adjust\$) with (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/07/24 15:14
S165	7	S164 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/07/24 15:14
S166	569	A61B5/6802.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:14
S167	75	S166 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:14
S168	4837	A61B5/1118.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S169	1646	A61B5/1123.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16

S170	2711	A61B5/7278.cpc.	#:2930	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S171	75	S166 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S172	463	S170 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S173	83	S172 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S174	38	S173 not S171		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:16
S175	83	S172 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17
S176	2487	A61B5/065.cpc.		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17
S177	10	S176 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17
S178	0	S177 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:17
S179	734	S176 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:18

S180	4447	A61B5/681.cpc.	#:2931	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S181	821	S180 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S182	109	S181 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S183	85	S182 not (S171 S173)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:19
S184	3040	A61B2560/0223.cpc.		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S185	63	S184 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S186	13	S185 and @ad<"20061205"		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S187	13	S186 not (S171 S173 S182)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S188	6509	A61B2562/0219.cpc.		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S189	1922	S188 and (S168 S169)		US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20


S190	599	S189 and @ad<"20061205" #2932	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S191	488	S190 not (S171 S173 S182 S186)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:20
S192	5775	(S168 S169)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:21
S193	5106	S192 not (S171 S173 S182 S186 S190)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:21
S194	855	S193 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/07/24 15:21
S195	1	("7450002").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/07/24 15:24

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S56	4	Goris-Annelies.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S57	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S58	55	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S59	3	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S60	0	Bodlaender-Maarten.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S61	60	S56 S57 S58 S59 S60	US-PGPUB;	OR	ON	2010/10/31 16:02

			USPAT UPAD			
S62	5	S61 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:03
S63	2	S61 and (wrist arm leg shank ankle shoe chest neck head waist belt back).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:05
S64	1	("2008/0281234").URPN.	USPAT	OR	ON	2010/10/31 16:05

7/ 24/ 2015 6:27:21 PM**C:\Users\elloyd1\Documents\EAST\Workspaces\12097121.wsp**

Search Notes 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

CPC- SEARCHED		
Symbol	Date	Examiner
A61B 5/065, 5/1118, 5/1123, 5/6802, 5/681, 5/7278, 2560/0223, 2562/0219	2/2015	EL

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
600	595	5/22/2010	EL
702	160	10/31/2010	EL

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	5/22/2010	EL
Text Search	5/22/2010	EL
EAST Search	5/22/2010	EL
Updated EAST Search	10/31/2010	EL
Brief Google Scholar Search, requested NPL documents	11/2/2010	EL
Reviewed requested NPL documents	11/4/2010	EL
Updated EAST Search	4/23/2011	EL
Updated search	6/2014	EL
Updated EAST search	2/2015	EL
Updated EAST search	7/2015	EL

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

--	--

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
 (Submitted Only via EFS-Web)**

Application Number	12097121	Filing Date	2008-06-12	Docket Number (if applicable)	2005P02656WOUS	Art Unit	3739
First Named Inventor	Annelies GORIS			Examiner Name	Emily M. Lloyd		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

Other Please consider amendments filed April 10, 2015.

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other _____

MISCELLANEOUS

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 141270

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Patent Practitioner Signature

Applicant Signature

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Kathleen A. Asher/	Date (YYYY-MM-DD)	2015-05-13
Name	Kathleen A. Asher	Registration Number	43194

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	12097121
	Filing Date	2008-06-12
	First Named Inventor	Annelies Goris
	Art Unit	3739
	Examiner Name	Emily M. Lloyd
	Attorney Docket Number	2005P02656WOUS

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button.

Add

U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20030226695	A1	2003-12-11	MAULT	

If you wish to add additional U.S. Published Application citation information please click the Add button.

Add

FOREIGN PATENT DOCUMENTS								Remove
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2003102692	JP	A	2003-04-08	OUCHI KAZUNARI		<input checked="" type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

Add

NON-PATENT LITERATURE DOCUMENTS			Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	12097121
Filing Date	2008-06-12
First Named Inventor	Annelies Goris
Art Unit	3739
Examiner Name	Emily M. Lloyd
Attorney Docket Number	2005P02656WOUS

1		<input type="checkbox"/>
---	--	--------------------------

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
 (Not for submission under 37 CFR 1.99)

Application Number	12097121
Filing Date	2008-06-12
First Named Inventor	Annelies Goris
Art Unit	3739
Examiner Name	Emily M. Lloyd
Attorney Docket Number	2005P02656WOUS

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Kathleen A. Asher/	Date (YYYY-MM-DD)	2015-05-13
Name/Print	Kathleen A. Asher	Registration Number	43194

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

(19) 日本国特許庁 (JP)

(12) 公開特許公報 (A)

(11) 特許出願公開番号
特開2003-102692
(P2003-102692A)

(43) 公開日 平成15年4月8日 (2003.4.8)

(51) Int.Cl. ⁷	識別記号	FI	テマコード*(参考)
A 6 1 B 5/00	1 0 2	A 6 1 B 5/00	1 0 2 C
G 0 6 F 17/60	1 2 6	G 0 6 F 17/60	1 2 6 H 1 2 6 W

審査請求 有 請求項の数 8 OL (全 12 頁) 最終頁に続く

(21) 出願番号 特願2001-303883(P2001-303883)

(22) 出願日 平成13年9月28日 (2001.9.28)

(出願人による申告) 「国の委託研究の成果に係る特許出願 (平成13年度文部科学省「科学技術総合研究」調査研究題目「身体・環境状況をリアルタイムにセンシングするウェアラブル機器に関する研究」) 産業活力再生特別措置法第30条の適用を受けるもの」

(71) 出願人 000003078

株式会社東芝
東京都港区芝浦一丁目1番1号

(72) 発明者 大内 一成

神奈川県川崎市幸区小向東芝町1番地 株式会社東芝研究開発センター内

(72) 発明者 鈴木 琢治

神奈川県川崎市幸区小向東芝町1番地 株式会社東芝研究開発センター内

(74) 代理人 100058479

弁理士 鈴江 武彦 (外6名)

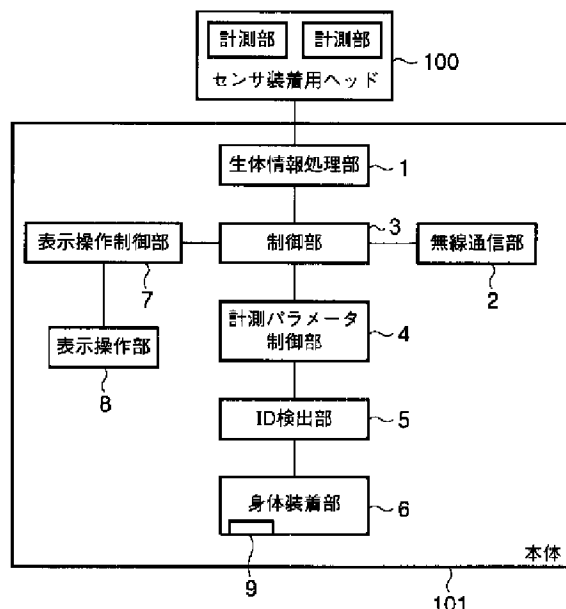
最終頁に続く

(54) 【発明の名称】 生体情報計測装置および健康管理システムおよび健康管理方法

(57) 【要約】

【課題】 ユーザの身体の装着部位や用途を限定することなく利用範囲の広い、使い勝手のよい生体情報計測装置を提供する。

【解決手段】 ユーザの身体に装着されて、該ユーザの複数の生体情報を計測する生体情報計測装置であって、前記複数の生体情報を計測する生体情報計測手段と、この生体情報計測手段で計測された生体情報を無線で外部へ送信する無線通信手段と、自装置の装着部位を検出する検出手段と、前記検出された装着部位に応じて、前記生体情報計測手段で計測される各生体情報の計測値を補正する補正手段とを具備する。



(2)

特開2003-102692

1

2

【特許請求の範囲】

【請求項1】ユーザの身体に装着されて、該ユーザの複数の生体情報を計測する生体情報計測装置であって、前記複数の生体情報を計測する生体情報計測手段と、この生体情報計測手段で計測された生体情報を無線で外部へ送信する無線通信手段と、自装置の装着部位を検出する検出手段と、前記検出された装着部位に応じて、前記生体情報計測手段で計測される各生体情報の計測値を補正する補正手段と、を具備したことを特徴とする生体情報計測装置。

【請求項2】前記検出された装着部位に応じて、その装着部位で計測可能な生体情報を選択する選択手段をさらに具備したことを特徴とする請求項1記載の生体情報計測装置。

【請求項3】前記無線通信手段の構成要素であるアンテナは、前記生体情報計測装置が身体に装着されたとき身体から離れた位置に配置されていることを特徴とする請求項1記載の生体情報計測装置。

【請求項4】前記生体情報計測装置を構成する部品のうち、比重の重い部品は、前記生体情報計測装置が身体に装着されたときに、その筐体の身体装着面側に配置されていることを特徴とする請求項1記載の生体情報計測装置。

【請求項5】計測された生体情報を表示するとともに、前記生体情報計測装置の操作を行うための表示操作手段を具備したことを特徴とする請求項1記載の生体情報計測装置。

【請求項6】前記表示操作手段は、前記生体情報計測装置の装着部位や計測する生体情報に対応して交換可能であることを特徴とする請求項5記載の生体情報計測装置。

【請求項7】ユーザの身体に装着されて、該ユーザの複数の生体情報を計測する生体情報計測装置と、ユーザの行動およびユーザを取りまく環境に関する情報を取得する環境情報取得手段と、を具備し、少なくとも、前記生体情報計測装置がユーザの身体に装着されているときは、該生体情報計測装置で計測された生体情報を収集し、前記生体情報計測装置がユーザの身体に装着されていないときは、前記環境情報取得手段で取得される環境情報を基に、該ユーザの行動や環境を監視するとともに、該ユーザが定期的に行うべき所定の行動を促すことを特徴とする健康管理システム。

【請求項8】ユーザの身体に装着されて該ユーザの複数の生体情報を計測する生体情報計測装置と、ユーザの行動およびユーザを取りまく環境に関する情報を取得する環境情報取得装置とを用いて、ユーザの健康を管理する健康管理方法であって、少なくとも、前記生体情報計測装置がユーザの身体に装

10

20

30

40

50

着されているときは、該生体情報計測装置で計測された生体情報を収集し、前記生体情報計測装置がユーザの身体に装着されていないときは、前記環境情報取得手段で取得される環境情報を基に、該ユーザの行動や環境を監視するとともに、該ユーザが定期的に行うべき所定の行動を促すことを特徴とする健康管理方法。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明はユーザの生体情報を計測する装置に関し、特に、身体に装着して生体情報を計測し、その計測結果を無線で外部へ送信する装置に関する。

【0002】

【従来の技術】近年におけるモバイル端末の小型化・普及に伴い、常に装着した生体センサで生体情報を計測し続け、日常生活の中で健康管理・健康支援を行おうという試みがなされている。

【0003】特開平5-240970号公報では、送信手段を設けたセンサからのデータを無線で受信手段を設けた腕時計へ送信し、腕時計のディスプレイに表示させる端末が考えられている。これは腕時計上にデータを表示することにより簡単に自分の心拍などをチェックすることができるというものである。

【0004】特開平8-10232号公報では、体表面へ張り付けあるいはベルトにより測温部を装着し、被計測者の体温を自動的に計測し収集するというもので、特に幼児や子供の体温計測を正確に行うという点に主眼が置かれている。

【0005】特開平9-322882号公報では、本体を手首に装着して各種健康情報を記録する端末が考えられている。これはバイタルデータを記録する時刻をあらかじめ設定しておく音声にてその時刻と記録方法を教えてくれるというものである。

【0006】特開2001-112725号公報では、腕時計型に形成された生体情報計測装置を手首に装着して、心拍や血圧などの生体情報を計測し、被計測者の体調悪化を事前に警告するということが考えられている。

【0007】このように、これまでの装着型の生体情報計測装置はそのほとんどが、計測する生体情報の種類とユーザの身体に装着する部位が決められているため、特定の生体情報の計測しか行えなかったり、物によってはユーザの服装を制限してしまったり、常に同じ部位に装着されているために不快感を感じてしまったりすることがあった。また、特定の用途向けに特化した操作部・表示部を備えているため、他の用途への応用は難しい。

【0008】

【発明が解決しようとする課題】以上説明したように、従来の生体情報計測装置は、生体情報の種類によっては、正確に測定できる部位が異なるため、計測する生体情報の種類とユーザの身体に装着する部位が予め定めら

れて、特定の用途向けに特化されたものしかなく、使い勝手が悪いという問題点があった。

【0009】そこで、本発明は上記問題点に鑑み、ユーザの身体の装着部位や用途を限定することなく利用範囲の広い、使い勝手のよい生体情報計測装置を提供することを目的とする。

【0010】また、上記生体情報計測装置を用いて、ユーザの日常的な健康管理がユーザに負担をかけずに容易に行える健康管理システムを提供することを目的とする。

【0011】

【課題を解決するための手段】本発明は、ユーザの身体に装着されて、該ユーザの複数の生体情報を計測する生体情報計測装置であって、前記複数の生体情報を計測する生体情報計測手段、この生体情報計測手段で計測された生体情報を無線で外部へ送信する無線通信手段と、自装置の装着部位を検出する検出手段と、前記検出された装着部位に応じて、前記生体情報計測手段で計測される各生体情報の計測値を補正する補正手段とを具備したことにより、計測された生体情報の計測値に対し、ユーザの身体の装着部位に対応した補正が行えるので、ユーザの身体の装着部位や用途を限定することなく、利用範囲が広く、使い勝手のよい生体情報計測装置を提供できる。

【0012】また、装着部位によっては、生体情報が計測不能である場合もあるので、前記検出された装着部位に応じて、その装着部位で計測可能な生体情報を選択する選択手段をさらに具備していてもよい。

【0013】また、前記無線通信手段の構成要素であるアンテナは、前記生体情報計測装置が身体に装着されたとき身体から離れた位置に配置することで、通信特性が向上する。

【0014】また、前記生体情報計測装置を構成する部品のうち、比重の重い部品は、前記生体情報計測装置が身体に装着されたときに、その筐体の身体装着面側に配置されていると、生体情報計測装置を安定して装着することができる。

【0015】好ましくは、計測された生体情報を表示するとともに、前記生体情報計測装置の操作を行うための表示操作手段を具備する。しかも、この表示操作手段は、前記生体情報計測装置の装着部位や計測する生体情報に対応して交換可能であることが望ましい。

【0016】本発明の健康管理システムは、ユーザの身体に装着されて、該ユーザの複数の生体情報を計測する生体情報計測装置と、ユーザの行動およびユーザを取りまく環境に関する情報を取得する環境情報取得手段と、少なくとも、前記生体情報計測装置がユーザの身体に装着されているときは、該生体情報計測装置で計測された生体情報を収集し、前記生体情報計測装置がユーザの身体に装着されていないときは、前記環境情報取得手段で

取得される環境情報を基に該ユーザの行動や環境を監視するとともに、ユーザが定期的に行うべき所定の行動を促すことにより、特に、ユーザが生体情報計測装置を身体に装着しない間でも、ユーザの日常的な健康管理がユーザに負担をかけずに容易に行える。

【0017】本発明の健康管理方法は、ユーザの身体に装着されて該ユーザの複数の生体情報を計測する生体情報計測装置と、ユーザの行動およびユーザを取りまく環境に関する情報を取得する環境情報取得装置とを用いて、ユーザの健康を管理する健康管理方法であって、少なくとも、前記生体情報計測装置がユーザの身体に装着されているときは、該生体情報計測装置で計測された生体情報を収集し、前記生体情報計測装置がユーザの身体に装着されていないときは、前記環境情報取得手段で取得される環境情報を基に、該ユーザの行動や環境を監視するとともに、該ユーザが定期的に行うべき所定の行動を促すことにより、特に、ユーザが生体情報計測装置を身体に装着しない間でも、ユーザの日常的な健康管理がユーザに負担をかけずに容易に行える。

10

20

【0018】

【発明の実施の形態】以下、本発明の実施形態について図面を参照して説明する。

【0019】（第1の実施形態）身体に装着した端末での計測

図1は、第1の実施形態に係る生体情報計測装置の構成例を示したもので、大きく分けて、センサ装着用ヘッド100と本体101から構成されている。センサ装着用ヘッド100は複数種類の生体情報を計測するための生体情報の種類に応じた複数の計測部を有している。本体101は、生体情報処理部1、無線通信部2、制御部3、計測パラメータ制御部4、ID検出部5、身体装着部6、表示操作制御部7、表示操作部8から構成される。

30

【0020】センサ装着用ヘッド100は、身体に直接装着されて、各種生体情報を計測するためのものである。ここで計測される生体情報には、脈波・脈拍、GSR (Galvanic Skin Response)、皮膚温、血糖値、センサ装着用ヘッド100の装着部位の動作による加速度などがあるが、ここでは、一例として、脈波・脈拍、GSR、皮膚温を計測する場合について説明する。

40

【0021】この場合、センサ装着用ヘッド100に設けられた計測部（センサ）としては、図2に示すように、例えば、GSRの計測部と脈波の計測部と皮膚温の計測部などがある。図2において、GSRの計測部として2つのGSR計測用電極12、16が設けられており、脈波の計測部としてフォトダイオード13とLED14が設けられており、皮膚温の計測部として温度センサ15が設けられている。

50

【0022】GSRは2カ所の生体用電極12、16に

より計測を行い、脈波は青色LED（あるいは赤外線LED）14とフォトダイオード13により光電脈波の検出を行う。ただし計測の方法はこれに限らない。このような複数の計測部を持つセンサ装着用ヘッド100は、図3に示すように、手の指に巻いて装着したり、あるいは、図4に示すように、耳朶を挟み込んで装着したりする。

【0023】上記各計測部で得た（アナログ）信号は、本体101の生体情報処理部1へ送信されるが、その際、信号間の干渉を避けるため、GSRの計測部で得られた信号は信号線17により生体情報処理部1へ送信され、GSR以外の計測部で得られた信号は、信号線18により生体情報処理部1へ送信される。

【0024】生体情報処理部1は、センサ装着用ヘッド100の各計測部で得られた信号の増幅を行うアンプ及びフィルタと、アナログ信号からデジタル信号へ変換するAD変換器からなる。生体情報処理部1でデジタル信号に変換された各種生体情報の計測データは制御部3に入力する。

【0025】制御部3は、生体情報処理部1から出力された各生体情報の計測データを処理し、無線通信部2を介して外部へデータを送信する。ここで無線とは、IrDA（Infrared Data Association）やBluetoothなどの無線通信であってもよい。また、制御部3は、各種生体情報の計測データを基にした生体情報の認識処理を行った上で無線通信部2より外部へデータを送信しても良い。制御部3で認識処理までを行うことにより、無線通信部2から送信するデータ量を少なくすることが可能となる。さらに、制御部3は、計測パラメータ制御部4から受け取る各種計測パラメータを基に、生体情報処理部1の制御を行う。

【0026】身体装着部6は、本体を身体に装着する際に、身体と本体とを固定するものである。具体的には、身体装着用のベルトを本体に取り付けるための（接続するための）メス型のコネクタ9などから構成されている。

【0027】図5は、身体装着用ベルトを取り付けていない本体101の外観の一例を示したものである。この本体101のコネクタ9に、図6に示すように、例えば身体装着用ベルト（ここでは、手首装着用ベルト）10を取り付けることにより手首に装着することができる。

【0028】身体装着用ベルト10には、図6に示したような手首装着用の他、頭部装着用、首にかけてペンダント式に身体に装着するペンダント式装着用、胴体装着用など、身体の各部対応のものがある。

【0029】例えば、本体101を手首に装着する場合には、センサ装着用ヘッド100は、図3に示したように指に装着して、指から生体情報を収集する。また、本体101を頭部や首にかけて装着する場合には、センサ装着用ヘッド100は、図4に示したように耳朶に装着

して、耳朶から生体情報を収集する。このように、本体101を装着する部位を変更することにより、センサ装着用ヘッド100は、身体のいろいろな部位に装着することができるようになっている。

【0030】本実施形態では、本体101を身体のどの部位に装着するかは、身体装着用ベルト10で識別できるようになっている。

【0031】身体装着部6を構成するコネクタ（本体側接続部）9は、例えば、図7（a）に示すように、5本のピンのメス型コネクタである。

【0032】身体装着用ベルト10は、図7（b）に示すように、ベルト側接続部（オス型のコネクタ）301と装着ベルト302とから構成されている。どこに装着するためのものであるかによって、装着ベルト302の長さや幅やデザインなどが異なるとともに、身体装着用ベルト10を本体101に接続するためのベルト側接続部、すなわち、コネクタ301のピン数あるいはピンの配置位置あるいはピン数とピンの配置位置が異なる。

【0033】例えば、図7（b）に示すように、手首装着用であれば、1番ピンと2番ピンのみが設けられたコネクタ301を有している。また、頭部装着用であれば、図7（c）に示すように、1番ピンと5番ピンのみが設けられたコネクタ301を有している。さらに、ペンダント式装着用であれば、図7（d）に示すように、1番ピンと3番ピンのみが設けられたコネクタ301を有している。

【0034】ID検出部5は、身体装着部6、すなわち、コネクタ9にどの身体装着用ベルト10が接続されたかを検知して、その接続された身体装着用ベルト10対応の（本体の装着部位対応の）ID（識別子）を計測パラメータ制御部4へ出力する。

【0035】例えば、手首装着用の身体装着用ベルト10が接続されたときには、身体装着部6のコネクタ9の1番ピンと2番ピンが通電するので、それをID検出部5で検知して、本体101が手首に装着されると認識する。従って、手首対応のIDを計測パラメータ制御部4へ出力する。

【0036】本体の装着部位に応じて、センサ装着用ヘッド100の装着部位が予め定められている。例えば、本体101を手首に装着する場合には、センサ装着用ヘッド100は、図3に示したように指に装着されることになっているものとし、本体101を頭部や首にかけて装着する場合には、センサ装着用ヘッド100は、図4に示したように耳朶に装着されることになっているものとする。

【0037】センサ装着用ヘッド100の装着部位が異なれば、センサ装着用ヘッド100で計測される生体情報の種類によっては、そのままでは正確に計測できない場合（計測結果として得られた信号を補正する必要がある場合）や、全く計測できない（計測不能）の場合もあ

(5)

特開2003-102692

7

8

る。

【0038】そこで、計測パラメータ制御部4は、本体101の装着部位対応のIDを受け取ると、そのIDに対応した補正や信号の選択を行うための計測パラメータを制御部3へ出力するようになっている。

【0039】計測パラメータとしては、例えば、センサ装着用ヘッド100で、脈波・脈拍、GSR、皮膚温の3つの計測部を有している場合、これら3つの生体情報のうちのどれが計測可能か（計測不能か）を通知するためのもの（選択パラメータ）や、上記3つの計測部のうち、どの計測部から出力された信号に対してはどれだけ増幅すべきか（増幅度（gain））を通知するためのもの（補正パラメータ）がある。

【0040】なお、計測パラメータ制御部4には、IDと計測パラメータとの対応関係を示したテーブルを予め登録されているものとする。このテーブルを参照して、入力IDに対応した計測パラメータを出力するようにしてもよい。

【0041】また、センサ装着用ヘッド100で計測されている生体情報のうち、入力IDから計測不能とされる生体情報がある場合には、制御部3は、その旨を操作表示部8を介してユーザへ通知し、正しく装着するように促すようにすることも可能である。

【0042】表示操作部8は、生体情報計測装置を用いて実際に生体情報の計測を行う際に計測開始や終了などの操作指示を行ったり、計測結果あるいは認識結果をその場で表示したりするためのものである。

【0043】表示操作部8は、計測する生体情報に対応した表示や操作を可能にするものであり、本体の装着部位や、用途に応じて交換可能である。例えば、本体の装着部位あるいは用途が予め定まっていたり、その装着部位で計測可能な生体情報あるいはその用途のために計測すべき生体情報の計測結果や操作が行えばよい場合には、そのための表示操作部8を用いればよい。

【0044】表示操作部8は、例えば、図5に示すように、操作ボタン111～113と計測・認識結果や内部状態表示用LED121～124から構成されるものでも良いし、図8に示すように、タッチパネルディスプレイで操作部および表示部を構成したものでも良い。

【0045】表示操作部8は、計測する生体情報の種類に対応して交換可能であるので、表示操作制御部7は、それぞれの表示操作部8に対応した形式の操作を認識したり、制御部3からの表示データをそれぞれの表示操作部8に対応した形式に変換して表示するための制御を行う。

【0046】尚、表示操作制御部7の機能が制御部3に含まれていて、制御部3に表示操作部8が直接接続する構成となってもよい。また、表示操作部8に表示操作制御部7の機能が含まれていて、表示操作部8が直接制御部3に接続する構成となってもよい。いずれの

場合においても、表示操作制御部8は、計測する生体情報に対応した表示や操作を可能にするものであって、それは、計測する生体情報に対応して交換可能であることが望ましい。

【0047】次に、図9を参照して、図1の生体情報計測装置の処理動作について説明する。生体情報として、光電脈波、GSR、皮膚温を計測する場合の例である。

【0048】まず、生体情報計測装置が起動されると、システムの初期化を行う。この初期化では、ID検出部5は、前述のようにして、身体装着部6のコネクタ9に、どの部位に装着する身体装着用ベルト10が接続されたかを検知して、その接続された身体装着用ベルト10対応のIDを計測パラメータ制御部4へ出力する。前述のように、このIDにより、センサ装着用ヘッド（簡単にヘッドと呼ぶこともある）100の装着部位も判断できる（ステップS1）。そして、計測パラメータ制御部4は、上記IDを受け取ると、前述したように、そのIDに対応した補正や信号の選択を行うための計測パラメータを制御部3へ出力する（ステップS2）。

【0049】例えば、ここでは、本体101が手首に装着されたこととすると、ヘッド101は指に装着されたことになる。この場合、ヘッド100で計測される生体情報（光電脈波、GSR、皮膚温）は、全て計測可能であるが、計測結果に対して補正が必要になるので、計測パラメータとして、上記3つの生体情報を計測する各計測部からの出力信号に対する増幅度を通知する補正パラメータが制御部3に出力される。

【0050】また、例えば、本体101がペンダント式に装着されたこととすると、ヘッド101は耳朶に装着されたことになる。この場合、ヘッド100で計測される生体情報（光電脈波、GSR、皮膚温）のうち、GSRは計測不能であり、それ以外は計測結果に対して補正が必要になるので、計測パラメータとして、GSRが計測不能である旨を通知する選択パラメータと、それ以外の生体情報を計測する各計測部からの出力信号に対する増幅度を通知する補正パラメータが制御部3に出力される。

【0051】制御部3は、受け取った計測パラメータにより、計測不能の生体情報が存在するときは、表示操作部8にその旨を通知するとともに、当該計測不能の生体情報が計測できるような装着部位を示して正しく装着するようにユーザに促すようにしてもよい。また、計測可能な生体情報の対応した表示や操作を可能にする表示操作部8へ交換するようユーザに促す表示を行うようにしてもよい。

【0052】制御部3は、初期化の際に、表示操作部8の種類を検知して、表示操作制御部7を表示操作部8の種類に対応した操作の認識、表示データの変換処理に切り替えるようにしてもよい。

【0053】初期化が終了すると計測開始待ち状態となり（ステップS3）、ユーザが表示操作部8上にて計測

10

20

30

40

50

開始の操作を行うか、無線通信部2より外部から計測開始のコマンドが送信されるかなどの、計測開始の合図をきっかけに計測を開始する(ステップS4)。

【0054】計測が開始されると、センサ装着用ヘッド100の各操作部では、早速それぞれの生体情報の計測を行う(ステップS5～ステップS7)。

【0055】計測中は、各計測部から出力される信号は随時本体101の生体情報処理部1に入力する。例えば、補正パラメータにより、GSRの計測部から得られる信号に対する増幅度が通知されているときは、生体情報処理部1で、この通知された増幅度で当該信号を増幅してから、フィルタリング、AD変換を行う。また、選択パラメータにより、GSRが計測不能であることが通知されているときは、GSRの計測部から得られる信号に対しては、その後の処理を行わない。

【0056】各生体情報が計測されて、その計測データが制御部3に入力すると、認識処理を行うかどうかで処理動作を切り替える(ステップS8)。認識処理を行う場合は、あらかじめ決められた認識アルゴリズムによって計測された生体情報の解析・認識処理を行う(ステップS9)。例えば、脈波から脈拍を計測する処理や、GSRと皮膚温の値の比較からユーザの緊張状態やストレス度を算出したりする処理がこれにあたる。このように1つの計測部からの計測データのみを処理して認識したり、複数の計測部からの計測データを組み合わせることで処理することにより認識したり、認識の方法はさまざまである。

【0057】各計測部からの計測データや認識結果は無線通信部2を介して外部へ無線で送信されるとともに、表示操作部8にも表示される(ステップS10)。

【0058】データ送信後はあらかじめ定められたサンプリング間隔だけ待つ(ステップS11)。このフローチャートでは、すべての計測部のサンプリング間隔を等しいことにしているが、サンプリング間隔をそれぞれの計測部に最適なものとし、各計測部に、それぞれ異なるサンプリング間隔を設定してもよい。また、サンプリング間隔分だけ待っている間は、光電脈波検出用LED14や、温度センサ15は通電している必要がないため、その間はそれらへの供給電源をオフにしてしまい、計測開始する際にオンにすることで、計測部付近での消費電力を大幅に節約することができる。ただし、この場合は通電してからLED14が十分に発光するまでの時間、または、温度センサ15が立ち上がるまでの時間があるため、計測開始前にその分だけ早く通電する必要がある。

【0059】サンプリング間隔分だけ待った後は、ユーザによる計測終了の操作あるいは外部から計測終了のコマンドの入力が無い場合は、再度計測を行う(ステップS12、ステップS4)。計測終了の場合は、終了する。

【0060】このようにして、生体情報計測装置を用いて生体情報の計測を行うことができる。ここまでの説明では、各生体情報は計測・認識されると即座に外部へ送信されていたが、生体情報計測内にメモリを具備させることにより、ある程度蓄積してからまとめて外部へ送信するということも可能である。

【0061】次に、図1の生体情報計測装置の部品配置について説明する。

【0062】図10は、生体情報計測装置の内部を横から見た際の部品配置を模式的に示したものである。ここに示した生体情報計測装置の主な部品としては、図1の生体情報処理部1と制御部3と計測パラメータ制御部4とID検出部5と表示操作制御部7の各機能を実現するためのIC部品などが実装された計測制御基板22と、図1の無線通信部2の機能を実現するためのIC部品などが実装された無線通信基盤23と、無線通信用アンテナ24とバッテリー25である。

【0063】図10に示したように、他の部品よりも重量のあるバッテリー(リチウムイオンバッテリーなど)25は、装着した際の安定を得るために、生体情報計測装置が身体に装着されたときに、その筐体21の身体装着面側(図10の下側)に配置されている。また、また、無線通信基盤23上に実装される無線通信用アンテナ24は、バッテリー25の上に配置することによりユーザの身体から離れて配置することができるので、ユーザの身体に密着して装着された場合に比べて通信特性が向上する。

【0064】アンテナの実装位置は、図10の場合に限らない。筐体21が電波を通しにくい材質で構成されている場合に通信特性を向上させるため、例えば、図11に示すように、無線通信用アンテナ24を筐体21外部に出るように実装するようにしてもよい。

【0065】生体情報計測装置が例えばポケット内などの衣服の中など、ユーザが視覚的に操作表示部8を確認しづらい位置に装着した場合、図12に示すように、操作表示部8に振動により情報を提示できる振動素子(バイブレータなど)27を持たせることで、操作表示部8を見ることなく、ある程度の情報を得ることができる。振動素子27は振動をユーザへ効率的に伝えられるように、筐体21のユーザの身体と接触する面に配置されている。

【0066】尚、生体情報計測装置本体101には、生体情報を計測するセンサ装着用ヘッド100のみならず、CCD、CMOSなどのカメラやマイクロフォンを接続して、生体情報と同期した静止画や動画、あるいは音声なども記録するようにしてもよい。また、ユーザの動きに関する加速度を検知する加速度センサを接続して、ユーザの運動量を計測するようにしてもよい。この加速度センサで計測されたデータも生体情報の1つとして、前述同様に取り扱うようにしてもよい。

(7)

特開2003-102692

11

【0067】(第2の実施形態)環境との連携
ここでは、第1の実施形態で説明した生体情報計測装置を用いた、例えば一人暮らしの老人や、自宅療養中の患者などのための健康管理システムについて説明する。

【0068】図13は、第2の実施形態にかかる健康管理システムの全体の構成例を示したもので、大きく分けると、第1の実施形態で説明した生体情報計測装置31と、ユーザの自宅などに設置(配置)される1つまたは複数の環境情報取得部201と、パソコンなどの管理装置202と、生態情報計測装置31を使用しないときに置いておくクレードル(cradle)203と、血圧測定器などの1つまたは複数の医療機器204から構成される。

【0069】環境情報取得部201は、ユーザ宅の要所に設置された、サーモグラフィなどの熱画像を取得したり、音声(環境雑音を含む)や気温、時間を取得するなど、ユーザから非接触に、ユーザの行動やユーザを取りまく環境に関する情報(以下、環境情報と呼ぶ)を取得するためのものである。環境情報は、例えばユーザの行動監視などのために取得される情報であってもよい。

【0070】管理装置202は、無線通信部32、統括制御部33、生体情報データベース部34、情報提示部38、通信部39から構成されている。

【0071】無線通信部32は、生体情報計測装置31(の無線通信部2)と通信を行うためのものである。無線通信部32は、生体情報計測装置31と通信を行うことにより、生体情報計測部31で得られた計測データや認識結果などのデータを受信する。

【0072】無線通信部32で受信したデータは、統括制御部33へ出力され、ここで、所定のデータ形式に変換されて、生体情報データベース部34に保存される。図15は、生体情報計測装置31から送られてきた計測データを生体情報データベース34に格納する際のデータ形式の一例を示したものであり、ここでは、例えばXML(Extensible Markup Language)文書として、生体情報計測装置31で計測・認識された結果が格納されるようになっている。

【0073】統括制御部33には、1つまたは場合によっては複数の環境情報取得部201が接続されていて、これらで取得した環境情報も随時入力されるようになっている。この環境情報も生体情報データベース34に格納されるようになっている。

【0074】統括制御部33には、さらに、1つまたは場合によっては複数の医療機器204が接続されていることもある(必ずしも接続されている必要はなく、接続されていなくてもよい)。これらで取得した血圧値などの計測データなども随時入力されるようになっている。医療機器204で得られたデータも生体情報データベース34に格納されるようになっている。

12

【0075】統括制御部33は、生体情報データベース部34に格納されるデータを基に、ユーザの異常を検知したり、ユーザが所定時間おきに所定の薬剤を服用したり血圧の測定を行う必要があるときには、投薬の時刻や血圧の測定時刻を監視して、その時刻には、情報提示部38で、ユーザに服用すべき薬剤や投薬の時間であることを通知したり、血圧を測定する時間であることを通知したりするための処理を行うようになっている。

【0076】通信部39は、主に、生体情報データベース部34に蓄積されたデータを、必要に応じて(一定周期毎、異常が検出されたときなどに)、ユーザの主治医の端末や、その他の管理用サーバなどに所定のネットワーク(例えばインターネットなど)を介して送信するためのものである。

【0077】情報提示部38は、生体情報計測装置31を装着していないユーザへ様々な情報の提示を行うためのものである。情報提示部38は、管理装置202に装備されているディスプレイ装置に、各種情報を提示するようにしてもよいが、ユーザ宅にもともと設置されているテレビで各種情報を提示させるようにしてもよい。

【0078】クレードル203は、例えば、ユーザが自宅に戻り、身体から生体情報計測装置31を取りはずしたときの生体情報計測装置31の置き台として使用されるクレードル部35と、このクレードル部35に生体情報計測装置31が置かれたことを検知して、生体情報計測装置31内に装備されているバッテリーの充電を行ったり、管理装置202に環境情報の取得動作を開始させるためのコマンドを送信したりなどの制御を行う制御部36から構成されている。

【0079】図14は、図13に示した構成の生体情報計測装置の処理動作を説明するためのフローチャートで、生体情報計測装置31が、クレードル203に置かれた後の健康管理システムの処理動作について説明するためのものである。

【0080】図14のフローチャートを参照して、図13に示した健康管理システムの処理動作について説明する。

【0081】健康管理システムの生体情報計測装置31は、図9に示したように、各種生体情報を計測する。その際、図9のステップS10で、生体情報計測装置31から管理装置202へ、計測データや計測データに基づく認識結果などが無線で送られてくるので、それを無線通信部32を介して受信し、例えば図15のような所定のデータ形式に変換して生体情報データベース部34へ保存する。

【0082】生体情報計測装置31がクレードル203に置かれると(ステップS21)、クレードル203の制御部36は生体情報計測装置31がクレードル部35に置かれたことを検出し、クレードル203は生体情報計測装置31のバッテリーの充電等を開始するとともに

50

に、管理装置 202 の統括制御部 33 へ環境情報の取得動作を開始させるためのコマンドを送信する。

【0083】このコマンドにより統括制御部 33 は、環境情報取得部 201 により環境情報の取得動作を開始する（ステップ S 22）。

【0084】統括制御部 33 では、環境情報取得部 201 で定期的に取得されるサーモグラフィなどによる熱画像や音声などを解析して、ユーザの動きに異常はないか（例えば、ユーザに動きがない、階段から転倒した、など）を検出する。例えば、熱画像に写されたユーザの領域から動きの変化を抽出する処理や、予め登録した各種異常時の音声パターンと類似するパターンの音声が集められたときには、その異常を検出するなどの処理を行う。

【0085】ユーザの動きに異常が検出されたときには、例えば、通信部 39 を通じて、所定の連絡先に、その旨を通知する（ステップ S 24）。

【0086】統括制御部 33 は、環境情報取得部 201 としての時計を参照して、例えば、血圧の測定時刻や所定の薬剤の服用時刻を計測している。

【0087】例えば、予め設定された血圧の測定時刻を検知したら、情報提示部 38 で、血圧の測定時刻である旨をユーザに通知するためのメッセージやアラームなどを表示する（ステップ S 25、ステップ S 26）。また、服薬時刻を検知したときには、例えば生体情報データベース 34 に予め登録してある当該ユーザが服用すべき薬剤の種類や量に関する情報を読み出して、それを情報提示部 38 で提示するとともに、服薬時刻である旨をユーザに通知するためのメッセージやアラームを表示する（ステップ S 27、ステップ S 28）。

【0088】また、医療機器として、生体情報の計測機器が接続されていてもよい。そして、統括制御部 33 は、予め定められた時間に、情報提示部 38 で生体情報の測定を促すメッセージやアラームを表示するようにしてもよい。

【0089】このように、統括制御部 33 は、ユーザが目的に行うべき所定の行動を促すメッセージやアラームを情報提示部 38 から表示させるための処理を行う。

【0090】以上ステップ S 23～ステップ S 28 の処理を、ユーザがクレードル 203 から生体情報計測装置 31 を取り外したことが検知されるまで繰り返す（ステップ S 29）。

【0091】ユーザがクレードル 203 から生体情報計測装置 31 を取り外したことが、クレードル 203 の制御部 36 で検知されると、制御部 36 から統括制御部 33 へ環境情報の取得動作を終了させるためのコマンドが送信される。

【0092】このコマンドにより統括制御部 33 は、環境情報取得部 201 により環境情報の取得動作を終了する（ステップ S 30）。

【0093】以上は、統括制御部 33 が管理するユーザは 1 名であることを前提に説明したが、ユーザが複数いる場合は各ユーザに識別 ID を与え、この識別 ID 毎に上記のような管理を行うようにすればよい。

【0094】また、上記実施形態では、医療機器 204 が接続されている場合を説明したが、医療機器に限らず、ユーザの病状や用途などに応じて必要とされるものであるならば何でもよい。

【0095】以上説明したように、上記第 2 の実施形態によれば、生体情報計測装置 31 がユーザの身体に装着されているときは、生体情報計測装置 31 で計測された生体情報を収集し、生体情報計測装置 31 がユーザの身体に装着されていないときは、環境情報取得部 201 で取得される環境情報を基に、該ユーザの行動や環境を監視するとともに、該ユーザが定期的に行うべき所定の行動を促すことにより、特に、ユーザが生体情報計測装置を身体に装着しない間でも、ユーザの日常的な健康管理がユーザに負担をかけずに容易に行える。

【0096】なお、本発明の実施の形態に記載した本発明の手法は、コンピュータに実行させることのできるプログラムとして、磁気ディスク（フロッピー（登録商標）ディスク、ハードディスクなど）、光ディスク（CD-ROM、DVD など）、半導体メモリなどの記録媒体に格納して頒布することもできる。

【0097】また、本発明は、上記実施形態に限定されるものではなく、実施段階ではその要旨を逸脱しない範囲で種々に変形することが可能である。さらに、上記実施形態には種々の段階の発明が含まれており、開示される複数の構成要件における適宜な組み合わせにより、種々の発明が抽出され得る。例えば、実施形態に示される全構成要件から幾つかの構成要件が削除されても、発明が解決しようとする課題の欄で述べた課題（の少なくとも 1 つ）が解決でき、発明の効果の欄で述べられている効果（の少なくとも 1 つ）が得られる場合には、この構成要件が削除された構成が発明として抽出され得る。

【0098】

【発明の効果】以上説明したように、本発明によれば、ユーザの身体の装着部位や用途を限定することなく利用範囲の広い、使い勝手のよい生体情報計測装置を提供することができる。

【0099】また、上記生体情報計測装置を用いて、ユーザの日常的な健康管理がユーザに負担をかけずに容易に行える健康管理システムを提供することができる。

【図面の簡単な説明】

【図 1】本発明の第 1 の実施例に係る生体情報計測装置の構成を示すブロック図。

【図 2】図 1 のセンサ装着用ヘッドの構成例を示した図。

【図 3】図 2 のセンサ装着用ヘッドを人差し指に装着した場合を示した図。

【図4】図2のセンサ装着用ヘッドを耳朶に装着した場合を示した図。

【図5】図1の生体情報計測装置の本体の外観を示した図。

【図6】身体装着用ベルト（手首装着用）を本体に接続した場合を示した図。

【図7】本体の身体装着部を構成する本体側接続部（コネクタ）と、各種身体装着ベルトのベルト側接続部（コネクタ）の一例を示した図。

【図8】表示操作部8の一例を示した図。

【図9】図1の生体情報計測装置の処理動作を説明するためのフローチャート。

【図10】図1の生体情報計測装置の内部を横から見た際の部品配置を模式的に示した図でバッテリーの配置位置を説明するための図。

【図11】図1の生体情報計測装置の内部を横から見た際の部品配置を模式的に示した図で、アンテナの配置位置を説明するための図。

【図12】図1の生体情報計測装置の内部を横から見た際の部品配置を模式的に示した図で、アンテナの配置位置を説明するための図。

【図13】本発明の第2の実施例に係る健康管理システムの構成を示すブロック図。

【図14】図13の健康管理システムの処理動作を説明するためのフローチャート。

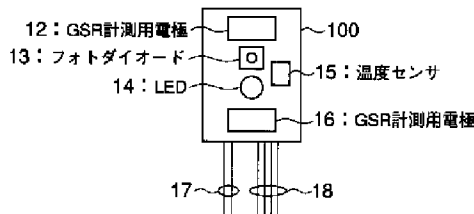
【図15】図1の生体情報データベース部34に蓄積されているデータの一例を示した図。

【符号の説明】

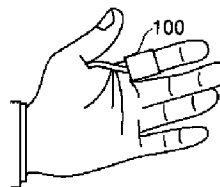
- 1…生体情報計測部
- 2…無線通信部
- 3…制御部
- 4…計測パラメータ制御部
- 5…ID検出部
- 6…身体装着部

- * 7…表示操作制御部
- 8…表示操作部
- 9…本体側接続部（コネクタ）
- 10…身体装着用ベルト
- 12…GSR計測用電極
- 13…フォトダイオード（光電脈波検出用）
- 14…LED（光電脈波検出用）
- 15…温度センサ
- 16…GSR計測用電極
- 17…GSR信号線
- 18…GSR以外の信号線
- 21…生体情報計測装置の外部筐体
- 22…計測制御基板
- 23…無線通信基板
- 24…無線通信用アンテナ
- 25…バッテリー
- 26…表示操作部の表示操作面
- 27…振動素子
- 31…生体情報計測装置
- 32…無線通信部
- 33…統括制御部
- 34…生体情報データベース部
- 35…クレードル部
- 36…制御部
- 38…環境情報提示部
- 39…通信部
- 100…センサ装着用ヘッド
- 101…本体
- 201…環境情報取得部
- 202…管理装置
- 203…クレードル
- 204…医療機器
- 301…ベルト側接続部
- 302…装着ベルト

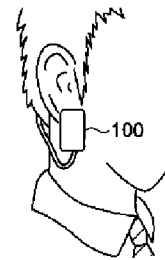
【図2】



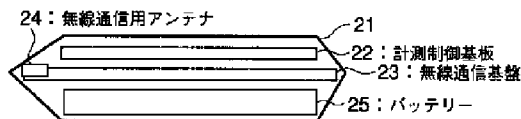
【図3】



【図4】



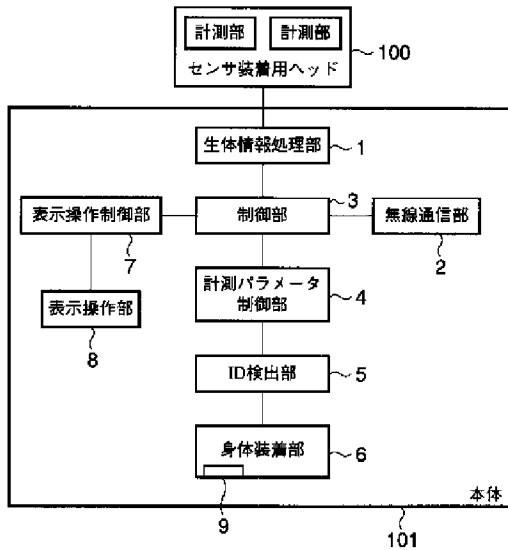
【図10】



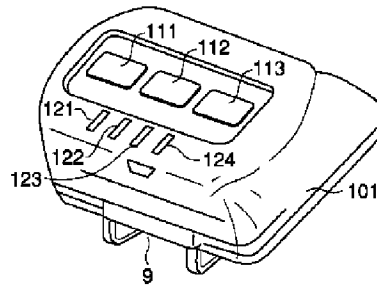
(10)

特開2003-102692

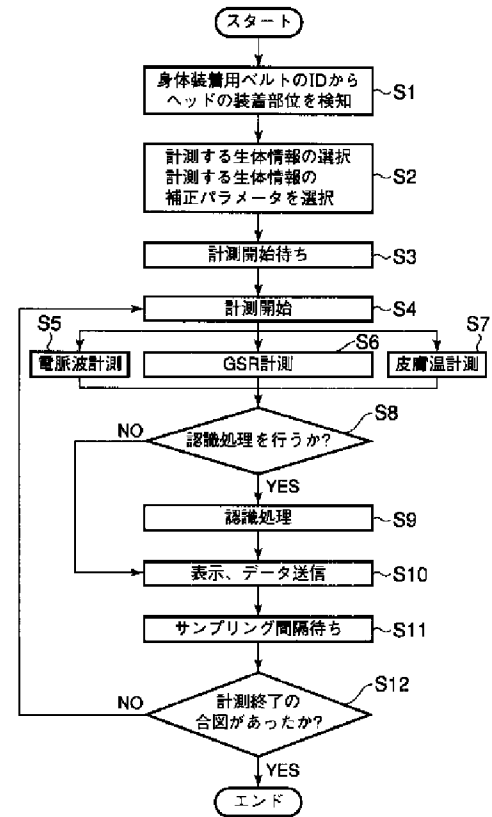
【図1】



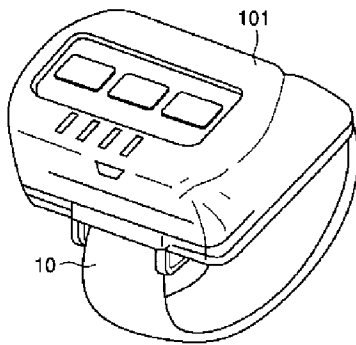
【図5】



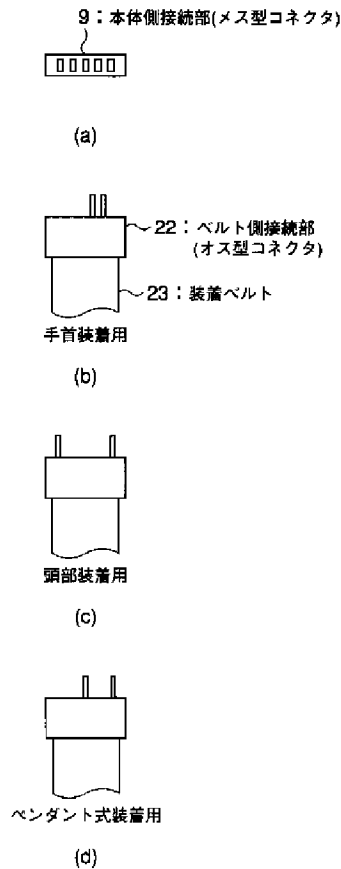
【図9】



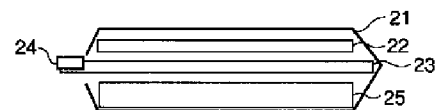
【図6】



【図7】



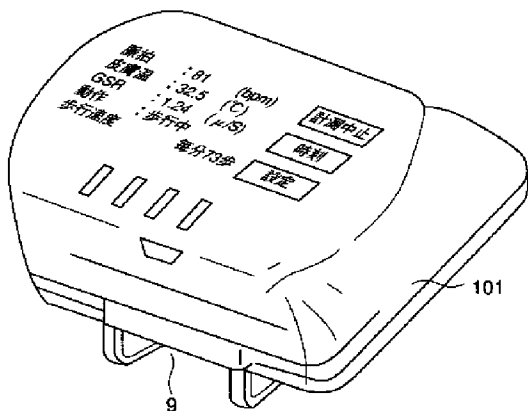
【図11】



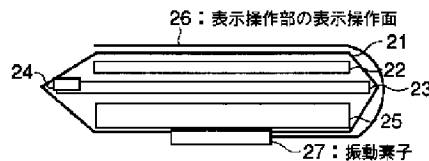
(11)

特開2003-102692

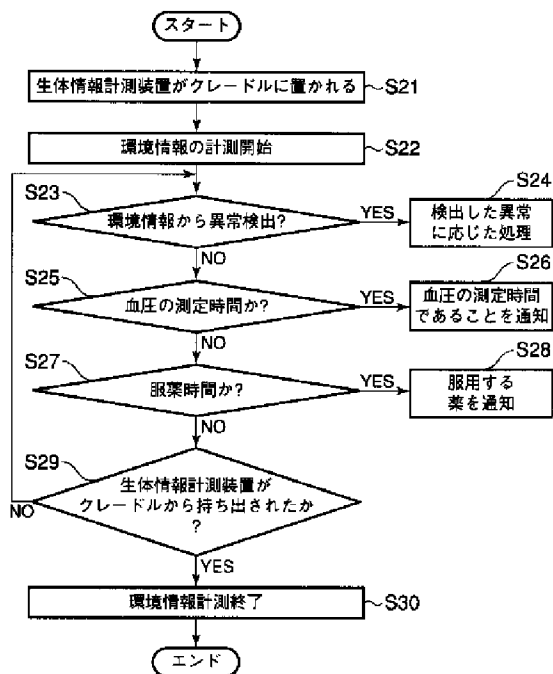
【図8】



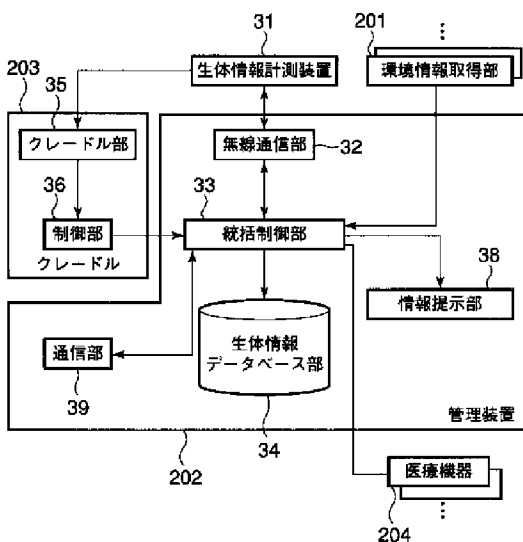
【図12】



【図14】



【図13】



【図15】

```
<?xml version="1.0"encoding="Shift_JIS"?>
<lwml>
  <head>
    <sensor-module>0001</sensor-module>
    <sensor-position>lumbar</sensor-position>
    <data-type>acceleration</data-type>
    <dimentions>2</dimentions>
    <sampling-rate>0.05</sampling-rate>
    <date>2001.8.16T20:23:07</date>
    <unit-x>s</unit-x>
    <unit-y>G</unit-y>
    <label>
      <item name>Acceleration-X</item name>
      <item name>Acceleration-Y</item name>
    </label>
  </head>
  <body>
    <items>
      <item type="stream">
        -0.09521484375          0.07568359375
        -0.09521484375          0.07568359375
        -0.09521484375          0.07080078125
        -0.09521484375          0.0732421875
        -0.09521484375          0.0732421875
        -0.09521484375          0.068359375
        -0.09521484375          0.07080078125
        :                        :
        :                        :
      </item>
    </items>
  </head>
</lwml>
```

フロントページの続き

(51)Int.Cl.⁷ 識別記号 F I テーマコード* (参考)

(72)発明者 杉山 博史
神奈川県川崎市幸区小向東芝町1番地 株
式会社東芝研究開発センター内

(72)発明者 土井 美和子
神奈川県川崎市幸区小向東芝町1番地 株
式会社東芝研究開発センター内

Electronic Patent Application Fee Transmittal

Application Number:	12097121			
Filing Date:	12-Jun-2008			
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body			
First Named Inventor/Applicant Name:	Annelies Goris			
Filer:	Kathleen Anne Asher/Debbie Henn			
Attorney Docket Number:	2005P02656WOUS			
Filed as Large Entity				
Filing Fees for U.S. National Stage under 35 USC 371				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
RCE- 2nd and Subsequent Request	1820	1	1700	1700
Total in USD (\$)				1700

Electronic Acknowledgement Receipt

EFS ID:	22332513
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Kathleen Anne Asher/Debbie Henn
Filer Authorized By:	Kathleen Anne Asher
Attorney Docket Number:	2005P02656WOUS
Receipt Date:	13-MAY-2015
Filing Date:	12-JUN-2008
Time Stamp:	12:07:22
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$1700
RAM confirmation Number	9157
Deposit Account	141270
Authorized User	ASHER, KATHLEEN A

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:
 Charge any Additional Fees required under 37 C.F.R. 1.492 (National application filing, search, and examination fees)
 Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	2005P02656WOUS_RCE_2015 May13.pdf	697645	no	3
			5ddacf7876785f0c82c6f3346f2bd959cd07ef20		
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	2005P02656WOUS_IDS_2015May13.pdf	611975	no	4
			af1aa01d1581d2a617c1c7a338f36cd563d4d4c9		
Warnings:					
Information:					
3	Foreign Reference	JP2003102692.pdf	442329	no	13
			97ea9c0b4c394850dc8aa147913d410236e93741		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30728	no	2
			2f97b910da2943209609c614fbd2c4b7677a5c0f		
Warnings:					
Information:					
Total Files Size (in bytes):			1782677		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	05/13/2015	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	* 21	Minus	** 22	= 0	X \$80 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/BURNELL L. ROSS/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/097,121	06/12/2008	Annelies Goris	2005P02656WOUS	8272

24737 7590 04/17/2015
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT	PAPER NUMBER
3739	

NOTIFICATION DATE	DELIVERY MODE
04/17/2015	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

debbie.henn@philips.com
marianne.fox@philips.com

Application No.
12/097,127
#2961

Applicant(s)
GORIS ET AL.

Examiner
EMILY LLOYD

Art Unit
3739

AIA (First Inventor to File) Status
No

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 10 April 2015 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:

- a) The period for reply expires _____ months from the mailing date of the final rejection.
- b) The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- c) A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires _____ months from the mailing date of the prior Advisory Action or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT'S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- a) They raise new issues that would require further consideration and/or search (see NOTE below);
 - b) They raise the issue of new matter (see NOTE below);
 - c) They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - d) They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: *See Continuation Sheet.* (See 37 CFR 1.116 and 41.33(a)).

4. The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. Applicant's reply has overcome the following rejection(s): _____.

6. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. For purposes of appeal, the proposed amendment(s): (a) will not be entered, or (b) will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

9. The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

10. The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

11. The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.

13. Note the attached Information *Disclosure Statement(s)*. (PTO/SB/08) Paper No(s). _____

14. Other: _____.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____
 Claim(s) objected to: 1,2 and 8.
 Claim(s) rejected: 1-19,21 and 22.
 Claim(s) withdrawn from consideration: _____

Emily M Lloyd
Examiner

/Lee S. Cohen/
Primary Examiner, Art Unit 3739

Continuation of 3. NOTE: At least Applicant's amendments to claims 1, 8 and 21 to add "determine/determining... one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent" (claims 1, 8 and 21), and to remove "using a compensation method equation" (claims 1, 8 and 21) and "within surface zones" (claims 1 and 8), require further search and/or consideration. See also at least Applicant's amendments to dependent claims 2, 5, 7, 9-14 and 16-19.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DO NOT ENTER: /E.L./

Applicant(s) : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body
Group Art Unit : 3739
Examiner : Emily M. Lloyd
Confirmation No. : 8272

Mail Stop: AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AFTER FINAL

In response to the Final Office Action mailed February 13, 2015, in the above-identified application, please enter the following amendments and consider the following remarks:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body
Group Art Unit : 3739
Examiner : Emily M. Lloyd
Confirmation No. : 8272

Mail Stop: AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AFTER FINAL

In response to the Final Office Action mailed February 13, 2015, in the above-identified application, please enter the following amendments and consider the following remarks:

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A measuring system comprising:

a sensor arranged to be attached at any one of a plurality of positions ~~within surface zones~~ on the body of ~~the~~ a subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and

a processor coupled to said sensor, said processor being arranged to ~~identify~~ determine ~~the location~~ one of the plurality of positions on the subject to which the sensor is attached ~~where the sensor is attached to one of the the plurality of positions on the subject~~ by analyzing the measured value for features that are position-dependent, using a compensation method equation, and

to derive a subject-related value from the measured value, ~~using a compensation method equation,~~ where the derivation of the subject-related value also depends on the one of the plurality of positions of the sensor on the subject.

2. (Currently Amended) The measuring system as claimed in claim 1, wherein the plurality of positions ~~configured for sensor attachment to the body of the subject~~ includes at least two or more of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head.

3. (Previously Presented) The measuring system as claimed in claim 1, wherein the derived value comprises an activity parameter of the subject.

4. (Previously Presented) The measuring system as claimed in claim 3, wherein the activity parameter comprises energy expenditure.

5. (Currently Amended) The measuring system as claimed in claim 3, wherein the activity parameter represents a degree of activity of a body part associated with the one of the plurality of positions on the subject where the sensor is attached.

6. (Previously Presented) The measuring system as claimed in claim 1, wherein the measured value comprises at least one of temperature, ECG, or acceleration.

7. (Currently Amended) The measuring system as claimed in claim 1, wherein the processor is further arranged, ~~using a compensation method equation,~~ to select a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the one of the plurality of positions of the sensor on the subject, and the sensor is configured to generate a further measured value for each quantity in the selected subset.

8. (Currently Amended) A measuring system comprising[[],]:

a sensor arranged to be attached at any one of a plurality of positions ~~within surface zones~~ on the body of ~~the~~ a subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and

a processor coupled to said sensor, said processor being arranged to ~~identify~~ determine ~~the location~~ one of the plurality of positions on the subject to which the sensor is attached where the sensor is attached to one of the the plurality of positions on the subject by analyzing the measured value for features that are position-dependent, ~~using a compensation method equation,~~

wherein said processor is further arranged to convert, ~~using a compensation method equation,~~

the measured value into an estimated measured value related to a reference position on the subject, and

to derive a subject-related value from the estimated measured value, ~~using a compensation method equation.~~

9. (Currently Amended) The measuring system as claimed in claim 1, wherein the processor, in ~~identifying the location~~ determining one of the plurality of positions on the subject to which the sensor is attached where the sensor is attached to the plurality of positions on the subject, ~~using a compensation method equation,~~ is arranged for performing the determination in dependence on the measured value.

10. (Currently Amended) The measuring system as claimed in claim 9, wherein the measuring system is further arranged to obtain, from the sensor, the measured value or a plurality of measured values measured during a time interval, and wherein the processor, in ~~identifying the location~~ determining one of the plurality of positions on the subject to which the sensor is attached ~~where the sensor is attached to the plurality of positions on the subject, using a compensation method equation,~~ is arranged to perform the identification in dependence on the measured value or measured values measured during the time interval.

11. (Currently Amended) The measuring system as claimed in claim 10, wherein the processor, in ~~identifying the location~~ determining one of the plurality of positions on the subject to which the sensor is attached ~~where the sensor is attached to the plurality of positions on the subject, using a compensation method equation,~~ is arranged to further perform the identification on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, ~~respectively.~~

12. (Currently Amended) The measuring system as claimed in claim 10, wherein the processor, in ~~identifying the location~~ determining one of the plurality of positions on the subject to which the sensor is attached ~~where the sensor is attached to the plurality of positions on the subject, using a compensation method equation,~~ is arranged to further perform, ~~using a compensation method equation,~~ a pattern recognition of a signal derived from the measured values measured during the time interval.

13. (Currently Amended) The measuring system as claimed in claim 9, wherein the processor is further arranged, ~~using a compensation method equation,~~ to determine that the subject is performing a standardized activity, and wherein the processor, ~~identifying the location~~ determining one of the plurality of positions on the subject to which the sensor is attached ~~where the sensor is attached to the plurality of positions on the subject, using a compensation method equation,~~ is arranged to use at least one measured value obtained from the sensor, the at least one measured value relating to a time the subject is performing the standardized activity.

14. (Currently Amended) The measuring system as claimed in claim 13, wherein the processor, ~~using a compensation method equation,~~ in determining that the subject is performing a standardized activity, is arranged to perform the determination in dependence on at least one measured value during the time the subject is performing the standardized activity.

15. (Previously Presented) The measuring system as claimed in claim 13, wherein said measuring system further comprises a user interface for receiving input from the subject to indicate when the subject is performing the standardized activity.

16. (Previously Presented) The measuring system as claimed in claim 1, wherein said measuring system further comprises a user interface for receiving input from the subject related to the one of the plurality of positions of the sensor on the subject.

17. (Currently Amended) The measuring system as claimed in claim 1, wherein said measuring system further comprises:

storage means for storing at least one pattern related to performing a predetermined activity in a predetermined manner,

and wherein said processor, ~~using a compensation method equation,~~ is further arranged to establish that the subject is performing the predetermined activity,

to determine how the measured value compares to the stored pattern ~~a similarity measure relating to a signal representing the derived value and at least one stored pattern,~~ and

to provide feedback in dependence on the comparison ~~similarity measure.~~

18. (Currently Amended) The measuring system as claimed in claim 17, wherein the processor, in establishing that the subject is performing the predetermined activity, is arranged, ~~using a compensation method equation,~~ to establish that the subject is performing at least one of a predetermined number of predetermined activities.

19. (Currently Amended) A measuring system as claimed in claim 1, wherein said measuring system further comprises a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject,

and wherein the processor, in deriving the subject-related value, is arranged to derive the measured value, ~~using a compensation method equation~~, where the derivation of the subject-related value also depends on the further measured value.

20. (Cancelled)

21. (Currently Amended) A method of deriving a value relating to a subject, the method comprising:

attaching a sensor to any one of a plurality of positions on the subject;

obtaining, in a processor, at least one measured value from the sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject;

~~identifying~~ determining, using the processor, one of the plurality of positions on the subject to which the sensor is attached ~~the location where the sensor is attached to one of the plurality of positions on the subject~~ by analyzing the measured value for features that are position-dependent, ~~using a compensation method equation~~; and

deriving, using the processor, a subject-related value from the measured value in dependence on the position of the sensor on the subject.

22. (Previously Presented) The measuring system as claimed in claim 6, wherein the acceleration is a tri-axial acceleration.

REMARKS

I. INTRODUCTION

Claims 1, 2, 5, 7-14, 16-19 and 21 have been amended. These claim amendments are supported by at least p. 11, ll. 6-12, and p. 7, ll. 8-9 of the specification as originally filed. No new matter has been added. Claims 1-19 and 21-22 remain pending in the present application. In light of the above amendments and the following remarks, Applicants respectfully submit that all presently pending claims are in condition for allowance.

II. THE CLAIM OBJECTION SHOULD BE WITHDRAWN

Claims 1, 2 and 8 stand objected to for informalities. In view of the amendments to these claims, the withdrawal of this objection is respectfully requested.

III. THE 35 U.S.C. § 112 REJECTIONS SHOULD BE WITHDRAWN

Claims 1-19, 21, and 22 stand rejected under 35 U.S.C. § 112(a) for failing to comply with the written description requirement. (*See* 02/13/2015 Office Action, pp.5-7).

Regarding claims 1 and 8, the Examiner stated that “surface” and “zones” were not used in the Applicants specification as originally filed. (*See* 02/13/2015 Office Action, pp.6). Claim 1 and 8 have been amended to delete “within the surface zones.” Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(a) rejections of claims 1 and 8.

Regarding claims 1, 7-14, 17-19, and 21, the Examiner stated that “a compensation method equation” was not used in the Applicants specification as originally filed. (*See* 02/13/2015 Office Action, p.6). Claims 1, 7-14, 17-19, and 21 have been amended to either delete “a compensation method equation,” or replace it with, “by analyzing the measured value for features that are position-dependent.” Support for the amendment can be found at least on p. 11, ll. 10-12 in the Applicants specification as originally filed. Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(a) rejections of claims 1, 7-14, 17-19, and 21.

Claim 16 stands rejected under 35 U.S.C. § 112(a) for failing to comply with the enablement requirement. (*See* 02/13/2015 Office Action, pp.7-8). Specifically, the Examiner states that “[a]pplicants disclosure, as originally filed, did not enable one of ordinary skill in the art at the time the invention was made, to use both ‘a user interface for receiving input from the subject related to the position of the sensor on the subject’ ... and to also ‘indentify the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation.’” (*See id.*, p. 8). Applicants respectfully disagree with the Examiner’s assertion. One of ordinary skill in the art would have known at the time the invention how to make a user interface to accept inputs, such as the position of a sensor on a subject. Further, the originally filed application on p. 9, ll. 9-12 provides examples of using a touch screen or buttons to select the desired input. Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(a) rejections of claim 16.

Claim 17 stands rejected under 35 U.S.C. § 112(a) for failing to comply with enablement requirement. (*See* 02/13/2015 Office Action, p. 8). Specifically, the Examiner states that, “[t]he disclosure as originally filed does not provide support for ‘to determine a similarity measure relating to a signal representing the derived value and at least on stored pattern.’” (*See id.*). Applicants have amended claim 17 to read, “to determine *how the measured value compares to the stored pattern, and to provide feedback in dependence on the comparison.*” Support for this amendment can be found at least on p. 7, ll. 8-9 of specification as originally filed. Applicants submit that the amended claim 17 is fully enabled and respectfully requests the withdrawal of the 35 U.S.C. § 112(a) rejections of claim 17.

Claims 2-7, 9-19 and 22 stand rejected as being dependent on claims rejected under 35 U.S.C. § 112(a). (*See* 02/13/2015 Office Action, p. 8). Applicants submit that for the reasons and amendments above, all of the claims are allowable under 35 U.S.C. § 112(a). Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(a) rejections of claims 2-7, 9-19 and 22.

Claims 1-19, 21 and 22 stand rejected under 35 U.S.C. § 112(b) for failing to particularly point out and distinctly claim the subject matter that the Applicants regard as their invention.

(See 02/13/2015 Office Action, pp.8-10). With regards to claims 1-19, 21 and 22, these claims have been amended to overcome the formatting deficiencies indicated by the Examiner.

Regarding claims 1 and 8, the Examiner stated “‘the body of the subject’ lacks antecedent basis.” (See 02/13/2015 Office Action, p.9). Applicants have amended claims 1 and 8 to “the body of *a* subject.” Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claims 1 and 8.

Regarding claims 1, 8-13 and 21, the Examiner asserted “the location” is unclear or lacks antecedent basis. (See 02/13/2015 Office Action, pp.9-10). Applicants have amended claims 1, 8-13 and 21 to remove “the location.” Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claims 1, 8-13 and 21.

Regarding claims 1, 8-13 and 21, the Examiner asserted “it is unclear if ‘where the sensor is attached to the plurality of positions’ should be ‘where the sensor is attached to *one of* the plurality of positions.’” (See 02/13/2015 Office Action, pp.9-10). Applicants have amended claims 1, 8-13 and 21 to include “one of,” as suggested by the examiner. Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claims 1, 8-13 and 21.

Regarding claims 1, 7-14 and 17-19, the Examiner asserted it is unclear whether various uses of “a compensation method equation” are referring to the same equation. (See 02/13/2015 Office Action, pp.9-10). Applicants have removed “a compensation method equation” from every claim. Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claims 1, 7-14 and 17-19.

Regarding claim 11, the Examiner asserted, “it is unclear what elements/limitations are claimed to be related to other elements/limitations with respect to the word ‘respectively.’” (See 02/13/2015 Office Action, pp.9-10). Applicants have amended claim 11 to remove “respectively.” Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejection of claims 11.

Claims 2-7,9-19 and 22 stand rejected as being dependent on claims rejected under 35 U.S.C. § 112(b). (See 02/13/2015 Office Action, p. 10). Applicants submit that for the reasons and amendments above, all of the claims are allowable under 35 U.S.C. § 112(b). Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejections of claims 2-7, 9-19 and 22.

IV. THE 35 U.S.C. §§ 102(b) AND 103(a) REJECTIONS SHOULD BE WITHDRAWN

Claims 1-19 and 21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2004/0102931 to Ellis et al. (hereafter “Ellis”). (See 02/13/2015 Office Action, pp.10-19).

Claim 1 recites, “[a] measuring system comprising: a sensor arranged to be attached at any one of a plurality of positions on the body of a subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and a processor coupled to said sensor, said processor being arranged *to determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent*, and to derive a subject-related value from the measured value, where the derivation of the subject-related value also depends on the one of the plurality of positions of the sensor on the subject.”

Ellis discloses an “individual networking component” that may be worn “on a hand, wrist, arm, leg, foot, waist, head, or other suitable part of the body.” (See Ellis, ¶ [0245]). Ellis’s modular personal network “may measure an athlete’s cadence... [or] stride length.” (See Ellis, ¶ [0333]). The modular personal network “may use stored information along with collect information to estimate a derived performance parameter.” (See Ellis, ¶ [0356]). Also, “the system may estimate energy consumption during an athletic effort.” (See Ellis, ¶ [0361]).

Ellis further discloses that, “an accelerometer may be provided as an [individual networking component] in the [modular personal network].” (See Ellis, ¶ [0379]). Also, “multiple accelerometers may be used to measure motion by different parts of the body.” (See Ellis, ¶ [0379]). “Through the use of one or more accelerometers mounted on a part of the body

that is moved during a particular activity, the system may compare the measured movements with ideal movements, and provide feedback to the user.” (See Ellis, ¶ [0390]).

However, the network in Ellis does not determine where the individual networking components are attached on the subject. Thus, the network in Ellis also does not analyze the measurements it collects to determine where components are attached. As such, Ellis fails to disclose or suggest a “processor being arranged *to determine one of the plurality of positions on the subject to which the sensor is attached by analyzing the measured value for features that are position-dependent,*” as recited in claim 1. Therefore, Applicants respectfully submitted that the rejection of claim 1 and its dependent claims 2-7 and 9-19 should be withdrawn. Independent claims 8 and 21 recite substantially similar limitations as claim 1. Thus, the withdraw of the rejections to claims 8 and 21 are respectfully requested for at least the foregoing reasons presented with regard to claim 1.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ellis. Independent claim 22 recites substantially similar limitations as claim 1. Thus, the withdraw of the rejection to claim 22 is respectfully requested for at least the foregoing reasons presented with regard to claim 1.

CONCLUSION

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

Dated: April 13, 2015

By: __/Michael J. Marcin/_____
Michael J. Marcin (Reg. No. 48,198)

Fay Kaplun & Marcin, LLP
150 Broadway, Suite 702
New York, New York 10038
Tel.: (212) 619-6000
Fax: (212) 619-0276

Electronic Acknowledgement Receipt

#2976

EFS ID:	22023270
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Kathleen Anne Asher/Debbie Henn
Filer Authorized By:	Kathleen Anne Asher
Attorney Docket Number:	2005P02656WOUS
Receipt Date:	10-APR-2015
Filing Date:	12-JUN-2008
Time Stamp:	09:29:29
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		2005P02656WOUS_116Amd_2 015Apr10.pdf	45794 485c6312a89f47f369e0f0ee0ebfcc0180ec8b7	yes	12

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Response After Final Action	1	1
Claims	2	6
Applicant Arguments/Remarks Made in an Amendment	7	12

Warnings:

Information:

Total Files Size (in bytes):	45794
-------------------------------------	-------

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	04/10/2015	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	* 21	Minus	** 22	= 0	X \$80 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/ANTJUAN RIVERA/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
12/097,121 06/12/2008 Annelies Goris 2005P02656WOUS 8272

24737 7590 02/13/2015
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

Table with 1 column: EXAMINER

LLOYD, EMILY M

Table with 2 columns: ART UNIT, PAPER NUMBER

3739

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

02/13/2015

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

debbie.henn@philips.com
marianne.fox@philips.com

Application/Control Number: 12/097,121
Art Unit: 3739

Page 2

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

This Office Action is in response to Applicant's 20 October 2014 amendment. The Office acknowledges Applicant's amendments to claims 1, 2, 5, 7-14, 17-19 and 21. Currently, claims 1-19, 21 and 22 are pending.

The Office notes that Applicant's 20 October 2014 amendment to claim 1 changed "a subject" (in the second and third lines of the previous version of claim 1) to "the subject" without indicating that such a change was made.

Claim Interpretation - 35 USC § 112, Sixth Paragraph

The following is a quotation of 35 U.S.C. 112(f):

(f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Use of the word "means" (or "step for") in a claim with functional language creates a rebuttable presumption that the claim element is to be treated in accordance

Application/Control Number: 12/097,121

Page 3

Art Unit: 3739

with 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph). The presumption that 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph) is invoked is rebutted when the function is recited with sufficient structure, material, or acts within the claim itself to entirely perform the recited function.

Absence of the word “means” (or “step for”) in a claim creates a rebuttable presumption that the claim element **is not** to be treated in accordance with 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph). The presumption that 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph) is not invoked is rebutted when the claim element recites function but fails to recite sufficiently definite structure, material or acts to perform that function.

Claim elements in this application that use the word “means” (or “step for”) are presumed to invoke 35 U.S.C. 112(f) except as otherwise indicated in an Office action. Similarly, claim elements that do not use the word “means” (or “step for”) are presumed not to invoke 35 U.S.C. 112(f) except as otherwise indicated in an Office action.

Claim limitation “storage means for storing at least one pattern related to performing a predetermined activity in a predetermined manner” has/have been interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, because it uses/they use a generic placeholder “means” coupled with functional language “for storing at least one pattern related to performing the predetermined activity in a

Application/Control Number: 12/097,121

Page 4

Art Unit: 3739

predetermined manner” without reciting sufficient structure to achieve the function.

Furthermore, the generic placeholder is not preceded by a structural modifier.

Since the claim limitation(s) invokes 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, claim(s) 17 and 18 has/have been interpreted to cover the corresponding structure described in the specification that achieves the claimed function, and equivalents thereof.

A review of the specification shows that the following appears to be the corresponding structure described in the specification for the 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph limitation: “a storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk” ([0074] of Applicant’s specification as published).

If applicant wishes to provide further explanation or dispute the examiner’s interpretation of the corresponding structure, applicant must identify the corresponding structure with reference to the specification by page and line number, and to the drawing, if any, by reference characters in response to this Office action.

If applicant does not intend to have the claim limitation(s) treated under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112 , sixth paragraph, applicant may amend the claim(s) so that it/they will clearly not invoke 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, or present a sufficient showing that the claim recites/recite sufficient structure, material, or acts for performing the claimed function to preclude application of 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph.

Application/Control Number: 12/097,121
Art Unit: 3739

Page 5

For more information, see MPEP § 2173 *et seq.* and *Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications*, 76 FR 7162, 7167 (Feb. 9, 2011).

Claim Objections

Claims 1, 2 and 8 are objected to because of the following informalities: claim 1 line 6 “to the the plurality” should be “to the plurality”; claim 2 “where the plurality of positions configured for sensor attachment to the body of the subject includes at least two of the following: a wrist... and a head” should be “where the sensor is further configured to be arranged at two or more of the following positions: a wrist... and a head”; and claim 8 line 1 “comprising,” should be “comprising:”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Application/Control Number: 12/097,121

Page 6

Art Unit: 3739

Claims 1-19 and 22 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 8, the specification as originally filed did not provide for “a plurality of positions *within surface zones* on the body” (claim 1 lines 2-3, claim 8 lines 2-3). The Office notes that “surface” and “zone” were not used in Applicant’s specification as originally filed; further, Applicant did not provide an explicit citation for support for this within Applicant’s specification as originally filed, and the Office has not found any support for this within Applicant’s specification as originally filed.

Regarding claims 1, 7-14 and 17-19, and 21, the specification as originally filed did not provide for “a compensation method equation” (claim 1 line 7, claim 1 lines 8-9, claim 7 line 2, claim 8 lines 6-7, claim 8 lines 8-9, claim 8 lines 12-13, claim 9 line 3, claim 10 line 5, claim 11 line 3, claim 12 line 3, claim 12 line 4, claim 13 line 2, claim 13 line 5, claim 14 line 2, claim 17 line 5, claim 18 lines 2-3, claim 19 line 5 and claim 21 line 8); and further did not provide for the/a “compensation method equation” with respect to “identify[ing] the location where the sensor is attached to the plurality of positions on the subject” (claim 1 lines 5-7, claim 8 lines 5-6, claim 9 lines 2-3, claim 10 lines 4-5, claim 11 lines 2-3, claim 12 lines 2-3, claim 13 lines 4-5, claim 21 lines 6-8); “to derive a subject-related value from the measured value” (claim 1 line 8); “to select a

Application/Control Number: 12/097,121

Page 7

Art Unit: 3739

subject of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject" (claim 7 lines 2-4); "to convert... the measured valued into an estimated value" (claim 8 lines 8-10); "to derive a subject-related value from the estimated measured value" (claim 8 line 12); "to further perform... a pattern recognition of a signal derived from the measured values" (claim 12 lines 4-5); "to determine that the subject is performing a standardized activity" (claim 13 lines 2-3); "in determining that the subject is performing a standardized activity... to perform the determination in dependence on at least one measured value during the time the subject is performing the standardized activity" (claim 14 lines 2-4); "to establish that the subject is performing the predetermined activity" (claim 17 lines 5-6); "to establish that the subject is performing at least one of a predetermined number of predetermined activities" (claim 18 lines 3-4); and "to derive the measured value... where the derivation of the subject-related value also depends on the further measured value" (claim 19 lines 4-6). The Office notes that "compensation method equation" was not used in Applicant's specification as originally filed; further, Applicant did not provide an explicit citation for support for this within Applicant's specification as originally filed, and the Office has not found any support for this within Applicant's specification as originally filed. The Office notes that the only use of "equation" in Applicant's specification as originally filed was with respect to paragraph 0006 as published.

Claim 16 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable

Application/Control Number: 12/097,121

Page 8

Art Unit: 3739

one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant's disclosure, as originally filed, did not enable one of ordinary skill in the art at the time the invention was made, to use both "a user interface for receiving input from the subject related to the position of the sensor on the subject" (claim 16 lines 2-3) and to also "identify the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation," (claim 1 lines 5-7).

Claim 17 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure as originally filed does not provide support for "to determine a similarity measure relating to a signal representing the derived value and at least one stored pattern" (claim 17 lines 7-8) as the disclosure instead is drawn to, "determine how the actual pattern compares to the optimal pattern," (paragraph 0046 of Applicant's specification as filed), and this is more specific than allowing for comparison to two or more stored patterns (see "at least one stored pattern" in line 8 of claim 17).

Claims 2-7, 9-19 and 22 are rejected as at least depending on claim 1 as well as any intervening claims that are rejected.

The following is a quotation of 35 U.S.C. 112(b):

Application/Control Number: 12/097,121

Page 9

Art Unit: 3739

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19, 21 and 22 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Regarding claim 1 line 3 and claim 8 line 3, "the body of the subject" lacks antecedent basis.

Regarding claims 1, 8 and 21, it is unclear if "the location" (claim 1 lines 5-6; claim 8 line 5; claim 21 line 6) should be "the position" (see claim 1 lines 2 and 10; claim 8 lines 2 and 6; claim 21 lines 3, 7 and 10); if not, "the location" lacks antecedent basis.

Regarding claims 1, 8 and 21, it is unclear if "where the sensor is attached to the plurality of positions" (claim 1 lines 6; claim 8 line 6; claim 21 lines 6-7) should be "where the sensor is attached to one of the plurality of positions"; or if Applicant intended to claim a single sensor attached to multiple positions at once.

Regarding claims 1, 7, 9-14 and 17-19, it is unclear if "a compensation method equation" (claim 1 lines 8-9, claim 7 line 2, claim 9 line 3, claim 10 line 5, claim 11 line 3, claim 12 line 3, claim 12 line 4, claim 13 line 2, claim 13 line 5, claim 14 line 2, claim 17 line 5, claim 18 lines 2-3, and claim 19 line 5) is the same or different from "a

Application/Control Number: 12/097,121

Page 10

Art Unit: 3739

compensation method equation” as claimed in line 7 of claim 1. In other words, it is unclear if one equation or multiple equations are claimed.

Regarding claims 9-13, it is unclear if “the location” (claim 9 line 2; claim 10 line 4; claim 11 line 2; claim 12 line 2; claim 13 line 4) should be “the position” (see claim 1 lines 2 and 10).

Regarding claims 9-13, it is unclear if “where the sensor is attached to the plurality of positions” (claim 9 lines 2-3; claim 10 lines 4-5; claim 11 lines 2-3; claim 12 lines 2-3; claim 13 line 4) should be “where the sensor is attached to one of the plurality of positions”; or if Applicant intended to claim a single sensor attached to multiple positions at once.

Regarding claim 11, it is unclear what elements/limitations are claimed to be related to other elements/limitations with respect to the word “respectively.”

Claims 2-7, 9-19 and 22 are rejected as ultimately depending on claim 1 and any rejected intervening claims.

Regarding claim 8, it is unclear if “a compensation method equation” (claim 8 lines 8-9 and claim 8 lines 12-13) is the same or different from “a compensation method equation” as claimed in lines 6-7 of claim 8. In other words, it is unclear if one equation or multiple equations are claimed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Application/Control Number: 12/097,121

Page 11

Art Unit: 3739

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Application/Control Number: 12/097,121

Page 12

Art Unit: 3739

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

Claims 1-19 and 21 are rejected under pre-AIA 35 U.S.C. 102(b) as anticipated by or, in the alternative, under pre-AIA 35 U.S.C. 103(a) as obvious over US 2004/0102931 (Ellis).

Regarding claim 1, Ellis discloses a measuring system (see entire document, including Figures 19, 25, 50, 53, 54, 61, 70 and 78) comprising: a sensor (INC of 1910 Figure 19, 0245-0246; INC of Figure 25, 0261-0264; INC 5320 of Figures 53-54 as part of MPNs of Figures 53-54, also MPN Figure 50, 0333 and 0336-0339; INC of 6130 and/or 6140 of Figure 61, 0356-0357; INC/accelerometer in 7010 of Figure 70, 0379; INC/accelerometer(s) of 7810, 7815 Figure 78, 0390-0392) arranged to be attached at any one of a plurality of positions within surface zones on the body of a subject (0245-0246; 2534 of Figure 25, 0262-0263; 0333 and 0336-0339; 0356-0357; 7022 of Figure 70, 0379; 7810, 7815 of Figure 78, 0390-0392) for obtaining a measured value representing a physical or a physiological quantity of the subject (0245-0246; 0261-0264; 0333 and 0336-0339; 0356-0357; 0379; 0390-0392); and a processor (base station of 1930 Figure 19, 0247; 2540 of Figure 25; 5240 of Figures 53 and 54; 6150 of Figure 61, 0356-0363; control unit with 7030 Figure 70, 0379; control unit or computer with 7840, 7845 of Figure 78) coupled to the sensor (0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379; 0390-0392), said processor being arranged to identify the location where the sensor is attached to the plurality of positions on the subject, using a

Application/Control Number: 12/097,121

Page 13

Art Unit: 3739

compensation method equation (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379; 0390-0392), and to derive a subject-related value from the measured value, using a compensation method equation, where the derivation of the subject-related value also depends on the position of the sensor on the subject (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379-0380; 0390-0392). Should one not agree that Ellis discloses the claimed limitations expressly, the Office notes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to use equations, including compensation method equations, to arrive at the disclosed outputs of Ellis, as the use of equations, including compensation method equations, would have been an obvious design expedient and as a predictable result would ensue with the use of such equations.

Regarding claims 2-7 and 9-19, Ellis discloses, or alternatively teaches, that the plurality of positions configured for sensor attachment to the body of the subject includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head; wherein the derived value comprises an activity parameter of the subject; wherein the activity parameter comprises energy expenditure; wherein the activity parameter represents a degree of activity of a body part associated with the position on the subject where the sensor is attached; wherein the measured value comprises at least one of temperature, ECG or acceleration; wherein the processor is further arranged, using a compensation method equation, to select a subset of a predefined set of further physical and/or physiological quantities of

Application/Control Number: 12/097,121

Page 14

Art Unit: 3739

the subject in dependence on the position of the sensor on the subject, and the sensor is configured to generate a further measured value for each quantity in the selected subset; wherein the processor, in identifying the location where the sensor is attached to the plurality of position on the subject, using a compensation method equation, is arranged for performing the determination in dependence on the measured value; wherein the measuring system is further arranged to obtain, from the sensor, the measured value or a plurality of measured values measured during a time interval, and wherein the processor, in identifying the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation, is arranged to perform the identification in dependence on the measured value or measured values measured during the time interval; wherein the processor, in identifying the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation, is arranged to further perform the identification on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively; wherein the processor, in identifying the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation, is arranged to further perform, using a compensation method equation, a pattern recognition of a signal derived from the measured values measured during the time interval; wherein the processor is further arranged, using a compensation method equation, to determine that the user is performing a standardized activity, and wherein the processor, in identifying the location where the sensor is attached to the plurality of positions on the subject, using a compensation method

Application/Control Number: 12/097,121

Page 15

Art Unit: 3739

equation, is arranged to use at least one measured value obtained from the sensor, the at least one measured value relating to a time the user is performing the standardized activity; wherein the processor, using a compensation method equation, in determining that the user is performing a standardized activity, is arranged to perform the determination in dependence on at least one measured value during the time the subject is performing the standardized activity; wherein said measuring system further comprises a user interface for receiving input from the subject to indicate when the subject is performing the standardized activity; wherein said measuring system further comprises a user interface for receiving input from the subject related to the position of the sensor on the subject; wherein said measuring system further comprises: storage means for storing at least one pattern related to performing a predetermined activity in a predetermined manner, and wherein said processor, using a compensation equation, is further arranged to establish that the subject is performing the predetermined activity, to determine a similarity measure relating to a signal representing the derived value and at least one stored pattern, and to provide feedback in dependence on the similarity measure; wherein the processor, in establishing that the subject is performing the predetermined activity, is arranged, using a compensation method equation, to establish that the subject is performing at least one of a predetermined number of predetermined activities; and wherein said measuring system further comprises a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the processor, in deriving the subject-related value, is arranged to derive the measured

Application/Control Number: 12/097,121

Page 16

Art Unit: 3739

value, using a compensation method equation, where the derivation of the subject-related value also depends on the further measured value (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379-0380; 0390-0392; see also the 35 USC 112 second paragraph rejections above with respect to claim language that is unclear). Should one not agree that Ellis discloses the claimed limitations expressly, the Office notes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to use equations, including compensation method equations, to arrive at the disclosed outputs of Ellis, as the use of equations, including compensation method equations, would have been an obvious design expedient and as a predictable result would ensue with the use of such equations.

Regarding claim 8, Ellis discloses a measuring system (see entire document, including Figures 19, 25, 50, 53, 54, 61, 70 and 78) comprising: a sensor (INC of 1910 Figure 19, 0245-0246; INC of Figure 25, 0261-0264; INC 5320 of Figures 53-54 as part of MPNs of Figures 53-54, also MPN Figure 50, 0333 and 0336-0339; INC of 6130 and/or 6140 of Figure 61, 0356-0357; INC/accelerometer in 7010 of Figure 70, 0379; INC/accelerometer(s) of 7810, 7815 Figure 78, 0390-0392) arranged to be attached at any one of a plurality of positions within surface zones on the body of a subject (0245-0246; 2534 of Figure 25, 0262-0263; 0333 and 0336-0339; 0356-0357; 7022 of Figure 70, 0379; 7810, 7815 of Figure 78, 0390-0392) for obtaining a measured value representing a physical or a physiological quantity of the subject (0245-0246; 0261-0264; 0333 and 0336-0339; 0356-0357; 0379; 0390-0392); and a processor (base

Application/Control Number: 12/097,121

Page 17

Art Unit: 3739

station of 1930 Figure 19, 0247; 2540 of Figure 25; 5240 of Figures 53 and 54; 6150 of Figure 61, 0356-0363; control unit with 7030 Figure 70, 0379; control unit or computer with 7840, 7845 of Figure 78) coupled to the sensor (0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379; 0390-0392), said processor being arranged to identify the location where the sensor is attached to the plurality of positions on the subject, using a compensation equation (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379; 0390-0392), wherein said processor is further arranged to convert, using a compensation method equation, the measured value into an estimated measured value related to a reference position on the subject (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379; 0390-0392) and to derive a subject-related value from the estimated value, using a compensation method equation (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379-0380; 0390-0392). Should one not agree that Ellis discloses the claimed limitations expressly, the Office notes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to use equations, including compensation method equations, to arrive at the disclosed outputs of Ellis, as the use of equations, including compensation method equations, would have been an obvious design expedient and as a predictable result would ensue with the use of such equations.

Regarding claim 21, Ellis discloses a method of deriving a value relating to a subject (see entire document, including Figures 19, 25, 50, 53, 54, 61, 70 and 78), the method comprising: attaching a sensor (INC of 1910 Figure 19, 0245-0246; INC of

Application/Control Number: 12/097,121

Page 18

Art Unit: 3739

Figure 25, 0261-0264; INC 5320 of Figures 53-54 as part of MPNs of Figures 53-54, also MPN Figure 50, 0333 and 0336-0339; INC of 6130 and/or 6140 of Figure 61, 0356-0357; INC/accelerometer in 7010 of Figure 70, 0379; INC/accelerometer(s) of 7810, 7815 Figure 78, 0390-0392) to any one of a plurality of positions on the subject (0245-0246; 2534 of Figure 25, 0262-0263; 0333 and 0336-0339; 0356-0357; 7022 of Figure 70, 0379; 7810, 7815 of Figure 78, 0390-0392); obtaining, in a processor (base station of 1930 Figure 19, 0247; 2540 of Figure 25; 5240 of Figures 53 and 54; 6150 of Figure 61, 0356-0363; control unit with 7030 Figure 70, 0379; control unit or computer with 7840, 7845 of Figure 78), at least one measured value from the sensor attached to the subject (0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379; 0390-0392), the measured value representing a physical or a physiological quantity of the subject (0245-0246; 0261-0264; 0333 and 0336-0339; 0356-0357; 0379; 0390-0392); identifying, using the processor, the location where the sensor is attached to the plurality of positions on the subject, using a compensation equation (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379; 0390-0392); and deriving, using the processor, a subject-related value from the measured value in dependence on the position of the sensor on the subject (see entire document, including 0245-0247; 0261-0264; 0333 and 0336-0339; 0356-0363; 0379-0380; 0390-0392). Should one not agree that Ellis discloses the claimed limitations expressly, the Office notes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to use equations, including compensation method equations, to arrive at the disclosed outputs of Ellis, as the use of equations, including

Application/Control Number: 12/097,121

Page 19

Art Unit: 3739

compensation method equations, would have been an obvious design expedient and as a predictable result would ensue with the use of such equations.

Claim 22 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Ellis.

Ellis does not expressly disclose that the acceleration is a tri-axial acceleration. However, the Office takes Official Notice that it was well known to one having ordinary skill in the art at the time the invention was made to use tri-axial acceleration as the acceleration in a device measuring body movement, such as the device of Ellis, as this would provide for measuring body movement in all directions with a single accelerometer each device, thereby providing more data with fewer accelerometers and/or devices.

Response to Arguments

Applicant's arguments with respect to claims 1-19, 21 and 22 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Application/Control Number: 12/097,121

Page 20

Art Unit: 3739

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY LLOYD whose telephone number is (571)272-2951. The examiner can normally be reached on Monday through Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 12/097,121
Art Unit: 3739

Page 21

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily M Lloyd
Examiner
Art Unit 3739

/E. L./
Examiner, Art Unit 3739

/Lee S. Cohen/
Primary Examiner, Art Unit 3739
February 9, 2015

#3001

Notice of References Cited	Application/Control No. 12/097,121	Applicant(s)/Patent Under Reexamination GORIS ET AL.	
	Examiner EMILY LLOYD	Art Unit 3739	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2004/0102931	05-2004	Ellis et al.	702/188
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
U					
V					
W					
X					

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	05/22/2010	11/05/2010	04/23/2011	06/16/2014	02/07/2015			
	1	✓	✓	✓	✓	✓			
	2	✓	✓	✓	✓	✓			
	3	✓	✓	✓	✓	✓			
	4	✓	✓	✓	✓	✓			
	5	✓	✓	✓	✓	✓			
	6	✓	✓	✓	✓	✓			
	7	✓	✓	✓	✓	✓			
	8	✓	✓	✓	✓	✓			
	9	✓	✓	✓	✓	✓			
	10	✓	✓	✓	✓	✓			
	11	✓	✓	✓	✓	✓			
	12	✓	✓	✓	✓	✓			
	13	✓	✓	✓	✓	✓			
	14	✓	✓	✓	✓	✓			
	15	✓	✓	✓	✓	✓			
	16	✓	✓	✓	✓	✓			
	17	✓	✓	✓	✓	✓			
	18	✓	✓	✓	✓	✓			
	19	✓	✓	✓	✓	✓			
	20	✓	✓	✓	-	-			
	21	✓	✓	✓	✓	✓			
	22		✓	✓	✓	✓			

Search Notes 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

CPC- SEARCHED		
Symbol	Date	Examiner
A61B 5/065, 5/1118, 5/1123, 5/6802, 5/681, 5/7278, 2560/0223, 2562/0219	2/2015	EL

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
600	595	5/22/2010	EL
702	160	10/31/2010	EL

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	5/22/2010	EL
Text Search	5/22/2010	EL
EAST Search	5/22/2010	EL
Updated EAST Search	10/31/2010	EL
Brief Google Scholar Search, requested NPL documents	11/2/2010	EL
Reviewed requested NPL documents	11/4/2010	EL
Updated EAST Search	4/23/2011	EL
Updated search	6/2014	EL
Updated EAST search	2/2015	EL

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

--	--

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S3	46	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S4	78	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S6	132	S1 or S2 or S3 or S4 or S5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S7	4	EP-1254629-\$.did. or US-5111826-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:34
S8	1198	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/14 20:41
S9	1	("20030065257").PN.	US-PGPUB; USPAT	OR	OFF	2008/12/18 14:03
S10	1201	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S11	275	S10 and accelerometer	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S12	2	Nasiff-Roger-E.in.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:42
S13	1	(10/266272).APP.	USPAT; USOCR	OR	ON	2010/03/27 22:58
S14	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S15	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02

S16	56	Bodlaender-Maarten-Peter.in. #3005	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S17	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S18	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S19	143	S14 or S15 or S16 or S17 or S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S20	1	("20060161079").PN.	US-PGPUB; USPAT	OR	OFF	2010/03/27 23:03
S21	1	(11/332586).APP.	USPAT; USOCR	OR	ON	2010/03/27 23:03
S22	5	("20060052727" "20060161079" "20060255955" "7028547" "7127370").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/03/27 23:04
S23	2	Nasiff-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S24	86	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S25	23	S24 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S26	4	S22 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S27	21	S25 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:29
S28	1	S25 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:30
S29	1384	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:35
S30	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S31	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S32	57	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S33	79	Bodlaender-Maarten-P.in.	US-PGPUB;	OR	ON	2010/05/22

			#.3006	USPAT; EPO; JPO; DERWENT			23:49
S34	4	Bodlaender-Maarten.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S35	144	S30 or S31 or S32 or S33 or S34		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S36	87	Mault-\$.in.		US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S37	23	S36 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)		US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S38	1	S37 and ((location with (wear worn wearing)))		US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S39	1411	600/595.ccls.		US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S40	5	"497572".ap.		US-PGPUB; USPAT	OR	ON	2010/10/30 14:41
S41	9	Goris-Annelies.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S42	1	Goris-Annelies-Heleen-Carolien.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S43	58	Bodlaender-Maarten-Peter.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S44	79	Bodlaender-Maarten-P.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S45	4	Bodlaender-Maarten.in.		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S46	145	S41 or S42 or S43 or S44 or S45		US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S47	5	S46 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.		US-PGPUB; USPAT	OR	ON	2010/10/31 16:00
S48	167	702/160.ccls.		US-PGPUB; USPAT	OR	ON	2010/10/31 16:09

S49	1502	600/595.ccls. #3007	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09
S50	135	S48 and ((location located locating locate place placement placed placing compensated compensating adjust adjusting adjusted adjustment varied various numerous many multiple different) with (body user subject wearer person human))	US-PGPUB; USPAT	OR	ON	2010/10/31 16:10
S51	1	(10/986303).APP.	USPAT; USOCR	OR	ON	2010/10/31 17:02
S52	0	("7107180").URPN.	USPAT	OR	ON	2010/10/31 17:04
S53	1	("6560903").PN.	US-PGPUB; USPAT	OR	OFF	2010/10/31 18:21
S54	7	"942802".ap.	US-PGPUB; USPAT	OR	ON	2010/10/31 18:22
S55	21	("6560903").URPN.	USPAT	OR	ON	2010/10/31 18:25
S65	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S66	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S67	61	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S68	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S69	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S70	153	S65 or S66 or S67 or S68 or S69	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S71	184	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2011/04/23 22:30
S72	1592	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2011/04/23 22:42
S73	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S74	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S75	73	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT;	OR	ON	2014/06/16 01:45

#3008

			EPO; JPO; DERWENT			
S76	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S77	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S78	165	S73 or S74 or S75 or S76 or S77	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
S79	301	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
S80	106	S79 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
S81	2337	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
S82	1245	S81 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
S83	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S84	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S85	73	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S86	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S87	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S88	165	S83 or S84 or S85 or S86 or S87	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
S89	10	S88 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2014/06/16 02:47
S90	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42

S91	1	Goris-Annelies-Heleen-Carolien.in. #3009	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S92	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S93	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S94	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S95	168	S90 or S91 or S92 or S93 or S94	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:42
S96	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S97	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S98	76	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S99	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S100	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S101	168	S96 or S97 or S98 or S99 or S100	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/02/07 18:44
S102	11	S101 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:44
S103	341	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:45
S104	106	S103 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/02/07 18:45
S105	2555	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2015/02/07 18:50

S106	1248	S105 and @ad<"20061205" #3010	US-PGPUB; USPAT	OR	ON	2015/02/07 18:50
S107	15922	(wrist watch arm forearm waist belt leg chest neck head forehead sweatband) same (calorie energy) same (activity walk walking run running jog jogging standard standardized)	US-PGPUB; USPAT	OR	ON	2015/02/07 18:55
S108	13028	S107 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/02/07 18:56
S109	8	S107 and ((compensat\$ or transfer or adjust\$) with (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2015/02/07 18:57
S110	7	S109 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2015/02/07 18:57
S111	2	((("8795137") or ("20040102931")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/02/07 19:38
S112	688	A61B5/065.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:44
S113	1566	A61B5/1118.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S114	541	A61B5/1123.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S115	1316	A61B5/681.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:45
S116	719	A61B5/7278.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:46
S117	200	A61B5/6802.cpc.	US-PGPUB; USPAT	OR	ON	2015/02/07 19:46
S118	2196	A61B5/065.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S119	3931	A61B5/1118.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S120	1343	A61B5/1123.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S121	3854	A61B5/681.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:46
S122	1665	A61B5/7278.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2015/02/07 19:47

#3011

			DERWENT; IBM_TDB			
S123	440	A61B5/6802.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:47
S124	73	S123 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:48
S125	357	S122 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:52
S126	82	S125 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:52
S127	0	S126 not S125	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:53
S128	39	S126 not S124	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:53
S129	10	S118 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S130	0	S129 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S131	738	S118 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 19:58
S132	623	S121 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2015/02/07 20:06

#3012

			DERWENT; IBM_TDB			
S133	109	S132 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:06
S134	85	S133 not (S124 S126)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:06
S135	2792	A61B2560/0223.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:26
S136	5945	A61B2562/0219.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:27
S137	54	S135 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:27
S138	13	S137 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:28
S139	13	S138 not (S124 S126 S133)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:28
S140	1729	S136 and (S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:30
S141	591	S140 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:31
S142	481	S141 not (S124 S126 S133 S138)	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	ON	2015/02/07 20:31

#3013

			DERWENT; IBM_TDB			
S143	4758	(S119 S120)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:40
S144	4097	S143 not (S124 S126 S133 S138 S141)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:43
S145	807	S144 and @ad<"20061205"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/07 20:43

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S56	4	Goris-Annelies.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S57	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S58	55	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S59	3	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S60	0	Bodlaender-Maarten.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S61	60	S56 S57 S58 S59 S60	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S62	5	S61 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:03
S63	2	S61 and (wrist arm leg shank ankle shoe chest neck head waist belt back).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:05

S64	1	("2008/0281234").URPN.	#:3014	USPAT	OR	ON	2010/10/31 16:05
-----	---	------------------------	--------	-------	----	----	---------------------

2/ 9/ 2015 1:48:22 AM

C:\Users\elloyd1\Documents\EAST\Workspaces\12097121.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body
Group Art Unit : 3739
Examiner : Emily M. Lloyd
Confirmation No. : 8272

Mail Stop: Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

In response to the Non-Final Office Action mailed June 19, 2014, in the above-identified application, please enter the following amendments and consider the following remarks:

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A measuring system comprising:

a sensor arranged to be attached at any one of a plurality of positions within surface zones on the body of ~~on~~ the subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and

a processor coupled to said sensor, said processor being arranged to ~~establish~~ identify the location where the sensor is attached to the ~~at which~~ of the plurality of ~~subject~~ positions on the subject the sensor is attached, using a compensation method equation, and

to derive a subject-related value from the measured value, using a compensation method equation, also in-dependence where the derivation of the subject-related value also depends on the position of the sensor on the subject.

2. (Currently Amended) The measuring system as claimed in claim 1, wherein the plurality of positions configured for sensor attachment to the body of the subject includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head.

3. (Previously Presented) The measuring system as claimed in claim 1, wherein the derived value comprises an activity parameter of the subject.

4. (Previously Presented) The measuring system as claimed in claim 3, wherein the activity parameter comprises energy expenditure.

5. (Currently Amended) The measuring system as claimed in claim 3, wherein the activity parameter represents a degree of activity of a body part associated with the position on the subject ~~[[at which]]~~ where the sensor is attached.

6. (Previously Presented) The measuring system as claimed in claim 1, wherein the measured

value comprises at least one of temperature, ECG, or acceleration.

7. (Currently Amended) The measuring system as claimed in claim 1, wherein the processor is further arranged, using a compensation method equation, to select a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is configured to generate ~~[[generates]]~~ a further measured value for each quantity in the selected subset.

8. (Currently Amended) ~~[[The]]~~ A measuring system as claimed in claim 1 comprising,
a sensor arranged to be attached at any one of a plurality of positions within surface zones on the body of the subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and

a processor coupled to said sensor, said processor being arranged to identify the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation,

wherein said processor is further arranged to convert, using a compensation method equation,

the measured value into an estimated measured value related to a reference position on the subject, and

to derive ~~[[the]]~~ a subject-related value from the estimated measured value, using a compensation method equation.

9. (Currently Amended) The measuring system as claimed in claim 1, wherein the processor, in ~~establishing which of~~ identifying the location where the sensor is attached to the plurality of subject positions on the subject the sensor is attached, using a compensation method equation, is arranged for performing the ~~determining~~ determination in dependence on the measured value.

10. (Currently Amended) The measuring system as claimed in claim 9, wherein the ~~processor~~ measuring system is further arranged to obtain, from the sensor, the measured value or a plurality of measured values measured during a time interval, and wherein the processor, in ~~establishing at which of~~ identifying the location where the sensor is attached to the plurality of subject positions

~~on the subject the sensor is attached, using a compensation method equation,~~ is arranged to perform the ~~establishing~~ identification in dependence on the measured value or measured values measured during the time interval.

11. (Currently Amended) The measuring system as claimed in claim 10, wherein the processor, in ~~establishing at which of~~ identifying the location where the sensor is attached to the plurality of subject positions ~~on the subject the sensor is attached, using a compensation method equation,~~ is arranged to further perform the ~~establishing~~ identification on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively.

12. (Currently Amended) The measuring system as claimed in claim 10, wherein the processor, in ~~establishing at which of~~ identifying the location where the sensor is attached to the plurality of subject positions ~~on the subject the sensor is attached, using a compensation method equation,~~ is arranged to further perform, using a compensation method equation, a pattern recognition of a signal derived from the measured values measured during the time interval.

13. (Currently Amended) The measuring system as claimed in claim 9, wherein the processor is further arranged, using a compensation method equation, to determine that the subject is performing a standardized activity, and wherein the processor, in ~~establishing at which of~~ identifying the location where the sensor is attached to the plurality of subject positions ~~on the subject the sensor is attached, using a compensation method equation,~~ is arranged to use at least one measured value obtained from the sensor, the at least one measured value relating to a time the subject is performing the standardized activity.

14. (Currently Amended) The measuring system as claimed in claim 13, wherein the processor, using a compensation method equation, in determining that the subject is performing a standardized activity, is arranged to perform the ~~[[determining]]~~ determination in dependence on at least one measured value during the time the subject is performing the standardized activity.

15. (Previously Presented) The measuring system as claimed in claim 13, wherein said

measuring system further comprises a user interface for receiving input from the subject to indicate when the subject is performing the standardized activity.

16. (Previously Presented) The measuring system as claimed in claim 1, wherein said measuring system further comprises a user interface for receiving input from the subject related to the position of the sensor on the subject.

17. (Currently Amended) The measuring system as claimed in claim 1, wherein said measuring system further comprises:

storage means for storing at least one pattern related to performing [[the]] a predetermined activity in a predetermined manner,

and wherein said processor, using a compensation method equation, is further arranged to establish that the subject is performing [[a]] the predetermined activity,

to determine a similarity measure relating to a signal representing the derived value and [[the]] at least one stored pattern, and

to provide feedback in dependence on the similarity measure.

18. (Currently Amended) The measuring system as claimed in claim 17, wherein the processor, in establishing that the subject is performing the predetermined activity, is arranged, using a compensation method equation, to establish that the subject is performing at least one of a predetermined number of predetermined activities.

19. (Currently Amended) A measuring system as claimed in claim 1, wherein said measuring system further comprises a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the processor, in deriving the subject-related value, is arranged to derive the measured value, using a compensation method equation, also in dependence where the derivation of the subject-related value also depends on the further measured value.

20. (Cancelled)

21. (Currently Amended) A method of deriving a value relating to a subject, the method comprising:

attaching a sensor to any one of a plurality of positions on ~~[[a]]~~ the subject;

obtaining, in a processor, at least one measured value from the sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject;

~~establishing at which of~~ identifying, using the processor, the location where the sensor is attached to the plurality of subject positions on the subject the sensor is attached; , using a compensation method equation; and

deriving, using the processor, ~~[[the]]~~ a subject-related value from the measured value in dependence on the position of the sensor on the subject.

22. (Previously Presented) The measuring system as claimed in claim 6, wherein the acceleration is a tri-axial acceleration.

REMARKS

I. INTRODUCTION

Claims 1-2, 5, 7-14, 17-19, and 21 have been amended. These claim amendments are supported by at least page 2, lines 25-33; page 3, lines 27-34; page 4, lines 7-20; page 5, lines 1-10 and 14-34; page 6, lines 1-4; page 7, lines 25-34; page 9, lines 15-34; page 10, lines 1-32; page 11, lines 1-33; page 12, lines 1-32; page 13, lines 1-19; and Figs. 3, 4, 5A, 5B, 6 and 7 of the originally filed specification. No new matter has been added. Thus, claims 1-19 and 21-22 remain pending in the present application. In light of the above amendments and the following remarks, Applicants respectfully submit that all presently pending claims are in condition for allowance.

II. THE CLAIM OBJECTION SHOULD BE WITHDRAWN

Claims 1, 17 and 21 stand objected to for informalities. In view of the amendments to these claims, the withdrawal of this objection is respectfully requested.

III. THE 35 U.S.C. § 112 REJECTIONS SHOULD BE WITHDRAWN

Claims 1-19 and 22 stand rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.

Specifically, the Examiner states that these claims “contain[] subject matter which was not described in the specification as to reasonably convey ... that the inventor had possession of the invention” (*See* 6/19/14 Office Action, p.6). With regard to claim 1, the Examiner states that it is unclear how the processor performs the claimed functions of establishing “at which of the plurality of subject positions the sensor is attached.” (*Id.* at p.6, 25). Applicants respectfully disagree with the Examiner’s assertion.

As amended, claims 1 and 9-13 recite a processor being arranged “to identify the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation.” This amendment is supported by at least page 9, lines 23-34; page 10, lines 1-32; page 11, lines 1-33 and Figs. 4, 5A, 5B, and 6 of the originally filed specification. Thus,

claims 1 and 9-13 recite a processor that establishes the location of the sensor attachment to the subject, which is accomplished through the use of a compensation method equation. Accordingly, the Applicants respectfully submit that the amendments address the Examiner's comments.

With regard to claims 1, 8 and 19, the Examiner stated that it is unclear how the processor is "arranged to derive a subject-related value from the measured value." (6/19/14 Office Action, p.7-9). Applicants respectfully disagree with the Examiner's assertion. As amended, claims 1, 8, and 19 recite a processor being arranged "to derive a subject-related value from the measured value, using a compensation method equation, where the derivation of the subject-related value also depends on the position of the sensor on the object." This amendment is supported by at least page 11, lines 33-34; page 12, lines 1-15; and Figs. 5A, 5B, and 6 of the originally filed specification.

With regard to claim 8, the Examiner stated that it is unclear how the processor is "arranged to convert the measured value into an estimated value" (6/19/14 Office Action, p.8). Applicants respectfully disagree with the Examiner's assertion. As amended, claim 8 recites a processor "further arranged to convert, using a compensation method equation, the measured value into an estimated measured value." This amendment is supported by at least page 10, lines 1-32; page 11, lines 1-5; and Figs. 5A-5B of the originally filed specification..

With regard to claim 10, the Examiner stated that it is unclear how the processor is "arranged to obtain, from the sensor, a plurality of measured values" (6/19/14 Office Action, p.9). Applicants respectfully disagree with the Examiner's assertion. As amended, claim 10 recites a measuring system that "is further arranged to obtain, from the sensor, the measured value or a plurality of measured values." This amendment is supported by at least page 7, lines 25-34; page 9, lines 15-22; and Fig. 3 of the originally filed specification..

With regard to claim 12, the Examiner stated that it is unclear how the processor is "arranged to perform a pattern recognition of a signal derived from the measured values" (6/19/14 Office Action, p.9). Applicants respectfully disagree with the Examiner's assertion. As

amended, claim 12 recites a processor arranged to “perform, using a compensation method equation, a pattern recognition of a signal derived from the measured values.” This amendment is supported by at least page 11, lines 6-32; page 12, lines 16-32; page 13, lines 1-2; Figs. 5A, 6, and 7 of the originally filed specification..

With regard to claims 13-14, the Examiner stated that it is unclear how the processor is “arranged to determine that the subject is performing a standardized activity” (6/19/14 Office Action, p.10). Applicants respectfully disagree with the Examiner’s assertion. As amended, claims 13 and 14 recite a processor “further arranged, using a compensation method equation, to determine that the subject is performing a standardized activity.” This amendment is supported by at least page 10, lines 1-25; page 12, lines 16-32; page 13, lines 1-18; and Figs. 5A and 7 of the originally filed specification..

With regard to claim 17-18, the Examiner stated that it is unclear how the processor is “arranged to determine that the subject is performing a predetermined activity” (6/19/14 Office Action, pp.10-11). Applicants respectfully disagree with the Examiner’s assertion. As amended, claims 17 and 18 recite a “processor, using a compensation method equation, is further arranged to establish that the subject is performing a predetermined activity.” This amendment is supported by at least page 10, lines 1-25; page 12, lines 16-32; page 13, lines 1-18; and Figs. 5A and 7 of the originally filed specification..

With regard to claim 17, the Examiner stated that it is unclear how the processor is “arranged to determine a similarity measure” and “arranged to provide feedback in dependence on the similarity measure” (6/19/14 Office Action, p.11). Applicants respectfully disagree with the Examiner’s assertion. As amended, claim 17 recites a “processor, using a compensation method equation, is further arranged ...to determine a similarity measure relating to a signal representing the derived value and the stored pattern, and to provide feedback in dependence on the similarity measure.” This amendment is supported by at least page 11, lines 6-32; page 12, lines 7-34; page 12, lines 1-6; page 13, lines 1-18; and Figs. 5B and 6 of the originally filed specification..

The Examiner states that, with regards to claims 13-14, it is unclear how or why a measured value is used to determine if a user is performing a standardized activity if the user directly tells the device that he/she is performing a standardized activity. (6/19/14 Office Action, pp. 10, 12). Applicants direct the Examiner's attention to page 11, lines 6-32 of the originally filed application. In this portion of the specification, it is clearly disclosed that user entry indicating the user's performance of a standardized activity is an **alternative** to sensor acquisition and subsequent data processing of measured values during the activity (Original Specification, p. 11, lines 14-16). The alternative to user entry, which includes sensor acquisition and sensor attachment position determination, is also described in this portion of the specification (Original Specification, p. 11, lines 6-13). Thus, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(a) rejections of claim 13 and its dependent claims 14-15 for at least the foregoing reasons presented with regards to claim 13.

In addition, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(a) rejections of claim 1 and its dependent claims 2-19 and 22 for at least the foregoing reasons presented with regards to claim 1.

Claims 1-9 and claims 21-22 stand rejected under 35 U.S.C. § 112, second paragraph, for being indefinite (6/19/14 Office Action, p.12). With regards to claims 1-19 and 21-22, these claims have been amended to overcome the formatting deficiencies indicated by the Examiner.

In addition, the Examiner stated that, with regards to claims 13-14, it is unclear how or why a measured value is used to determine if a user is performing a standardized activity if the user directly tells the device that he/she is performing a standardized activity. (6/19/14 Office Action, p.152). Applicants direct the Examiner's attention to the above 35 U.S.C. § 112(a) discussion of claims 13 and 14. Thus, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112(b) rejections of claim 13 and its dependent claim 14 for at least the foregoing reasons.

Furthermore, the Examiner states that it is unclear how claim 14 further limits claim 13. (See 11/15/10 Office Action, p. 29). Claim 13 relates to the processor arrangement for

determining that the subject is performing a standardized activity,” whereas claim 14 further explains that this determination is conducted “in dependence on at least one measured value during the time the subject is performing the standardized activity.” Thus, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112, second paragraph, rejection of claims 1-19 and 21-22.

Claims 8 and 11 stand rejected under 35 U.S.C. § 112, fourth paragraph, for being indefinite (6/19/14 Office Action, p.17). These claims have been amended to overcome the formatting deficiencies indicated by the Examiner. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112, fourth paragraph, rejection of claims 8 and 11.

IV. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

Claims 1-3, 5, 6, 9, 10, 13, 14, and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Merkel (U.S. Published App. No. 2007/0032981) in view of Applicants’ assessment of the knowledge of one of ordinary skill in the art (hereinafter referred to as “Applicants’ previous statement”) (*See* 6/19/14 Office Action, pp.18-25).

Claim 1 recites, “[a] measuring system comprising: a sensor arranged to be attached at any one of a plurality of positions within surface zones on the body of the subject for obtaining a measured value representing a physical or a physiological quantity of the subject; and a processor coupled to said sensor, said processor being arranged to identify the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation, and to derive a subject-related value from the measured value, using a compensation method equation, where the derivation of the subject-related value also depends on the position of the sensor on the subject.”

Merkel discloses a wearable fitness device that is interchangeable with a plurality of wearable articles. (*See* Merkel, Abstract). The Examiner correctly acknowledges that Merkel fails to disclose “means for establishing which of the plurality of subject positions the sensor is attached to, and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject” (06/19/14 Office Action, p.19).

Meanwhile, the Examiner stated that Merkel implicitly teaches these limitations. To cure this deficiency, the Examiner relies on Applicants' statement that "[i]f Mault did disclose that the monitoring device was attached to one of a plurality of areas on the patient (which Applicants do NOT concede), one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device." (*See* August 25, 2010 Amendment, p. 14, ll. 9-13).

Applicants respectfully disagree with the Examiner's assertion. First, Applicants note that Merkel does not disclose a wearable fitness device capable of placement in multiple locations within zones on the subject's body. In contrast, Merkel discloses that the fitness device must be placed in the *correct orientation* on the body (Merkel, ¶ 41-42). Although the Examiner states that the fitness device of Merkel can be placed "on different parts of the body throughout the day," (6/19/14 Office Action, p.26), Applicants disagree with this interpretation; Merkel states that its fitness device must be *securely attached* in the proper position on the body, in order to take accurate measurements (Merkel, ¶ 29-30).

Thus, Applicants respectfully disagree with the Examiner's assertion that Applicants' previous statement renders the claims obvious. Applicants' previous statement was an identification of a problem that one of ordinary skill in the art would seek to cure in the Mault reference. However, the mere recognition of the existence of a problem does not make its solution obvious (*See Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)). The persistence of a long-felt need or problem without a solution may be a secondary consideration of non-obviousness (*See id.*). That is, identification of a problem does not automatically lead to the correct solution. Although one skilled in the art might recognize the need to identify the positioning of the monitoring device on the subject's body, this recognition does not teach the means for accomplishing this function. Therefore, Applicants respectfully submit that while Merkel discloses that its fitness device could be attached to a plurality of wearable articles, one of ordinary skill in the art would still realize that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations resulting from variable positioning of the device on the body.

Accordingly, Applicants respectfully submit that Merkel and Applicants' previous statement, alone or together, fail to disclose or suggest "means for establishing which of the plurality of subject positions the sensor is attached to, and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject," as recited in claim 1. Therefore, Applicants respectfully submitted that the rejection of claim 1 and its dependent claims 2-3, 5, 6, 9, 10, 13, 14 should be withdrawn.

Claim 21, recites, "identifying, using the processor, the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation." Thus, Applicants respectfully submit that the rejection of claim 21 should be withdrawn for at least the foregoing reasons presented with regards to claim 1.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Merkel and Applicant's previous statement, in view of Applicants' previous statement, and in further view of Mault et al. (U.S. Published App. No. 2001/0049470) (06/19/14 Office Action, pp.24-25).

Applicants respectfully submit that Mault fails to cure the above-identified deficiencies of Merkel and Applicant's previous statement, and that Merkel, Applicants' previous statement, and Mault, alone or in any combination, fail to disclose or suggest a "processor being arranged to identify the location where the sensor is attached to the plurality of positions on the subject, using a compensation method equation," as recited in claim 1 and, similarly in claim 21. Because claim 4 depends on and, therefore, contains all of the limitations of claim 1, it is respectfully submitted that the rejection of claim 4 should be withdrawn.

Electronic Patent Application Fee Transmittal

Application Number:	12097121
Filing Date:	12-Jun-2008
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Filer:	Oleg F. Kaplun/sandy gellineau
Attorney Docket Number:	2005P02656WOUS

Filed as Large Entity

U.S. National Stage under 35 USC 371 Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with \$0 paid	1251	1	200	200

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				200

Electronic Acknowledgement Receipt

#2021

EFS ID:	20465615
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Oleg F. Kaplun/sandy gellineau
Filer Authorized By:	Oleg F. Kaplun
Attorney Docket Number:	2005P02656WOUS
Receipt Date:	20-OCT-2014
Filing Date:	12-JUN-2008
Time Stamp:	17:36:35
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$200
RAM confirmation Number	4769
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
-----------------	----------------------	-----------	----------------------------------	------------------	------------------

1		28901Amdt20Oct14.pdf #3032	914767	yes	15
			f69754004ed74e839977538cf7252216a8993db6		

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Transmittal Letter	1	1	
Amendment/Req. Reconsideration-After Non-Final Reject	2	15	

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30547	no	2
			591bca2075aa60a43c1420585bce144aced7571d		

Warnings:

Information:

Total Files Size (in bytes):	945314
-------------------------------------	--------

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

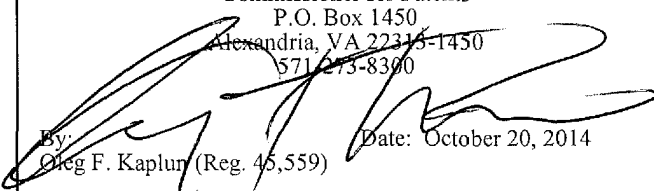
Attorney Docket No. (003603US1)40160/28901

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s) : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body

Group Art Unit : 3739
Examiner : Emily M. Lloyd
Confirmation No. : 8272

Mail Stop: Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

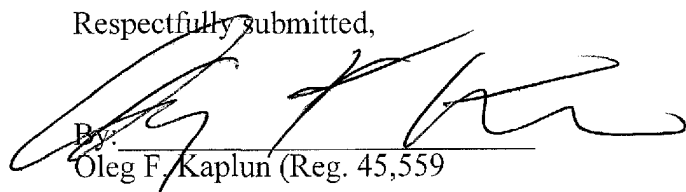
<u>Certificate of Facsimile / Electronic Filing</u>	
I hereby certify that this correspondence is being deposited via facsimile or electronic filing addressed to:	
Mail Stop: Amendments Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 571-273-8300	
By:  Oleg F. Kaplun (Reg. 45,559)	Date: October 20, 2014

TRANSMITTAL

Transmitted herewith please find an Amendment in response to the Non-Final Office Action mailed on June 19, 2014 for filing in the above-identified application. Applicant hereby requests a one-month extension of time. Please charge the credit card of Fay Kaplun & Marciniak, LLP in the amount of \$200.00 for the extension fees. The Commissioner is hereby authorized to charge the Deposit Account of **Fay Kaplun & Marciniak, LLP, No. 50-1492** any additional required fees.

Respectfully submitted,

Dated: October 20, 2014


By: _____
Oleg F. Kaplun (Reg. 45,559)

Fay Kaplun & Marciniak, LLP
150 Broadway, Suite 702
New York, N.Y. 10038
(212) 619-6000 (telephone)
(212) 619-0276 (facsimile)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	10/20/2014	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	* 21	Minus	** 22	= 0	X \$80 = 0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/MARQUITA JONES/



#3035

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/097,121	06/12/2008	Annelies Goris	2005P02656WOUS	8272

24737 7590 06/19/2014
 PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT	PAPER NUMBER
3739	

NOTIFICATION DATE	DELIVERY MODE
06/19/2014	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

debbie.henn@philips.com
 marianne.fox@philips.com

Office Action Summary	Application No. # 3736 12,097,121	Applicant(s) GORIS ET AL.	
	Examiner EMILY LLOYD	Art Unit 3736	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 7/21/2011.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a) This action is **FINAL**. 2b) This action is non-final.

3) An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) Claim(s) 1-19,21 and 22 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) Claim(s) 1-19,21 and 22 is/are allowed.

7) Claim(s) _____ is/are rejected.

8) Claim(s) _____ is/are objected to.

9) Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) The specification is objected to by the Examiner.

11) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) All b) Some** c) None of the:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date _____

3) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

4) Other: _____

Application/Control Number: 12/097,121
Art Unit: 3736

Page 2

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 July 2011 has been entered.

The Examiner acknowledges Applicant's amendments to claims 1-19, 21 and 22, and the cancellation of claim 20. Currently, claims 1-19, 21 and 22 are pending.

Claim Interpretation - 35 USC § 112, Sixth Paragraph

The following is a quotation of 35 U.S.C. 112(f):

(f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 3

Use of the word “means” (or “step for”) in a claim with functional language creates a rebuttable presumption that the claim element is to be treated in accordance with 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph). The presumption that 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph) is invoked is rebutted when the function is recited with sufficient structure, material, or acts within the claim itself to entirely perform the recited function.

Absence of the word “means” (or “step for”) in a claim creates a rebuttable presumption that the claim element **is not** to be treated in accordance with 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph). The presumption that 35 U.S.C. 112(f) (pre-AIA 35 U.S.C. 112, sixth paragraph) is not invoked is rebutted when the claim element recites function but fails to recite sufficiently definite structure, material or acts to perform that function.

Claim elements in this application that use the word “means” (or “step for”) are presumed to invoke 35 U.S.C. 112(f) except as otherwise indicated in an Office action. Similarly, claim elements that do not use the word “means” (or “step for”) are presumed not to invoke 35 U.S.C. 112(f) except as otherwise indicated in an Office action.

Claim limitation “storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner” has/have been interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, because it uses/they use a generic placeholder “means” coupled with functional language “for

Application/Control Number: 12/097,121

Page 4

Art Unit: 3736

storing at least one pattern related to performing the predetermined activity in a predetermined manner” without reciting sufficient structure to achieve the function.

Furthermore, the generic placeholder is not preceded by a structural modifier.

Since the claim limitation(s) invokes 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, claim(s) 17 and 18 has/have been interpreted to cover the corresponding structure described in the specification that achieves the claimed function, and equivalents thereof.

A review of the specification shows that the following appears to be the corresponding structure described in the specification for the 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph limitation: “a storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk” ([0074] of Applicant’s specification as published).

If applicant wishes to provide further explanation or dispute the examiner’s interpretation of the corresponding structure, applicant must identify the corresponding structure with reference to the specification by page and line number, and to the drawing, if any, by reference characters in response to this Office action.

If applicant does not intend to have the claim limitation(s) treated under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112 , sixth paragraph, applicant may amend the claim(s) so that it/they will clearly not invoke 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, or present a sufficient showing that the claim recites/recite sufficient structure, material, or acts for performing the claimed function to preclude application of 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 5

For more information, see MPEP § 2173 *et seq.* and *Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications*, 76 FR 7162, 7167 (Feb. 9, 2011).

Claim Objections

Claims 1, 17 and 21 are objected to because of the following informalities: claims 1 and 17 (and any other claims with multiple elements) should be written so they comply with 37 CFR 1.75(i); and claim 21 “positions on a subject” should be “positions on the subject”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-19 and 22 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a

Application/Control Number: 12/097,121

Page 6

Art Unit: 3736

way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 9-13, it is unclear how the processor is, "arranged to establish at which of the plurality of subject positions the sensor is attached." It is unclear if this function is accomplished by "using information from a feature database" (page 11 line 10), "the signal from the sensor is analyzed for features that are position-dependent" (page 11 lines 11-12), "the user can provide the activity monitor with input" (page 11 line 14), "Combinations of the values during the standardized activities or the absolute measured values are used to determine the position of the sensor 6 on the subject" (page 11 lines 16-17), "a number of predefined rules are used" (page 11 lines 17-18), exemplary rules provided on page 11 lines 18-23, "fuzzy logic rules" (page 11 line 24), "*Other ways to provide a set of rules, for example neural network methods and logic programming, are obvious to the skilled artisan*" (page 11 lines 24-25, emphasis added), "means of pattern recognition" (page 11 lines 26-27), "*for example by correlating a signal obtained from the sensor with a signal stored in the feature database*" (page 11 lines 27-28, emphasis added), "The pattern recognition can be performed in the time domain, the frequency domain, or *another domain, preferably a time-frequency domain such as a wavelet domain*" (page 11 lines 28-30, emphasis added), "Pattern recognition *can be performed in many ways known to the skilled artisan. For example, techniques used in speech recognition can be applied*" (page 11

Application/Control Number: 12/097,121

Page 7

Art Unit: 3736

lines 30-32, emphasis added), "the measured value is first converted to an activity parameter, and the activity parameter is used to determine the position of the sensor 6 on the subject in a way similar to what is described above" (page 12 lines 7-9), "*It is also possible to use other quantities relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119*" (page 12 lines 13-15, emphasis added), use of data from initialization based on the individual (page 12 line 16-page 13 line 18), use of data from initialization based on a population of subjects (page 13 lines 19-27), and/or use of other methods. The Office especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding claims 1 and 19, it is unclear how the processor is, "arranged ...to derive a subject-related value from the measured value." It is unclear if this function is accomplished by one or more of the examples of page 10 lines 4-22, "*potentially more flexible compensation methods are easily conceivable. Such methods include higher order polynomials, generalized linear models, other statistical methods, artificial neural networks, and fuzzy logic methods* (page 10 lines 23-25, emphasis added), one or more of the examples of page 10 line 29-page 11 line 5, one or more of the examples of page 12 lines 1-6, the example of page 12 lines 9-13, "*It is also possible to use other quantities relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119*" (page 12 lines 13-15, emphasis added), use of data from initialization based on the

Application/Control Number: 12/097,121

Page 8

Art Unit: 3736

individual (page 12 line 16-page 13 line 18), use of data from initialization based on a population of subjects (page 13 lines 19-27), and/or use of other methods. The Office especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding claim 7, it is unclear how the processor is, “arranged to select a subset of a predefined set.” **It is unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that this function is only described on page 5 lines 1-13, and the language provided is mostly exemplary; as such, it is unclear what is defined by the claim.

Regarding claim 8, it is unclear how the processor is, “arranged to convert the measured value into an estimated value.” **It is unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by the descriptions cited for the processor arranged to derive a subject-related value from the measured value listed above and/or in another manner. Further, at least the same problems with the descriptions cited for the means for deriving a subject-related value from the measured value listed above contribute to the lack of clarity as to how this function is performed.

Regarding claim 8, it is unclear how the processor is, “arranged to derive the subject-related value from the estimated value.” **It is unclear how Applicant intended**

Application/Control Number: 12/097,121

Page 9

Art Unit: 3736

to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function. It is unclear if this function is accomplished by the descriptions cited for the processor arranged to derive a subject-related value from the measured value listed above and/or in another manner. Further, at least the same problems with the descriptions cited for the means for deriving a subject-related value from the measured value listed above contribute to the lack of clarity as to how this function is performed.

Regarding claim 10, it is unclear how the processor is, “arranged to obtain, from the sensor, a plurality of measured values.” **It is unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by the processor, as claimed, or by “means to communicate... preferably using a wireless link 32 such a WIFI or Bluetooth” (page 9 lines 16-18), “for example by means of a wireless or wired connection” (page 7 line 33), and/or another mechanism. Further, it is unclear what other mechanisms are available besides the exemplary “wireless or wired connection” on page 7 line 33.

Regarding claim 12, it is unclear how the processor is, “arranged to perform a pattern recognition of a signal derived from the measured values.” **It is unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by “means of pattern recognition” (page 11 lines 26-27), “for example by correlating a signal obtained from the sensor with a signal stored in the feature

Application/Control Number: 12/097,121

Page 10

Art Unit: 3736

database" (page 11 lines 27-28, emphasis added), "The pattern recognition can be performed in the time domain, the frequency domain, or *another domain*, preferably a time-frequency domain *such as* a wavelet domain" (page 11 lines 28-30, emphasis added), "Pattern recognition *can be performed in many ways known to the skilled artisan. For example*, techniques used in speech recognition can be applied" (page 11 lines 30-32, emphasis added), and/or use of other methods. The Examiner especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding claims 13 and 14, it is unclear how the processor is, "arranged to determine that the subject is performing a standardized activity." **It is unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner further notes that page 6 lines 15-29, page 11 lines 12-17 and page 13 lines 20-21 of the specification all appear to refer to the use of a standardized activity in initializing the device, where the standardized activity is either instructed to the subject or the subject inputs the standardized activity. The only support that the Examiner found in the specification as to how the device provides the claimed function of determining that the subject is performing a standardized activity is "the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs" (page 11 lines 14-16).

Regarding claims 17 and 18, it is unclear how the processor is, "arranged to establish that the subject is performing a predetermined activity." **It is unclear how**

Application/Control Number: 12/097,121

Page 11

Art Unit: 3736

Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function. It is unclear if this function is accomplished by the processor arranged to determine that the subject is performing a standardized activity, or if this function is accomplished in another manner. Further, at least the same problems with the descriptions cited for the processor arranged to determine that the subject is performing a standardized activity as listed above contribute to the lack of clarity as to how this function is performed.

Regarding claim 17, it is unclear how the processor is, “arranged to determine a similarity measure.” **It is unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that the specification only provides the broad statement that “a pattern-matching technique *can be used*” (page 7 line 13, emphasis added) as to how the similarity measure is determined; as “can be used” indicates that other options are available, it is still unclear what boundaries Applicant intended on providing as to how this function is performed.

Regarding claim 17, it is unclear how the processor is, “arranged to provide feedback in dependence on the similarity measure.” **It is unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that the specification provides few examples (page 7 lines 14-19) as to how the feedback in dependence on the similarity measure is provided; as such, it is unclear what boundaries Applicant intended on providing as to how this function is performed.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 12

Claims 2-19 and 22 are rejected as at least depending on claim 1 as well as any intervening claims that are rejected.

Regarding claims 13-15, the only support that the Office found in the specification as to how the device provides the claimed function of determining that the subject is performing a standardized activity is “the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs” (page 11 lines 14-16). However, claims 13 and 14 further refer to “a measured value relating to a time the subject is performing the standardized activity” (claim 13) and “in dependence on at least one measured value” (claim 14). If the determination that the subject is performing a standardized activity is made based on the user providing input, it is unclear how the processor will further obtain and use (at least one) measured value in making this determination.

Claims 14 and 15 are rejected as depending on claim 13.

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19, 21 and 22 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and

Application/Control Number: 12/097,121

Page 13

Art Unit: 3736

distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Regarding claims 1, 8, 10-14, 17 and 18, it is unclear if "to derive..." (claims 1 and 8), "to perform..." (claims 10-12 and 14), "to use..." (claim 13), "to determine..." (claim 17), "to provide..." (claim 17) and "to establish..." (claim 18) is intended to further limit the processor earlier in the respective claim (e.g. "the processor is further configured to..."), or is intended to state that the measuring system, sensor, or another element is able "to derive..." (claims 1 and 8), "to perform..." (claims 10-12 and 14), "to use..." (claim 13), "to determine..." (claim 17), "to provide..." (claim 17) and "to establish..." (claim 18). Claims 2-19 and 22 are rejected as ultimately depending on claim 1 and any intervening rejected claims.

Regarding claims 1, 9-13 and 21, it is unclear if "subject positions" should be "positions on the subject" or other language that is clearly drawn to different locations on a subject's body instead of language that appears to also claim the "subject position" in the sense of if the subject is sitting, standing, etc.

Regarding claim 1, it is unclear if "also in dependence on..." is intended to further limit the subject-related value, the function "to derive a subject-related value from the measured value", the measured value, and/or another interpretation.

Regarding claims 2, 5, 9-14 and 18, it is unclear if Applicant is claiming a body part or body (e.g. "the subject"), or if Applicant is claiming that a structural element is configured to functionally relate to a body part. For example, in claim 2, it is unclear if Applicant intended to claim "at least two of the following: a wrist... and a head", or if

Application/Control Number: 12/097,121

Page 14

Art Unit: 3736

Applicant intended to claim, "where the sensor is further configured to be arranged at two or more of the following: a wrist... and a head."

Regarding claims 3-7, 19 and 22, it is unclear if Applicant is claiming data and/or a signal, or if Applicant is claiming that a structural element is configured to functionally relate to data and/or a signal. For example, in claim 3, it is unclear if Applicant intended to claim "the derived value comprises an activity parameter of the subject", or if Applicant intended to claim, "the processor is further configured to derive the subject-related value based on an activity parameter of the subject."

Regarding claim 7, it is unclear if "the sensor generates" is intended to claim the step of the sensor generating, that the sensor is configured to generate, and/or is intended to claim another interpretation.

Regarding claims 9-13 and 18, it is unclear if "the processor, in establishing" is intended to claim the step of the processor establishing, that the processor is configured to establish, and/or is intended to claim another interpretation.

Regarding claim 14, it is unclear if "the processor, in determining" is intended to claim the step of the processor determining, that the processor is configured to determine, and/or is intended to claim another interpretation.

Regarding claim 17, "the predetermined activity" lacks antecedent basis. As such, it is unclear if claim 17 was intended to introduce a predetermined activity, depend on another claim, and/or be interpreted in another manner.

Regarding claim 17, it is unclear if Applicant intended to claim a single stored pattern ("the stored pattern") or if Applicant intended to claim "at least one pattern."

Application/Control Number: 12/097,121
Art Unit: 3736

Page 15

Regarding claim 19, it is unclear if “the processor, in deriving” is intended to claim the step of the processor deriving, that the processor is configured to derive, and/or is intended to claim another interpretation.

Regarding claim 21, “the subject-related value” lacks antecedent basis. As such, it is unclear if claim 17 was intended to introduce a subject-related value, depend on another claim, and/or be interpreted in another manner.

Regarding claim 8, it is unclear if “to derive the subject-related value from the estimated measured value” is intended to further limit, or alternatively to replace, “to derive a subject-related value from the measured value” of claim 1.

Regarding claim 11, it is unclear how claim 11 can further limit claim 10, which requires “a plurality of measured values” (claim 10), and yet provide for “the measured value or measured values measured during the time interval, respectively” (claim 11). Claim 10 requires a plurality of measured values, where claim 11 only requires a single measured value. It is further unclear if Applicant intended for claim 11 to depend from claim 9, claim 10, claim 9 or 10, and/or another interpretation.

Regarding claims 13 and 14, it is unclear how “(at least one) measured value” is used in determining that the subject is performing a standardized activity if the processor determines that the subject is performing a standardized activity based on input from the subject (see “the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs” (page 11 lines 14-16)). In other words, if the user/subject directly tells the device that they are performing the standardized activity, it

Application/Control Number: 12/097,121

Page 16

Art Unit: 3736

is unclear why and how "(at least one) measured value" would be used in furthering the determination that the user/subject is performing a standardized activity. Claims 14 and 15 are rejected as depending on claim 13.

Regarding claim 14, it is unclear how claim 14 further limits claim 13. It is unclear how or if "determining that the subject is performing a standardized activity, is arranged to perform the determining in dependence on at least one measured value" (claim 14) further limits "to determine that the subject is performing a standardized activity.... is arranged to use at least one measured value obtained from the sensor, the measured value relating to a time the subject is performing the standardized activity" (claim 13).

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

The following is a quotation of 35 U.S.C. 112(d):

(d) REFERENCE IN DEPENDENT FORMS.—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), fourth paragraph:

Subject to the [fifth paragraph of 35 U.S.C. 112 (pre-AIA)], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 17

Claim 8 is rejected under 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Claim 8 does not require all of the limitations of claim 1, as the subject-related value is derived from the estimated measured value while claim 1 derives the subject-related value from the measured value. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

Claim 11 is rejected under 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Claim 11 does not require all of the limitations of claim 10, as it only requires a single measured value while claim 10 requires a plurality of measured values. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

Application/Control Number: 12/097,121

Page 18

Art Unit: 3736

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

Application/Control Number: 12/097,121
Art Unit: 3736

Page 19

Claims 1-3, 5, 6, 9, 10, 13, 14 and 21 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over US 2007/0032981 (Merkel) as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art.

Regarding claim 1, Merkel discloses a measuring system (Figures 1-5) comprising: a sensor (see entire document, including fitness device 12 and [0036]) arranged to be attached at any one of a plurality of positions on a subject (see entire document, including Figures 1-5 and [0022]-[0034]) for obtaining a measured value representing a physical or a physiological quantity of the subject (see entire document, including [0036]); and means coupled to said sensor, said means being arranged to derive a subject-related value from the measured value (see entire document, including [0036]).

Merkel do not explicitly disclose the means are a processor arrange to establish which of the plurality of subject positions the sensor is attached, and that the means for deriving a subject-related value from the measured value is also in dependence on the position of the sensor on the subject. However, the Office notes that the invention of Merkel as a whole is drawn to implicitly teaching this limitations. Further, Applicant's 25 August 2010 Amendment (page 14 first full paragraph) states, "If [prior art] did disclose that the monitoring device was attached to one of a plurality of areas on the patient.... one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device." As Merkel

Application/Control Number: 12/097,121

Page 20

Art Unit: 3736

discloses "that the monitoring device was attached to one of a plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use means for establishing which of the plurality of subject positions the sensor is attached to in the invention of Merkel because "one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device" as admitted by Applicant (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), and it would have been further obvious to one of ordinary skill in the art at the time the invention was made to use dependence on the position of the sensor on the subject in deriving a subject-related value in the invention of Merkel to provide "compensat[ion] for measurement deviations that result because of the respective placement of the device" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph) that would provide for more accurate measurements with respect to the different "plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph).

Regarding claim 21, Merkel discloses a method of deriving a value relating to a subject, the method comprising: attaching a sensor to any one of a plurality of positions on a subject (see entire document, including Figures 1-5 and [0022]-[0034]); obtaining, in a means, at least one measured value from the sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject (see entire document, including fitness device 12, [0036] and Figures 1-5); and deriving,

Application/Control Number: 12/097,121

Page 21

Art Unit: 3736

using the means, the subject-related value from the measured value (see entire document, including [0036]).

Merkel do not explicitly disclose that the means are a processor, establishing which of a plurality of subject positions the sensor is attached to, and that the deriving the subject-related value from the measured value is also in dependence on the position of the sensor on the subject. However, the Office notes that the invention of Merkel as a whole is drawn to implicitly teaching this limitations. Further, Applicant's 25 August 2010 Amendment (page 14 first full paragraph) states, "If [prior art] did disclose that the monitoring device was attached to one of a plurality of areas on the patient.... one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device." As Merkel discloses "that the monitoring device was attached to one of a plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), it would have been obvious to one having ordinary skill in the art at the time the invention was made to establish which of the plurality of subject positions the sensor is attached to in the invention of Merkel because "one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device" as admitted by Applicant (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), and it would have been further obvious to one of ordinary skill in the art at the time the invention was made to use dependence on

Application/Control Number: 12/097,121

Page 22

Art Unit: 3736

the position of the sensor on the subject in deriving a subject-related value in the invention of Merkel to provide "compensat[ion] for measurement deviations that result because of the respective placement of the device" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph) that would provide for more accurate measurements with respect to the different "plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph).

Regarding claims 2, 3, 5, 6, 9, 10, 13, and 14, Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art teach the measuring system according to claim 1, wherein the plurality of positions includes a wrist (Merkel see entire document, including strap 26 and [0027]), a lower leg (Merkel see entire document, including anklets 14 and 16), and a waist (Merkel see entire document, including belt 18); wherein the derived value comprises an activity parameter of the subject (Merkel see entire document, including [0036]), wherein the activity parameter represents a degree of activity of a body part associated with the position on the subject at which the sensor is attached (attaching an accelerometer to a body part (Merkel see entire document, including [0036]) will inherently represent a degree of activity of the body part the accelerometer is attached to as the signal of the accelerometer, even if used to calculate steps, will represent the degree of activity of that portion of the body during the steps; even knowing the number of steps as an activity parameter represents the activity of the body part the sensor is attached to as during normal gait the legs move with a different degree of activity than the arms which both differ from the degree of activity of the chest and back); wherein the measured value comprises acceleration

Application/Control Number: 12/097,121

Page 23

Art Unit: 3736

(Merkel see entire document, including [0036]); wherein the means for establishing which of the plurality of subject positions the sensor is attached to is arranged for performing the determining in dependence on the measured value (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on the measured value); wherein the means are further arranged for obtaining from the sensor, a plurality of measured values measured during a time interval (Merkel see entire document, including [0036], in order for an assessment based on acceleration, heart rate, and/or blood pressure, sampling of the sensor is critical in order to accurately assess both the change and maintenance of the values; as such, the sensor measures values (consecutive data points) over a time interval (any set length of time that provides for the collection of at least 2 data points with the sampling frequency used by the sensor) and these values are obtained from the sensor (as otherwise the device of Merkel can't measure), and wherein the means for establishing at which of the plurality of subject positions the sensor is attached, is arranged to perform the establishing in dependence on the measured values measured during the time interval (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on the measured values; the measured values are clearly measured during the time interval discussed above); wherein the means are further arranged to determine that the subject is performing a standardized activity (Merkel see entire document, including abstract and [0006], stepping, especially as part of walking, is a standardized activity), and wherein the

Application/Control Number: 12/097,121

Page 24

Art Unit: 3736

means for establishing which of the plurality of subject positions the sensor is attached to is arranged to use at least one measured value obtained from the sensor (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on at least one measured value), the at least one measured value relating to a time the subject is performing the standardized activity (as Merkel is designed to measure steps (see entire document), and as values when the subject is not stepping (for example, when the subject is sitting or driving a car) would not contribute to the assessment of Merkel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use at least one measured value from the standardized activity to determining the position of the sensor on the subject); wherein the means for determining that the subject is performing a standardized activity is arranged to perform the determining in dependence on at least one measured value during the time the subject is performing the standardized activity (as Merkel is designed to measure steps (see entire document), and as values when the subject is not stepping (for example, when the subject is sitting or driving a car) would not contribute to the assessment of Merkel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use at least one measured value from the standardized activity to determining the position of the sensor on the subject).

Claim 4 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill

Application/Control Number: 12/097,121

Page 25

Art Unit: 3736

in the art as applied to claims 1 and 3 above, and further in view of US 2001/0049470 (Mault).

Regarding claim 4, Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art teach the measuring system of claim 3. Merkel does not expressly teach that the activity parameter comprises energy expenditure. Mault teaches an activity parameter comprising energy expenditure (see entire document, including Figure 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the activity parameter comprising energy expenditure as taught by Mault in the invention of Merkel to provide for tracking calories for "maintaining or losing weight" (Merkel [0006]).

Response to Arguments

Applicant's arguments filed 21 July 2011 have been fully considered but they are not persuasive.

Regarding Applicant's arguments all "means plus function" language was removed from the claims, the Office disagrees and notes that claim 17 includes "storage means for storing...."

Regarding Applicant's arguments that the previous 35 USC 112 rejections were answered with respect to Applicant's claim amendments, the Office disagrees. The Office notes that it is still unclear how the processor is able to perform the claimed functions (e.g. what algorithms are used), and that numerous unclear claim limitations remain as described above.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 26

Regarding Applicant's arguments regarding Merkel, Applicant's arguments are not found persuasive. The Office notes that Merkel's invention is drawn to being able to place the fitness device on different parts of the body throughout the day, without the need for the user to tell the invention when and where the fitness device is placed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY LLOYD whose telephone number is (571)272-2951. The examiner can normally be reached on Monday through Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hoekstra can be reached on 571-272-7232. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 27

Emily M Lloyd
Examiner
Art Unit 3736

/EMILY LLOYD/
Examiner, Art Unit 3739

<i>Index of Claims</i> 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	05/22/2010	11/05/2010	04/23/2011	06/16/2014				
	1	✓	✓	✓	✓				
	2	✓	✓	✓	✓				
	3	✓	✓	✓	✓				
	4	✓	✓	✓	✓				
	5	✓	✓	✓	✓				
	6	✓	✓	✓	✓				
	7	✓	✓	✓	✓				
	8	✓	✓	✓	✓				
	9	✓	✓	✓	✓				
	10	✓	✓	✓	✓				
	11	✓	✓	✓	✓				
	12	✓	✓	✓	✓				
	13	✓	✓	✓	✓				
	14	✓	✓	✓	✓				
	15	✓	✓	✓	✓				
	16	✓	✓	✓	✓				
	17	✓	✓	✓	✓				
	18	✓	✓	✓	✓				
	19	✓	✓	✓	✓				
	20	✓	✓	✓	-				
	21	✓	✓	✓	✓				
	22		✓	✓	✓				

Search Notes 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
600	595	5/22/2010	EL
702	160	10/31/2010	EL

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	5/22/2010	EL
Text Search	5/22/2010	EL
EAST Search	5/22/2010	EL
Updated EAST Search	10/31/2010	EL
Brief Google Scholar Search, requested NPL documents	11/2/2010	EL
Reviewed requested NPL documents	11/4/2010	EL
Updated EAST Search	4/23/2011	EL
Updated search	6/2014	EL

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

--	--

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
L2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
L3	73	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
L4	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
L5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
L6	165	L1 or L2 or L3 or L4 or L5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 01:45
L7	301	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
L8	106	7 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:49
L9	2337	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
L10	1245	9 and @ad<"20061205"	US-PGPUB; USPAT	OR	ON	2014/06/16 01:51
L11	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
L12	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB;	OR	ON	2014/06/16 02:47

#3066

			USPAT; EPO; JPO; DERWENT			
L13	73	Bodlaender-Maarten-Peter.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
L14	83	Bodlaender-Maarten-P.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
L15	4	Bodlaender-Maarten.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
L16	165	L11 or L12 or L13 or L14 or L15	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2014/06/16 02:47
L17	10	L16 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US- PGPUB; USPAT	OR	ON	2014/06/16 02:47
S1	8	Goris-Annelies.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S2	1	Goris-Annelies-Heleen-Carolien.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S3	46	Bodlaender-Maarten-Peter.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S4	78	Bodlaender-Maarten-P.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S5	4	Bodlaender-Maarten.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S6	132	S1 or S2 or S3 or S4 or S5	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33

S7	4	EP-1254629-\$.did. or US-5111826-\$.0067	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:34
S8	1198	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/14 20:41
S9	1	("20030065257").PN.	US-PGPUB; USPAT	OR	OFF	2008/12/18 14:03
S10	1201	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S11	275	S10 and accelerometer	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S12	2	Nasiff-Roger-E.in.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:42
S13	1	(10/266272).APP.	USPAT; USOCR	OR	ON	2010/03/27 22:58
S14	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S15	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S16	56	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S17	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S18	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S19	143	S14 or S15 or S16 or S17 or S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S20	1	("20060161079").PN.	US-PGPUB; USPAT	OR	OFF	2010/03/27 23:03
S21	1	(11/332586).APP.	USPAT; USOCR	OR	ON	2010/03/27 23:03
S22	5	("20060052727" "20060161079"	US-	OR	ON	2010/03/27

		"20060255955" "7028547" #3068 "7127370").PN.	PGPUB; USPAT; USOCR			23:04
S23	2	Nasiff-\$.in.	US- PGPUB; USPAT	OR	ON	2010/03/27 23:23
S24	86	Mault-\$.in.	US- PGPUB; USPAT	OR	ON	2010/03/27 23:23
S25	23	S24 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US- PGPUB; USPAT	OR	ON	2010/03/27 23:26
S26	4	S22 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US- PGPUB; USPAT	OR	ON	2010/03/27 23:26
S27	21	S25 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US- PGPUB; USPAT	OR	ON	2010/03/27 23:29
S28	1	S25 and ((location with (wear worn wearing)))	US- PGPUB; USPAT	OR	ON	2010/03/27 23:30
S29	1384	600/595.ccls.	US- PGPUB; USPAT	OR	ON	2010/03/27 23:35
S30	8	Goris-Annelies.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S31	1	Goris-Annelies-Heleen-Carolien.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S32	57	Bodlaender-Maarten-Peter.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S33	79	Bodlaender-Maarten-P.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S34	4	Bodlaender-Maarten.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S35	144	S30 or S31 or S32 or S33 or S34	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S36	87	Mault-\$.in.	US- PGPUB; USPAT	OR	ON	2010/05/22 23:50

S37	23	S36 and (wrist watch arm forearm #3669 belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US- PGPUB; USPAT	OR	ON	2010/05/22 23:50
S38	1	S37 and ((location with (wear worn wearing)))	US- PGPUB; USPAT	OR	ON	2010/05/22 23:50
S39	1411	600/595.ccls.	US- PGPUB; USPAT	OR	ON	2010/05/22 23:50
S40	5	"497572".ap.	US- PGPUB; USPAT	OR	ON	2010/10/30 14:41
S41	9	Goris-Annelies.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S42	1	Goris-Annelies-Heleen-Carolien.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S43	58	Bodlaender-Maarten-Peter.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S44	79	Bodlaender-Maarten-P.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S45	4	Bodlaender-Maarten.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S46	145	S41 or S42 or S43 or S44 or S45	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S47	5	S46 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US- PGPUB; USPAT	OR	ON	2010/10/31 16:00
S48	167	702/160.ccls.	US- PGPUB; USPAT	OR	ON	2010/10/31 16:09
S49	1502	600/595.ccls.	US- PGPUB; USPAT	OR	ON	2010/10/31 16:09
S50	135	S48 and ((location located locating locate place placement placed placing compensated compensation compensate	US- PGPUB; USPAT	OR	ON	2010/10/31 16:10

		compensating adjust adjusting adjust adjustment varied various numerous many multiple different) with (body user subject wearer person human))				
S51	1	(10/986303).APP.	USPAT; USOCR	OR	ON	2010/10/31 17:02
S52	0	("7107180").URPN.	USPAT	OR	ON	2010/10/31 17:04
S53	1	("6560903").PN.	US- PGPUB; USPAT	OR	OFF	2010/10/31 18:21
S54	7	"942802".ap.	US- PGPUB; USPAT	OR	ON	2010/10/31 18:22
S55	21	("6560903").URPN.	USPAT	OR	ON	2010/10/31 18:25
S65	12	Goris-Annelies.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S66	1	Goris-Annelies-Heleen-Carolien.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S67	61	Bodlaender-Maarten-Peter.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S68	83	Bodlaender-Maarten-P.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S69	4	Bodlaender-Maarten.in.	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S70	153	S65 or S66 or S67 or S68 or S69	US- PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
S71	184	702/160.ccls.	US- PGPUB; USPAT	OR	ON	2011/04/23 22:30
S72	1592	600/595.ccls.	US- PGPUB; USPAT	OR	ON	2011/04/23 22:42

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S56	4	Goris-Annelies.in.	US-	OR	ON	2010/10/31

			PGPUB; USPAT; UPAD			16:01
S57	1	Goris-Annelies-Heleen-Carolien.in.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S58	55	Bodlaender-Maarten-Peter.in.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S59	3	Bodlaender-Maarten-P.in.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S60	0	Bodlaender-Maarten.in.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S61	60	S56 S57 S58 S59 S60	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S62	5	S61 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:03
S63	2	S61 and (wrist arm leg shank ankle shoe chest neck head waist belt back).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:05
S64	1	("2008/0281234").URPN.	USPAT	OR	ON	2010/10/31 16:05

6/16/2014 2:57:30 AM

C:\Users\elloyd1\Documents\EAST\Workspaces\12097121.wsp

**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
 (Submitted Only via EFS-Web)**

Application Number	12097121	Filing Date	2008-06-12	Docket Number (if applicable)	2005P02656WOUS	Art Unit	3736
First Named Inventor	Annelies GORIS			Examiner Name	E.M. LLOYD		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

- Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
- Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- Other _____
- Enclosed
- Amendment/Reply
- Information Disclosure Statement (IDS)
- Affidavit(s)/ Declaration(s)
- Other _____

MISCELLANEOUS

- Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
- Other _____

FEES

- The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
- The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 141270

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

- Patent Practitioner Signature
- Applicant Signature

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Edward W. Goodman/	Date (YYYY-MM-DD)	2011-07-21
Name	Edward W. Goodman	Registration Number	28613

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

ANNELIES GORIS ET AL.

2005P02656WOUS

(PH003603US1)

SERIAL NO.: 12/097,121

GROUP ART UNIT: 3736

FILED: June 12, 2008

EXAMINER: E.M. Lloyd

CONFIRMATION NO.: 8272

DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF
ACTIVITY ON THE BODY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRELIMINARY AMENDMENT

In response to the Office Action mailed April 29, 2011, and the Request for Continued Examination (RCE) filed herewith, please amend the above-identified application as follows:

REMARKS

The Examiner has objected to the disclosure in that on page 10, lines 3 and 28, "it is unclear if "a reference position" should be "the reference position".

Applicants submit that the specification is correct as it stands. In particular, there are a plurality of reference positions on the subject (including "a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head", page 4, lines 6-8). The situation being describe in the specification on page 10, lines 1 et seq., is when the sensor is situated on the subject in a position not corresponding to any of the reference positions. As such, the specification (at both places) correctly states "...the sensor 6 is attached at a position on the subject that is not a reference position."

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 20 has been cancelled, while the claims have been amended for clarity.

The Examiner has rejected claims 1-22 under 35 U.S.C. 112, paragraphs 1 and 2. Applicants have amended the claims to remove all of the "means plus function" language therein, and to indicate that the "measuring system" includes a sensor and a processor, the processor performing all of the functions previously allocated to the various means plus function elements. This is supported in the specification on page 8, lines 32-33, or alternatively page 9, lines 18-22.

Applicants believe that the above changes and explanation answer the Examiner's 35 U.S.C. 112, paragraphs 1 and 2, rejection of the claims, and respectfully request withdrawal thereof.

On page 34 of the Office Action, the Examiner states "The Examiner notes that the generic terminology for Bluetooth is not provided in the specification amendment." Applicants submit that the specification as filed provides such a generic description, i.e., "The device 30 has means to communicate with a separate unit 31, preferably using a wireless link 32 such as WIFI or BLUETOOTH." Applicants submit that WIFI and BLUETOOTH are both examples of a wireless link 32, which can be thought of as generic terminology.

The Examiner has rejected claims 1-3, 5, 6, 9, 10, 13, 14 and 21 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2007/0032981 to Merkel et al. "as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art". The Examiner has further rejected claims 4 and 20 under 35 U.S.C. 103(a) as being unpatentable over Merkel et al. as modified by Applicant's assertion, and further in view of U.S. Patent Application Publication No. 2001/0049470 to Mault et al.

The Merkel et al. publication discloses wearable fitness device and fitness device interchangeable with plural wearable articles, in which various fitness devices are adapted such that they may be attached to certain pieces of wearing apparel enabling the fitness devices to be conveniently worn on the body of a user.

The Examiner has indicated that "Merkel discloses a measuring system (Figures 1-5) comprising: a sensor (see entire document, including fitness device 12 and [0036]) arranged to be attached at one of a plurality of positions on a subject (see entire document, including Figures 1-5 and [0022]-[0034]) for obtaining a measured value

representing a physical or a physiological quantity of the subject (see entire document, including [0036]), and means for deriving a subject-related value from the measured value (see entire document, including [0036]).”

Applicants submit that while Merkel et al. discloses a sensor (fitness device) “arranged to be attached at one of a plurality of positions on a subject”, this is different from the current claim language “a sensor arranged to be attached at any one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the subject”. Merkel et al. notes the importance of properly positioning the sensor (fitness device) on the body of the user (e.g., see paragraph [0041]), and that improper placement of the sensor may lead to inaccurate readings. An example would be an ankle fitness device worn on the waist of the user. Under such a circumstance, the user has two options: (1) reposition the fitness device from the user’s waist to the user’s ankle, or (2) adapt the output signal from the fitness device to compensate for its new location (it should be noted that Merkel et al. does not disclose how this should be done).

Applicants submit that there is no disclosure or suggestion in Merkel et al. of attaching the sensor at any one of a plurality of positions on a subject, and then using a processor “to establish at which of the plurality of subject positions the sensor is attached, and to derive a subject-related value from the measured value also in dependence on the position of the sensor on the subject”.

Claim 4 includes the limitation “wherein the activity parameter comprises energy expenditure.”

The Mault et al. publication discloses a diet and activity monitoring device which arguably discloses the limitation of claim 4. However, Applicants submit that Mault et al. does not supply that which is missing from Merkel et al., i.e., attaching the sensor at any one of a plurality of positions on a subject, and then using a processor "to establish at which of the plurality of subject positions the sensor is attached, and to derive a subject-related value from the measured value also in dependence on the position of the sensor on the subject".

In view of the above, Applicants believe that the subject invention, as claimed, is not rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-19, 21 and 22, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by /Edward W. Goodman/
Edward W. Goodman, Reg. 28,613
Attorney
Tel.: 914-333-9611

Electronic Patent Application Fee Transmittal

Application Number:	12097121			
Filing Date:	12-Jun-2008			
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body			
First Named Inventor/Applicant Name:	Annelies Goris			
Filer:	Edward W. Goodman/Barbara Kinney			
Attorney Docket Number:	2005P02646WOUS			
Filed as Large Entity				
U.S. National Stage under 35 USC 371 Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	810	810
Total in USD (\$)				810

Electronic Acknowledgement Receipt

EFS ID:	10571761
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Edward W. Goodman/Barbara Kinney
Filer Authorized By:	Edward W. Goodman
Attorney Docket Number:	2005P02646WOUS
Receipt Date:	21-JUL-2011
Filing Date:	12-JUN-2008
Time Stamp:	16:44:22
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$810
RAM confirmation Number	3373
Deposit Account	141270
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:
 Charge any Additional Fees required under 37 C.F.R. 1.492 (National application filing, search, and examination fees)
 Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	2005P02656WOUS_RCE.pdf	697975 9119f907b31a3e987015bfdb7868a3c92446e12d	no	3

Warnings:

Information:

2		-2005P02656WOUS-AMT-072011.pdf	39140 96a0f1a02c59bddeb5e8b586692d1ff7479403b	yes	11
---	--	--------------------------------	--	-----	----

Multipart Description/PDF files in .zip description

Document Description	Start	End
Preliminary Amendment	1	1
Claims	2	7
Applicant Arguments/Remarks Made in an Amendment	8	11

Warnings:

Information:

3	Fee Worksheet (SB06)	fee-info.pdf	30865 f174767677947aec3e788a8cad611c263c28b31e	no	2
---	----------------------	--------------	---	----	---

Warnings:

Information:

Total Files Size (in bytes):			767980		
-------------------------------------	--	--	--------	--	--

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A measuring system comprising:

a sensor arranged to be attached at any one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the ~~subject~~, subject; and

a processor coupled to said sensor, said processor being arranged to establish at means for establishing which of the plurality of subject positions the sensor is attached to, and

~~means for deriving to derive~~ a subject-related value from the measured value also in dependence on the position of the sensor on the subject.

2. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1, wherein the plurality of positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head.

3. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1, wherein the derived value comprises an activity parameter of the subject.

4. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 3, wherein the activity parameter comprises energy expenditure.

5. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 3, wherein the activity parameter represents a degree of activity of ~~the~~ a body part associated with the position on the subject at which the sensor is attached ~~to~~.

6. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1, wherein the measured value comprises at least one of temperature, ECG, or acceleration.

7. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1, ~~further comprising means for selecting~~ wherein the processor is further arranged to select a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating generates a further measured value for each quantity in the selected subset.

8. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1, ~~further comprising:~~
_____ means for converting wherein said processor is further arranged to convert the measured value into an estimated measured value related to a reference position on the subject, and
_____ means for deriving to derive the subject-related value from the estimated measured value.

9. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1, wherein the ~~means for~~ processor, in establishing which of the plurality of subject positions the sensor is attached to, is arranged for performing the determining in dependence on the measured value.

10. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 9, ~~further comprising means for obtaining~~ wherein the processor is further arranged to obtain, from the sensor, a plurality of measured values measured during a time interval, and wherein the ~~means for~~ processor, in establishing at which of the plurality of subject positions the sensor is attached to, is arranged ~~for performing~~ to perform the establishing in dependence on the measured values measured during the time interval.

11. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 10, wherein the ~~means for~~ processor, in establishing at which of the plurality of subject positions the sensor is attached to, is arranged ~~for performing~~ to perform the establishing on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively.

12. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 10, wherein the ~~means for~~ processor, in establishing at which of the plurality of subject positions the sensor is attached to ~~comprises means for performing~~, is arranged to further perform a

pattern recognition of a signal derived from the measured values measured during the time interval.

13. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 9, ~~further comprising means for determining~~ wherein the processor is further arranged to determine that the subject is performing a standardized activity, and wherein the ~~means for processor,~~ in establishing at which of the plurality of subject positions the sensor is attached to, ~~is arranged for using~~ to use at least one measured value obtained from the sensor, the at least one measured value relating to a time the subject is performing the standardized activity.

14. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 13, wherein the ~~means for processor,~~ in determining that the subject is performing a standardized activity, ~~is arranged for performing~~ to perform the determining in dependence on at least one measured value during the time the subject is performing the standardized activity.

15. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 13, ~~further comprising~~ wherein said measuring system further comprises a user interface for receiving input from the subject to indicate when the subject is performing the standardized activity.

16. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1,
~~further comprising~~ wherein said measuring system further comprises a user interface for
receiving input from the subject related to the position of the sensor on the subject.

17. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 1,
wherein said measuring system further comprising ~~comprises:~~

~~_____ means for establishing that the subject is performing a predetermined activity,~~
storage means for storing at least one pattern related to performing the
predetermined activity in a predetermined manner,

~~_____ and wherein said processor is further arranged to establish that the subject is~~
performing a predetermined activity,

~~_____ means for determining~~ to determine a similarity measure relating to a signal
representing the derived value and the stored pattern, and

~~_____ means for providing~~ to provide feedback in dependence on the similarity
measure.

18. (Currently Amended) The measuring system ~~according to~~ as claimed in claim 17,
wherein the ~~means for~~ processor, in establishing that the subject is performing the
predetermined activity, is arranged for ~~establishing~~ to establish that the subject is
performing at least one of a predetermined number of predetermined activities.

19. (Currently Amended) ~~A~~The measuring system according to~~as claimed in~~ claim 1, wherein said measuring system further ~~comprising~~comprises a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the ~~means for~~processor, in deriving the subject-related value, is arranged ~~for deriving~~to derive the measured value also in dependence on the further measured value.

20. (Cancelled).

21. (Currently Amended) A method of deriving a value relating to a subject, the method comprising:

attaching a sensor to any one of a plurality of positions on a subject;

obtaining, in a processor, at least one measured value from a ~~the~~ sensor attached to the subject, the measured value representing a physical or a physiological quantity of the ~~subject,~~subject;

establishing, using the processor, at which of a ~~the~~ plurality of subject positions the sensor is attached ~~to;~~; and

deriving, using the processor, the subject-related value from the measured value in dependence on the position of the sensor on the subject.

22. (Currently Amended) ~~The measuring system according to~~as claimed in claim 6, wherein the acceleration is a tri-axial acceleration.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed				
APPLICATION AS FILED – PART I					OTHER THAN						
(Column 1)		(Column 2)		SMALL ENTITY <input type="checkbox"/>		OR		SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)	OR		RATE (\$)	FEE (\$)		
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A		N/A				N/A			
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (j), or (m))</small>	N/A	N/A		N/A				N/A			
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A		N/A				N/A			
TOTAL CLAIMS <small>(37 CFR 1.16(j))</small>	minus 20 =	*		X \$ =				X \$ =			
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*		X \$ =				X \$ =			
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).										
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>											
* If the difference in column 1 is less than zero, enter "0" in column 2.					TOTAL			TOTAL			
APPLICATION AS AMENDED – PART II					OTHER THAN						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	07/21/2011	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
	Total <small>(37 CFR 1.16(i))</small>	* 21	Minus	** 22	= 0	X \$ =		OR	X \$52=	0	
	Independent <small>(37 CFR 1.16(h))</small>	* 2	Minus	***3	= 0	X \$ =		OR	X \$220=	0	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								OR		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>								OR		
					TOTAL ADD'L FEE			OR	TOTAL ADD'L FEE	0	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =		OR	X \$ =		
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =		OR	X \$ =		
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								OR		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>								OR		
					TOTAL ADD'L FEE			OR	TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.					Legal Instrument Examiner:						
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".					/RUBY JOHNSON/						
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".											
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.											

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/097,121	06/12/2008	Annelies Goris	003603 US1	8272
------------	------------	----------------	------------	------

24737 7590 04/29/2011
 PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT	PAPER NUMBER
----------	--------------

3736

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

04/29/2011	ELECTRONIC
------------	------------

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

vera.kublanov@philips.com
 debbie.henn@philips.com
 marianne.fox@philips.com

#3083

Office Action Summary

Application No. 12/097,121	Applicant(s) GORIS ET AL.	
Examiner EMILY M. LLOYD	Art Unit 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 February 2011.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Application/Control Number: 12/097,121
Art Unit: 3736

Page 2

DETAILED ACTION

This Office Action is in response to Applicant's 15 February 2011 amendment. The Examiner acknowledges Applicant's amendments to the specification, the replacement drawing sheets for Figure 7, the amendments to claims 2, 5, 9-14 and 21. Currently, claims 1-22 are pending.

Specification

The disclosure is objected to because of the following informalities: page 10 lines 3 and 28 it is unclear if "a reference position" should be "the reference position.

Appropriate correction is required.

The use of the trademark Bluetooth has been noted in this application. It should be capitalized wherever it appears and *be accompanied by the generic terminology.*

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Limitations Invoking 35 USC § 112 Sixth Paragraph

The Examiner notes that the following limitations in claims 1, 7-14 and 17-20 invoke 35 USC 112, sixth paragraph, as meeting the 3-prong analysis in MPEP 2181 I: means for establishing which of the plurality of subject positions the sensor is attached

Application/Control Number: 12/097,121

Page 3

Art Unit: 3736

to (claims 1 and 9-13); means for deriving a subject-related value from the measured value (claims 1 and 19); means for selecting a subset of a predefined set (claim 7); means for converting the measured value into an estimated measured value (claim 8); means for deriving the subject-related value from the estimated value (claim 8); means for obtaining from the sensor a plurality of measured values (claim 10); means for performing a pattern recognition of a signal from the measured values (claim 12); means for determining that the subject is performing a standardized activity (claims 13 and 14); means for establishing that the subject is performing a predetermined activity (claims 17 and 18); storage means for storing at least one pattern (claim 17); means for determining a similarity measure (claim 17); means for providing feedback in dependence on the similarity measure (claim 17); means for monitoring food consumption (claim 20); and means for deriving the calorie balance (claim 20).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 4

Claim elements “means for establishing which of the plurality of subject positions the sensor is attached to” (claims 1 and 9-13); “means for deriving a subject-related value from the measured value” (claims 1 and 19); “means for selecting a subset of a predefined set” (claim 7); “means for converting the measured value into an estimated measured value” (claim 8); “means for deriving the subject-related value from the estimated value” (claim 8); “means for obtaining from the sensor a plurality of measured values” (claim 10); “means for performing a pattern recognition of a signal from the measured values” (claim 12); “means for determining that the subject is performing a standardized activity” (claims 13 and 14); “means for establishing that the subject is performing a predetermined activity” (claims 17 and 18); “storage means for storing at least one pattern” (claim 17); “means for determining a similarity measure” (claim 17); “means for providing feedback in dependence on the similarity measure” (claim 17); “means for monitoring food consumption” (claim 20); and “means for deriving the calorie balance” (claim 20) are means (or step) plus function limitations that invoke 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function.

Regarding the means for establishing which of the plurality of subject positions the sensor is attached to (claims 1 and 9-13), it is unclear what physical entity is

Application/Control Number: 12/097,121

Page 5

Art Unit: 3736

performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by "using information from a feature database" (page 11 line 10), "the signal from the sensor is analyzed for features that are position-dependent" (page 11 lines 11-12), "the user can provide the activity monitor with input" (page 11 line 14), "Combinations of the values during the standardized activities or the absolute measured values are used to determine the position of the sensor 6 on the subject" (page 11 lines 16-17), "a number of predefined rules are used" (page 11 lines 17-18), exemplary rules provided on page 11 lines 18-23, "fuzzy logic rules" (page 11 line 24), *"Other ways to provide a set of rules, for example neural network methods and logic programming, are obvious to the skilled artisan"* (page 11 lines 24-25, emphasis added), "means of pattern recognition"

Application/Control Number: 12/097,121

Page 6

Art Unit: 3736

(page 11 lines 26-27), "*for example* by correlating a signal obtained from the sensor with a signal stored in the feature database" (page 11 lines 27-28, emphasis added), "The pattern recognition can be performed in the time domain, the frequency domain, or *another domain*, preferably a time-frequency domain *such as* a wavelet domain" (page 11 lines 28-30, emphasis added), "Pattern recognition *can be performed in many ways known to the skilled artisan*. *For example*, techniques used in speech recognition can be applied" (page 11 lines 30-32, emphasis added), "the measured value is first converted to an activity parameter, and the activity parameter is used to determine the position of the sensor 6 on the subject in a way similar to what is described above" (page 12 lines 7-9), "*It is also possible to use other quantities relating to measured values obtained from the sensor 6*, in the step to determine the position 116 and/or in the step to compensate for the difference 119" (page 12 lines 13-15, emphasis added), use of data from initialization based on the individual (page 12 line 16-page 13 line 18), use of data from initialization based on a population of subjects (page 13 lines 19-27), and/or use of other methods. **The Examiner especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.**

Regarding the means for deriving a subject-related value from the measured value (claims 1 and 19), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page

Application/Control Number: 12/097,121

Page 7

Art Unit: 3736

14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by one or more of the examples of page 10 lines 4-22, "*potentially more flexible compensation methods are easily conceivable. Such methods include* higher order polynomials, generalized linear models, other statistical methods, artificial neural networks, and fuzzy logic methods (page 10 lines 23-25, emphasis added), one or more of the examples of page 10 line 29-page 11 line 5, one or more of the examples of page 12 lines 1-6, the example of page 12 lines 9-13, "*It is also possible to use other quantities relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119*" (page 12 lines 13-15, emphasis added), use of data from initialization based on the individual (page 12 line 16-page 13 line 18), use of data from initialization based on a population of subjects (page 13 lines 19-27), and/or use of other methods. The Examiner especially notes that the language

Application/Control Number: 12/097,121

Page 8

Art Unit: 3736

emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding the means for selecting a subset of a predefined set (claim 7), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that this function is only described on page 5 lines 1-13, and the language provided is mostly exemplary; as such, it is unclear what is defined by the claim.

Regarding the means for converting the measured value into an estimated measured value (claim 8), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity

Application/Control Number: 12/097,121

Page 9

Art Unit: 3736

monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by the descriptions cited for the means for deriving a subject-related value from the measured value listed above and/or in another manner. Further, at least the same problems with the descriptions cited for the means for deriving a subject-related value from the measured value listed above contribute to the lack of clarity as to how this function is performed.

Regarding the means for deriving the subject-related value from the estimated value (claim 8), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of

Application/Control Number: 12/097,121

Page 10

Art Unit: 3736

hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by the descriptions cited for the means for deriving a subject-related value from the measured value listed above and/or in another manner. Further, at least the same problems with the descriptions cited for the means for deriving a subject-related value from the measured value listed above contribute to the lack of clarity as to how this function is performed.

Regarding the means for obtaining from the sensor a plurality of measured values (claim 10), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), a "wireless or wired connection" (page 7 line 33), or another element. **The Examiner notes that no particular physical entity**

Application/Control Number: 12/097,121

Page 11

Art Unit: 3736

is tied to this particular function in the specification. The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by “means to communicate... preferably using a wireless link 32 such a WIFI or Bluetooth” (page 9 lines 16-18), “for example by means of a wireless or wired connection” (page 7 line 33), and/or another mechanism. Further, it is unclear what other mechanisms are available besides the exemplary “wireless or wired connection” on page 7 line 33.

Regarding the means for performing a pattern recognition of a signal from the measured values (claim 12), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see “the activity monitor computes” (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), “means of hardware comprising several distinct elements” (page 14 line 23), “means of a suitably programmed computer” (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical

Application/Control Number: 12/097,121

Page 12

Art Unit: 3736

connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by "means of pattern recognition" (page 11 lines 26-27), "*for example* by correlating a signal obtained from the sensor with a signal stored in the feature database" (page 11 lines 27-28, emphasis added), "The pattern recognition can be performed in the time domain, the frequency domain, or *another domain*, preferably a time-frequency domain *such as a wavelet domain*" (page 11 lines 28-30, emphasis added), "Pattern recognition *can be performed in many ways known to the skilled artisan. For example*, techniques used in speech recognition can be applied" (page 11 lines 30-32, emphasis added), and/or use of other methods. The Examiner especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding the means for determining that the subject is performing a standardized activity (claims 13 and 14), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this**

Application/Control Number: 12/097,121

Page 13

Art Unit: 3736

particular function in the specification. The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner further notes that page 6 lines 15-29, page 11 lines 12-17 and page 13 lines 20-21 of the specification all appear to refer to the use of a standardized activity in initializing the device, where the standardized activity is either instructed to the subject or the subject inputs the standardized activity. The only support that the Examiner found in the specification as to how the device provides the claimed function of determining that the subject is performing a standardized activity is “the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs” (page 11 lines 14-16).

Regarding the means for establishing that the subject is performing a predetermined activity (claims 17 and 18), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see “the activity monitor computes” (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), “means of hardware comprising several distinct elements” (page 14 line 23), “means of a suitably programmed computer” (page 14 lines 23-24), or another

Application/Control Number: 12/097,121

Page 14

Art Unit: 3736

element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** It is unclear if this function is accomplished by the means for determining that the subject is performing a standardized activity, or if this function is accomplished in another manner. Further, at least the same problems with the descriptions cited for the means for determining that the subject is performing a standardized activity as listed above contribute to the lack of clarity as to how this function is performed.

Regarding the storage means for storing at least one pattern (claim 17), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), a database (page 7 line 12), "storage medium, *such as* a ROM, *for example* a CD ROM or a semiconductor ROM, or a magnetic recording medium, *for example* a floppy disc or hard disk" (page 14 lines 1-2,

Application/Control Number: 12/097,121

Page 15

Art Unit: 3736

emphasis added), and/or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements.

Regarding the means for determining a similarity measure (claim 17), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see “the activity monitor computes” (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), “means of hardware comprising several distinct elements” (page 14 line 23), “means of a suitably programmed computer” (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that the specification only provides the broad statement that “a pattern-matching technique *can be used*” (page 7 line 13, emphasis added) as to how the similarity measure is determined; as “can be

Application/Control Number: 12/097,121

Page 16

Art Unit: 3736

used” indicates that other options are available, it is still unclear what boundaries Applicant intended on providing as to how this function is performed.

Regarding the means for providing feedback in dependence on the similarity measure (claim 17), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see “the activity monitor computes” (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), “means of hardware comprising several distinct elements” (page 14 line 23), “means of a suitably programmed computer” (page 14 lines 23-24), the display 10, and/or another element.

The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that the specification provides few examples (page 7 lines 14-19) as to how the feedback in dependence on the similarity measure is provided; as such, it is unclear what boundaries Applicant intended on providing as to how this function is performed.

Regarding the means for monitoring food consumption (claim 20), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is

Application/Control Number: 12/097,121

Page 17

Art Unit: 3736

unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), the buttons (21 and 22), the touch screen display (page 9 lines 9-10), and/or another element. **The Examiner notes that no particular physical entity is tied to this particular function in the specification.** The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that the only description in the specification as to how food consumption is monitored is on page 2 lines 16-17 which appears to describe the prior art listed on page 1 line 21.

Regarding the means for deriving the calorie balance (claim 20), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. **The Examiner notes that no particular physical**

Application/Control Number: 12/097,121

Page 18

Art Unit: 3736

entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. **Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear what algorithms, if any, provide for executing this function.** The Examiner notes that the specification does not provide any description as to how the calorie balance is derived.

For each means (or step) plus function limitation, Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claims 2-20 and 22 are rejected as at least depending on claim 1 (as well as the inclusion of claims 1 and 3 in claim 4 with regards to claim 20), as well as any means plus function limitations in each claim without written support and any additionally rejected intervening claims.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 19

Regarding claims 13-15, claim element “means for determining that the subject is performing a standardized activity” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The only support that the Examiner found in the specification as to how the device provides the claimed function of determining that the subject is performing a standardized activity is “the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs” (page 11 lines 14-16). However, claims 13 and 14 further refer to “a measured value relating to a time the subject is performing the standardized activity” (claim 13) and “in dependence on at least one measured value” (claim 14). If the determination that the subject is performing a standardized activity is made based on the user providing input, it is unclear what structure will further obtain and use (at least one) measured value in making this determination. In other words, it appears that the “means for determining that the subject is performing a standardized activity” as disclosed in the specification does not further disclose structure corresponding to the use of (at least one) measured value in relation to the determination of performance of a standardized activity.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

Application/Control Number: 12/097,121
Art Unit: 3736

Page 20

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claims 14 and 15 are rejected as depending on claim 13.

Regarding claim 20, claim element “means for monitoring food consumption” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The Examiner notes that the only description in the

Application/Control Number: 12/097,121

Page 21

Art Unit: 3736

specification as to a structure for monitoring food consumption is on page 2 lines 16-17 which appears to describe the prior art listed on page 1 line 21.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 22

Regarding claim 20, claim element “means for deriving the calorie balance” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The Examiner notes that the specification does not provide any description as to a structure that derives the calorie balance.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification,

Application/Control Number: 12/097,121

Page 23

Art Unit: 3736

perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-20 and 22, it is unclear what structures are claimed by the means plus function limitations rejected under 35 USC 112 first paragraph above, as the written disclosure does not clearly correlate the means plus functions limitations with their corresponding structure(s). Each of claims 2-20 and 22 are rejected as at least depending on claim 1 (as well as the inclusion of claims 1 and 3 in claim 4 with regards to claim 20), as well as any indefinite means plus function limitations in each claim and any additionally rejected intervening claims.

Regarding claim 8, it is unclear if the “means for deriving the subject-related value from the estimated measured value” are the same as the “means for deriving a subject-related value from the measured value” of claim 1. Further, if they are not the same, it is unclear how the “means for deriving the subject-related value from the estimated measured value” further limits the “means for deriving a subject-related value from the measured value” of claim 1; it is unclear if the “means for deriving the subject-related value from the estimated measured value” is intended to replace the “means for

Application/Control Number: 12/097,121

Page 24

Art Unit: 3736

deriving a subject-related value from the measured value” of claim 1, is intended to supplement the “means for deriving...” or claim 1, or is intended to modify claim 1 in a different manner.

Regarding claim 11, it is unclear how claim 11 can further limit claim 10, which requires "a plurality of measured values" (claim 10), and yet provide for "the measured value or measured values measured during the time interval, respectively" (claim 11). It is further unclear if Applicant intended for claim 11 to depend from claim 9, claim 10, claim 9 or 10, and/or another interpretation.

Regarding claims 13 and 14, it is unclear how “(at least one) measured value” is used in determining that the subject is performing a standardized activity if the "means for determining that the subject is performing a standardized activity" are the input/input device for “the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs” (page 11 lines 14-16). In other words, if the user/subject directly tells the device that they are performing the standardized activity, it is unclear why and how “(at least one) measured value” would be used in furthering the determination that the user/subject is performing a standardized activity. Claims 14 and 15 are rejected as depending on claim 13.

Regarding claim 14, it is unclear how claim 14 further limits claim 13. It is unclear how or if “the means for determining that the subject is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value” (claim 14) further limits "means for determining that the

Application/Control Number: 12/097,121

Page 25

Art Unit: 3736

subject is performing a standardized activity.... is arranged for using at least one measured value obtained from the sensor, the measured value relating to a time the subject is performing the standardized activity” (claim 13).

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claim 21 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed 15 February 2011. In that paper, applicant has stated “the rejection of claim 21 should be withdrawn for at least the foregoing reasons presented with regards to claim 1” (page 14) (where the reasons for claim 1 included “Specifically, claim 1 is written in means plus function language, ‘means for establishing which of the plurality of subject positions the sensor is attached to.’ (page 13)), and this statement indicates that the invention is different from what is defined in the claim(s) because the method steps of claim 21, as written, do not invoke means plus function, or step plus function, language.

The Examiner notes that it is unclear, per Applicant’s arguments cited in the paragraph immediately above, if Applicant intended to claim the steps of claim 21 as claimed, that encompass any method for executing the claimed steps, or if Applicant intended to claim “step plus function” steps that are interpreted as claiming the corresponding method(s) described in Applicant’s specification.

Application/Control Number: 12/097,121

Page 26

Art Unit: 3736

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Application/Control Number: 12/097,121

Page 27

Art Unit: 3736

Claims 1-3, 5, 6, 9, 10, 13, 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Publication 2007/0032981 (Merkel) as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art.

Regarding claim 1, Merkel discloses a measuring system (Figures 1-5) comprising: a sensor (see entire document, including fitness device 12 and [0036]) arranged to be attached at one of a plurality of positions on a subject (see entire document, including Figures 1-5 and [0022]-[0034]) for obtaining a measured value representing a physical or a physiological quantity of the subject (see entire document, including [0036]), and means for deriving a subject-related value from the measured value (see entire document, including [0036]).

Merkel do not expressly disclose means for establishing which of the plurality of subject positions the sensor is attached to, and that the means for deriving a subject-related value from the measured value is also in dependence on the position of the sensor on the subject. However, Applicant's 25 August 2010 Amendment (page 14 first full paragraph) states, "If [prior art] did disclose that the monitoring device was attached to one of a plurality of areas on the patient.... one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device." As Merkel discloses "that the monitoring device was attached to one of a plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use means for establishing

Application/Control Number: 12/097,121

Page 28

Art Unit: 3736

which of the plurality of subject positions the sensor is attached to in the invention of Merkel because "one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device" as admitted by Applicant (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), and it would have been further obvious to one of ordinary skill in the art at the time the invention was made to use dependence on the position of the sensor on the subject in deriving a subject-related value in the invention of Merkel to provide "compensat[ion] for measurement deviations that result because of the respective placement of the device" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph) that would provide for more accurate measurements with respect to the different "plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph).

Regarding claim 21, Merkel discloses a method of estimating a derived value relating to a subject, the method comprising: obtaining at least one measured value from a sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject (see entire document, including fitness device 12, [0036] and Figures 1-5), where the sensor can be attached to a plurality of subject positions (see entire document, including Figures 1-5 and [0022]-[0034]), and deriving the subject-related value from the measured value (see entire document, including [0036]).

Application/Control Number: 12/097,121

Page 29

Art Unit: 3736

Merkel do not expressly disclose establishing which of a plurality of subject positions the sensor is attached to, and that the deriving the subject-related value from the measured value is also in dependence on the position of the sensor on the subject. However, Applicant's 25 August 2010 Amendment (page 14 first full paragraph) states, "If [prior art] did disclose that the monitoring device was attached to one of a plurality of areas on the patient.... one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device." As Merkel discloses "that the monitoring device was attached to one of a plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), it would have been obvious to one having ordinary skill in the art at the time the invention was made to establish which of the plurality of subject positions the sensor is attached to in the invention of Merkel because "one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device" as admitted by Applicant (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), and it would have been further obvious to one of ordinary skill in the art at the time the invention was made to use dependence on the position of the sensor on the subject in deriving a subject-related value in the invention of Merkel to provide "compensat[ion] for measurement deviations that result because of the respective placement of the device" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph) that would provide for more accurate

Application/Control Number: 12/097,121

Page 30

Art Unit: 3736

measurements with respect to the different "plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph).

Regarding claims 2, 3, 5, 6, 9, 10, 13, and 14, Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art teach the measuring system according to claim 1, wherein the plurality of positions includes a wrist (Merkel see entire document, including strap 26 and [0027]), a lower leg (Merkel see entire document, including anklets 14 and 16), and a waist (Merkel see entire document, including belt 18); wherein the derived value comprises an activity parameter of the subject (Merkel see entire document, including [0036]), wherein the activity parameter represents a degree of activity of the body part the sensor is attached to (attaching an accelerometer to a body part (Merkel see entire document, including [0036]) will inherently represent a degree of activity of the body part the accelerometer is attached to as the signal of the accelerometer, even if used to calculate steps, will represent the degree of activity of that portion of the body during the steps; even knowing the number of steps as an activity parameter represents the activity of the body part the sensor is attached to as during normal gait the legs move with a different degree of activity than the arms which both differ from the degree of activity of the chest and back); wherein the measured value comprises acceleration (Merkel see entire document, including [0036]); wherein the means for establishing which of the plurality of subject positions the sensor is attached to is arranged for performing the determining in dependence on the measured value (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in

Application/Control Number: 12/097,121

Page 31

Art Unit: 3736

dependence on the measured value); further comprising means for obtaining from the sensor a plurality of measured values measured during a time interval (Merkel see entire document, including [0036], in order for an assessment based on acceleration, heart rate, and/or blood pressure, sampling of the sensor is critical in order to accurately assess both the change and maintenance of the values; as such, the sensor measures values (consecutive data points) over a time interval (any set length of time that provides for the collection of at least 2 data points with the sampling frequency used by the sensor) and these values are obtained from the sensor (as otherwise the device of Merkel can't measure), and wherein the means for establishing which of the plurality of subject positions the sensor is attached to is arranged for performing the establishing in dependence on the measured values measured during the time interval (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on the measured values; the measured values are clearly measured during the time interval discussed above); further comprising means for determining that the subject is performing a standardized activity (Merkel see entire document, including abstract and [0006], stepping, especially as part of walking, is a standardized activity), and wherein the means for establishing which of the plurality of subject positions the sensor is attached to is arranged for using at least one measured value obtained from the sensor (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on at least one measured value), the at least one measured value relating to a time the subject is

Application/Control Number: 12/097,121

Page 32

Art Unit: 3736

performing the standardized activity (as Merkel is designed to measure steps (see entire document), and as values when the subject is not stepping (for example, when the subject is sitting or driving a car) would not contribute to the assessment of Merkel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use at least one measured value from the standardized activity to determining the position of the sensor on the subject); wherein the means for determining that the subject is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value during the time the subject is performing the standardized activity (as Merkel is designed to measure steps (see entire document), and as values when the subject is not stepping (for example, when the subject is sitting or driving a car) would not contribute to the assessment of Merkel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use at least one measured value from the standardized activity to determining the position of the sensor on the subject).

Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art as applied to claims 1-3, 5, 6, 9, 10, 13, 14 and 21 above, and further in view of United States Patent Publication 2001/0049470 (Mault).

Regarding claims 4 and 20, Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art teach the measuring system of claim 3.

Merkel does not expressly teach that the activity parameter comprises energy

Application/Control Number: 12/097,121

Page 33

Art Unit: 3736

expenditure, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure. Mault teaches an activity parameter comprising energy expenditure (see entire document, including Figure 5), and further comprising means for monitoring food consumption (Figure 5) and means for deriving the calorie balance using the derived energy expenditure (Figures 5 and 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the activity parameter comprising energy expenditure, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure as taught by Mault in the invention of Merkel to provide for tracking calories for "maintaining or losing weight" (Merkel [0006]).

Response to Arguments

Applicant's arguments, see page 9, filed 15 February 2011, with respect to the drawing objections and the claims objections have been fully considered and are persuasive. The drawing objections and claims objections of the 15 November 2010 Office Action have been withdrawn.

The Examiner notes that Applicant's arguments with respect to the 35 USC 101 rejection of claims 10-12 are moot in view of the right column of page 7168 of the Federal Register, Vol. 76, No. 27, as means plus function limitations are limited to the corresponding structure.

Applicant's remaining arguments filed 15 February 2011 have been fully considered but they are not persuasive.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 34

The Examiner notes that the generic terminology for Bluetooth is not provided in the specification amendment.

Regarding Applicant's arguments that the different structures listed by the Examiner that may correspond to Applicant's means plus functions limitations being "multiple embodiments" with reference to *Micro Chemical v. Great Plains Chemical Co.* and *Serrano v. Telular Corp.* (see page 10 of Applicant's 15 February 2011 amendment), the Examiner disagrees. The Examiner notes that the case law provides explicit correlation between the means plus function limitations and the corresponding text that is tied to the particular function. For example, *Micro Chemical v. Great Plains Chemical Co.* specifically cite in the first paragraph of page 1264 "The specification suggest 'a weight scale means supporting the weigh hopper.' Col. 3, ll. 26-28. One alternative embodiment discloses a less-of-weight type weighing means... Because alternative structures corresponding to the claimed function were described, the district court incorrectly limited 'weighting means' to the specific structures of the preferred embodiment." (emphasis added). *Serrano v. Telular Corp.* provides for the "determination means" as circuitry in a preferred embodiment, as well as "a microprocessor-based system could also be used wherein the logical decisions are configured in software." (first paragraph of page 1542). The Examiner notes the weighing means of *Micro Chemical v. Great Plains Chemical Co.* is clearly linked to specific structures that weigh in particular configurations, and the determination means of *Serrano v. Telular Corp.* is clearly linked to circuitry or a microprocessor. In contrast, Applicant has not linked any of the physical structures of Applicant's specification to any

Application/Control Number: 12/097,121

Page 35

Art Unit: 3736

of the means plus function limitations. Further, as numerous means plus function limitations appear to possibly correlate with the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or possibly another element, it is unclear if Applicant's claims are repeatedly claiming the same physical structure in the event that more than one means plus function limitation is interpreted as being the same physical structure.

Further, as discussed on pages 7170-7172 of the Federal Register, Vol. 76, No. 27, the functional language should be described and enabled. See especially "examiners should determine whether the specification discloses the computer and the algorithm (e.g. the necessary steps and/or flowcharts) that perform the claimed function in sufficient detail such that one of ordinary skill in the art can reasonably conclude that the inventor invented the claimed subject matter." (page 7171 the paragraph bridging the left and center columns). The Examiner notes that it is unclear how Applicant intended to carry out the functions claimed. The Examiner further notes that invoking means plus function language that broadly covers all of the algorithms mentioned also includes those "algorithms" that do not have adequate support. For example, "Other ways to provide a set of rules, for example neural network methods and logic programming, are obvious to the skilled artisan" (page 11 lines 24-25 of Applicant's specification) provides for any other way to provide a set of rules, and as these other

Application/Control Number: 12/097,121

Page 36

Art Unit: 3736

ways were not listed, there is no written description and enablement for a means plus function limitation using this “algorithm” of what is “obvious to the skilled artisan.”

As a particular example, the Examiner notes that Applicant’s argument “that the claims embrace each of the embodiments the Examiner has mentioned” (page 10 of Applicant’s 15 February 2011 amendment) provides for claim 1 claiming a sensor (with its corresponding limitations); “means for establishing which of the plurality of subject positions the sensor is attached to” (for example, interpreted as “means of a suitably programmed computer” (page 14 lines 23-24) using data from initialization based on the individual (page 12 line 16-page 13 line 18)); and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject (for example, interpreted as “means of a suitably programmed computer” (page 14 lines 23-24) using data from initialization based on the individual (page 12 line 16-page 13 line 18)). In this example, per Applicant’s explanation, it is unclear if the “means for establishing” and “means for deriving” are the same physical structure, making the claim indefinite; and it is further unclear if (and how) the functions of “establishing” and “deriving” differ if they are both solved with the exact same algorithm.

The Examiner further notes that the listing of various structures by the Examiner in an effort to expedite prosecution did not indicate that the Examiner found the means plus function limitations to correlate to these structures; instead, as noted on page 22 of the Office Action, Applicant was required (and still is per the rejections above) to a) amend the claim to no longer use means plus function limitations, b) amend the written description to clearly link the corresponding structure to the claimed function or c) state

Application/Control Number: 12/097,121

Page 37

Art Unit: 3736

on the record where the corresponding structure is set forth in the written description of the specification. The Examiner notes that “The Examiner has been able to identify the embodiments capable of performing the claimed function” (page 10 of Applicant's 15 February 2011 amendment) appears to state that the Examiner has provided option c of the requirement for the Applicant. However, “or another structure”, “The Examiner notes that no particular physical entity is tied to this particular function in the specification”, “it is unclear how Applicant intended to carry out the claimed function”, “and/or other methods” (describing possible ways to perform the function claimed) and other similar language, mentioned repeatedly in the 15 November 2010 Office Action and the rejections above, indicate that the Examiner was *not* and is *not* clearly stating on the record where the corresponding structure is set forth in the written description of the specification.

Regarding Applicant's citation of page 11 lines 6-32 of the specification, the Examiner notes that “means for determining that the subject is performing a standardized activity” indicates that the means determines if the subject is performing a standardized activity, not tells the subject to perform a standardized activity (page 11 lines 12-13) (as, for example, the subject could be told to walk but stand instead). The Examiner notes that after the citation provided by the Examiner indicating that the user provides input (page 11 lines 14-16), the remainder of the section cited by Applicant appears to describe “Combinations of the values during the standardized activities or the absolute measured values are used to determine the position of the sensor 6 on the subject. Thereto, a number of predefined rules are used... “ (page 11 lines 16-18) and

Application/Control Number: 12/097,121

Page 38

Art Unit: 3736

other embodiments for determining the position of the sensor (and not for determining that the subject is performing a standardized activity). As such, Applicant's argument is not found persuasive.

Regarding Applicant's citation of page 8 line 33-page 9 line 3 for support of the "means for monitoring food consumption" and "means for deriving the calorie balance", it is unclear how "The sensor 6 can comprise a single-axial or multi-axial accelerometer, a temperature sensor, an electrical sensor for measuring electrical body signals such as the ECG signal, a heart rate sensor, a pedometer, a global or local positioning system, or any other type of sensor. Such sensors are known to the skilled artisan." provides for both the structure and the function (algorithm) for monitoring food consumption and for deriving the calorie balance. Further, if Applicant's correlation of the means for monitoring food consumption and the means for deriving the calorie balance is followed, it is unclear how these limitations further limit the sensor of claim 1, or if the sensor of claim 1, the means for monitoring food consumption and the means for deriving the calorie balance are all the same structure, and if not, how they differ. The Examiner also notes that it is still unclear what structure corresponds to the means for monitoring food consumption and the means for deriving the calorie balance as "any other type of sensor" is not defined and it is unclear what sensors Applicant intended to describe/claim with "any other type of sensor", and what "other types of sensors" Applicant had possession of at the time the invention was filed.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 39

Regarding Applicant's further argument that claims 13 and 14 are not indefinite because user entry is an alternative, the Examiner disagrees. See the paragraph above addressing Applicant's citation of page 11 lines 6-32.

Regarding Applicant's argument that claim 14 further limits claim 13, the Examiner notes that claim 14 "in dependence on at least one measured value during the time the subject is performing the standardized activity" does not appear to further limit claim 13 "the at least one measured value relating to a time the subject is performing the standardized activity" as both have at least one measured value from during the time the subject is performing the standardized activity.

Regarding Applicant's arguments that "means for establishing which of the plurality of subject position the sensor is attached to" is not taught by Merkel in combination with Applicant's assessment of the knowledge of one of ordinary skill in the art, the Examiner disagrees. The Examiner notes that Applicant's argument "Applicants respectfully submit that the claims embrace each of the embodiments the Examiner has mentioned" (page 10 of Applicant's 15 February 2011 amendment) provide for interpreting the means plus function limitations in any way listed by the Examiner in the Office Action of 15 November 2010. As such, the Examiner notes that the various fitness devices of [0036] of Merkel, with "measures or records" and the other text provided, clearly provide an activity monitor, microprocessor, hardware, suitably programmed computer and/or an equivalent structure to the structures listed in the 15 November 2010 Office Action for both the "means for establishing which of the plurality of positions the sensor is attached to" and the "means for deriving a subject-related

Application/Control Number: 12/097,121

Page 40

Art Unit: 3736

value from the measured value" (see pages 7 and 11 of the 15 November 2010 Office Action). Further, the Examiner notes that page 8 of the 15 November 2010 Office Action provides for "means of patterns recognition" (from page 11 lines 26-27 of Applicant's specification) including "Pattern recognition can be performed in many ways known to the skilled artisan" (from page 11 lines 30-31 of Applicant's specification), and page 9 of the 15 November 2010 Office Action also provides for "use of other methods". Further, the Examiner notes that page 11 of the 15 November 2010 Office Action provides for "potentially more flexible compensation methods are easily conceivable. Such methods include higher order polynomials, generalized linear models, other statistical methods, artificial neural networks, and fuzzy logic methods" (from page 10 lines 23-25 of Applicant's specification) and page 12 of the 15 November 2010 Office Action also provides for "use of other methods". As such, Applicant's claim and provided corresponding structure would include the fitness device of Merkel, with its corresponding functions of recognizing patterns (often performed by at least accelerometers, heart rate monitors, blood pressure monitors) and using "easily conceivable" ways to measure body movement.

Regarding Applicant's argument that the obvious rejection is comparable to "For example, if a doctor diagnoses a patient with cancer, realizes that the cause of the cancer is a brain tumor, and concludes that the tumor should be removed, it is not obvious how the tumor is removed" (page 13 of Applicant's 15 February 2011 amendment), the Examiner disagrees. The Examiner notes that numerous "solutions"/"algorithms" to Applicant's "means for establishing" as well as the "means for

Application/Control Number: 12/097,121

Page 41

Art Unit: 3736

deriving" provide for what is already known in the art. The Examiner notes the numerous portions that were italicized in the 15 November 2010 Office Action and in the rejections above regarding open-ended explanations of how the functions are performed; the Examiner notes that such open-ended interpretations, especially when embraced by Applicant ("Applicants respectfully submit that the claims embrace each of the embodiments the Examiner has mentioned" (page 10 of Applicant's 15 February 2011 amendment)), show that one of ordinary skill in the art would have known how to perform the claimed functions (as otherwise the means plus function limitations would not be enabled). For example, as one of ordinary skill in the art would know "many ways" to use pattern recognition (see page 11 lines 30-31), and "methods [that] are easily conceivable" (see page 10 lines 23-25 of Applicant's specification, as well as "other methods" (included by the Examiner in the 15 November 2010 Office Action and agreed on by the Applicant) per Applicant's specification and arguments, it appears that the level of complexity is less than that of brain surgery in comparison to the knowledge of one having ordinary skill in the art. The comparison appears to be closer to a flat bed tow truck driver determining that a car is parked illegally, determining that the illegally parked car can be legally towed, deciding how to tow the vehicle, and towing the vehicle. In this comparison, a reference that doesn't explain how the tow truck driver decides how to tow the vehicle would not be stating what is known as prior art solutions, including putting the car on the flatbed or towing it behind the flatbed portion of the truck. These two options listed by the Examiner would provide for "many ways" to use known methods/algorithms, "methods [that] are easily conceivable", and "other

Application/Control Number: 12/097,121

Page 42

Art Unit: 3736

methods". Further, even using Applicant's example of removing a brain tumor, the Examiner notes that "how the brain tumor is removed", if described in a reference by "many ways" to use known methods/algorithms, "methods [that] are easily conceivable", as well as "other methods", would indicate that how the brain tumor could be removed was well known to a person having ordinary skill in the art reading the reference.

Regarding Applicant's argument that "the rejection of claim 21 should be withdrawn for at least the foregoing reasons presented with regards to claim 1", the Examiner again notes that the arguments with respect to claim 1 were not found persuasive. The Examiner further notes that it is unclear if this argument is also arguing that the steps of claim 21 invoke 35 USC 112 sixth paragraph as the argued limitations of claim 1 do.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Application/Control Number: 12/097,121

Page 43

Art Unit: 3736

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY M. LLOYD whose telephone number is (571)272-2951. The examiner can normally be reached on Monday through Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Emily M Lloyd
Examiner
Art Unit 3736

/EML/

Application/Control Number: 12/097,121
Art Unit: 3736

Page 44

/Max Hindenburg/
Supervisory Patent Examiner, Art Unit 3736

<i>Index of Claims</i> 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	05/22/2010	11/05/2010	04/23/2011					
	1	✓	✓	✓					
	2	✓	✓	✓					
	3	✓	✓	✓					
	4	✓	✓	✓					
	5	✓	✓	✓					
	6	✓	✓	✓					
	7	✓	✓	✓					
	8	✓	✓	✓					
	9	✓	✓	✓					
	10	✓	✓	✓					
	11	✓	✓	✓					
	12	✓	✓	✓					
	13	✓	✓	✓					
	14	✓	✓	✓					
	15	✓	✓	✓					
	16	✓	✓	✓					
	17	✓	✓	✓					
	18	✓	✓	✓					
	19	✓	✓	✓					
	20	✓	✓	✓					
	21	✓	✓	✓					
	22		✓	✓					

Search Notes 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

SEARCHED			
Class	Subclass	Date	Examiner
600	595	5/22/2010	EL
702	160	10/31/2010	EL

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	5/22/2010	EL
Text Search	5/22/2010	EL
EAST Search	5/22/2010	EL
Updated EAST Search	10/31/2010	EL
Brief Google Scholar Search, requested NPL documents	11/2/2010	EL
Reviewed requested NPL documents	11/4/2010	EL
Updated EAST Search	4/23/2011	EL

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

--	--

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	12	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
L2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
L3	61	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
L4	83	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
L5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
L6	153	L1 or L2 or L3 or L4 or L5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/23 22:29
L7	184	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2011/04/23 22:30
L8	1592	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2011/04/23 22:42
S1	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S3	46	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S4	78	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S6	132	S1 or S2 or S3 or S4 or S5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33

S7	4	EP-1254629-\$.did. or US-5111826-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:34
S8	1198	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/14 20:41
S9	1	("20030065257").PN.	US-PGPUB; USPAT	OR	OFF	2008/12/18 14:03
S10	1201	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S11	275	S10 and accelerometer	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S12	2	Nasiff-Roger-E.in.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:42
S13	1	(10/266272).APP.	USPAT; USOCR	OR	ON	2010/03/27 22:58
S14	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S15	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S16	56	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S17	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S18	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S19	143	S14 or S15 or S16 or S17 or S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S20	1	("20060161079").PN.	US-PGPUB; USPAT	OR	OFF	2010/03/27 23:03
S21	1	(11/332586).APP.	USPAT; USOCR	OR	ON	2010/03/27 23:03
S22	5	("20060052727" "20060161079" "20060255955" "7028547" "7127370").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/03/27 23:04
S23	2	Nasiff-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S24	86	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23

S25	23	S24 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S26	4	S22 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S27	21	S25 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:29
S28	1	S25 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:30
S29	1384	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:35
S30	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S31	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S32	57	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S33	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S34	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S35	144	S30 or S31 or S32 or S33 or S34	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S36	87	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50

S37	23	S36 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S38	1	S37 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S39	1411	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S40	5	"497572".ap.	US-PGPUB; USPAT	OR	ON	2010/10/30 14:41
S41	9	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S42	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S43	58	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S44	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S45	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S46	145	S41 or S42 or S43 or S44 or S45	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S47	5	S46 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:00
S48	167	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09
S49	1502	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09

S50	135	S48 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple different) with (body user subject wearer person human))	US-PGPUB; USPAT	OR	ON	2010/10/31 16:10
S51	1	(10/986303).APP.	USPAT; USOCR	OR	ON	2010/10/31 17:02
S52	0	("7107180").URPN.	USPAT	OR	ON	2010/10/31 17:04
S53	1	("6560903").PN.	US-PGPUB; USPAT	OR	OFF	2010/10/31 18:21
S54	7	"942802".ap.	US-PGPUB; USPAT	OR	ON	2010/10/31 18:22
S55	21	("6560903").URPN.	USPAT	OR	ON	2010/10/31 18:25

EAST Search History (I nterference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S56	4	Goris-Annelies.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S57	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S58	55	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S59	3	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S60	0	Bodlaender-Maarten.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S61	60	S56 S57 S58 S59 S60	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02

S62	5	S61 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)). clm.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:03
S63	2	S61 and (wrist arm leg shank ankle shoe chest neck head waist belt back). clm.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:05
S64	1	("2008/0281234").URPN.	USPAT	OR	ON	2010/10/31 16:05

4/23/2011 10:48:52 PM

C:\Documents and Settings\elloyd1\My Documents\EAST\Workspaces\12097121.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body
Group Art Unit : 3736
Examiner : Emily M. Lloyd
Confirmation No. : 8272

Mail Stop: Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

In response to the Non-Final Office Action mailed November 15, 2010, in the above-identified application, please enter the following amendments and consider the following remarks:

IN THE DRAWINGS

The attached sheet contains changes to Figure 7. In Figure 7, the symbol in step 142 has been changed. This sheet, which contains Figure 7, replaces the original sheet containing this figure.

Attachments: Replacement Sheet

Annotated Sheet showing changes

IN THE SPECIFICATION

Please replace the paragraph at page 9, lines 15-22 with the following amended paragraph:

Figure 3 shows an activity monitor comprising a device 30 with a sensor 33. The device 30 does not have any buttons or display. The device 30 has means to communicate with a separate unit 31, preferably using a wireless link 32 such as WIFI or ~~Bluetooth~~ BLUETOOTH. The separate unit 31 is used to control the device 30. The separate unit 31, for example a personal computer or a personal digital assistant, comprises a microprocessor (not shown) for processing the information gathered by the device 30 by means of sensor 33. The separate unit 31 further comprises means for receiving user input and communicating the processed information to a user.

Please replace the paragraph at page 9, lines 23-35 with the following amended paragraph:

Figure 4 shows an embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a reference position. In step 100, the sensor 6 delivers a measurement value at the reference position. Preferably, the sensor 6 is a tri-axial accelerometer, and the measurement value is a triple containing acceleration information in X, Y, and Z-directions. In step 101, the activity monitor computes the corresponding activity parameter, for example energy expenditure. For a tri-axial accelerometer attached to the back of the waist, a method to compute the corresponding energy expenditure is disclosed in “Daily physical activity, energy expenditure and physical fitness; assessment and implications” by Guy Plasqui, Ph.D. thesis, Maastricht University, 2004, (~~incorporated herein by reference~~) referred to hereinafter as “Plasqui”. The back of the waist is near the center of the body and a tri-axial accelerometer attached thereto provides a good estimation of overall movements.

Please replace the paragraph at page 13, lines 9-18 with the following amended paragraph:

In general, this sequence could be paralleled further, for example by using a plurality of sensors 6 to measure the [[value]] values at a plurality of positions on the subject simultaneously. In this embodiment, the steps of extracting compensation parameters and extracting essential signal features are performed in parallel. However, they can also be performed sequentially. In an alternative embodiment, the activity parameter is computed after the sensor 6 has delivered the signal in step 133, and before extracting essential features in step 134 and determining compensation parameters in step 137. It is also possible to compute at least one derived quantity from the values measured by the sensor 6, and perform the steps of extracting essential features and determining compensation parameters based on the derived quantity.

IN THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A measuring system comprising:
 - a sensor arranged to be attached at one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the subject,
 - means for establishing which of the plurality of subject positions the sensor is attached to, and
 - means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.

2. (Currently Amended) The measuring system according to claim 1, wherein the plurality of positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, and a head.

3. (Previously Presented) The measuring system according to claim 1, wherein the derived value comprises an activity parameter of the subject.

4. (Previously Presented) The measuring system according to claim 3, wherein the activity parameter comprises energy expenditure.

5. (Currently Amended) The measuring system according to claim ~~[[1]]~~ 3, wherein the activity parameter represents a degree of activity of the body part the sensor is attached to.

6. (Previously Presented) The measuring system according to claim 1, wherein the measured value comprises at least one of temperature, ECG, or acceleration.

7. (Previously Presented) The measuring system according to claim 1, further comprising means for selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset.

8. (Previously Presented) The measuring system according to claim 1, further comprising:

means for converting the measured value into an estimated measured value related to a reference position on the subject, and

means for deriving the subject-related value from the estimated measured value.

9. (Currently Amended) The measuring system according to claim 1, wherein the means for ~~determining the position of the sensor on the subject~~ establishing which of the plurality of subject positions the sensor is attached to is arranged for performing the determining in dependence on the measured value.

10. (Currently Amended) The measuring system according to claim 9, further comprising means for obtaining from the sensor a plurality of measured values measured during a time interval, and wherein the means for ~~determining the position of the sensor on the subject~~ establishing which of the plurality of subject positions the sensor is attached to is arranged for performing the ~~determining~~ establishing in dependence on the measured values measured during the time interval.

11. (Currently Amended) The measuring system according to claim 10, wherein the means for ~~determining the position of the sensor on the subject~~ establishing which of the plurality of subject positions the sensor is attached to is arranged for performing the ~~determining~~ establishing on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively.

12. (Currently Amended) The measuring system according to claim 10, wherein the

means for ~~determining the position of the sensor on the subject~~ establishing which of the plurality of subject positions the sensor is attached to comprises means for performing a pattern recognition of a signal derived from the measured values measured during the time interval.

13. (Currently Amended) The measuring system according to claim 9, further comprising means for determining that the subject is performing a standardized activity, and wherein the means for ~~determining the position of the sensor on the subject~~ establishing which of the plurality of subject positions the sensor is attached to is arranged for using at least one measured value obtained from the sensor, the at least one measured value relating to a time the subject is performing the standardized activity.

14. (Currently Amended) The measuring system according to claim 13, wherein the means for determining that the subject is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value during the time the subject is performing the standardized activity.

15. (Previously Presented) The measuring system according to claim 13, further comprising a user interface for receiving input from the subject to indicate when the subject is performing the standardized activity.

16. (Previously Presented) The measuring system according to claim 1, further comprising a user interface for receiving input from the subject related to the position of the sensor on the subject.

17. (Previously Presented) The measuring system according to claim 1, further comprising:

means for establishing that the subject is performing a predetermined activity,
storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,

means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and

means for providing feedback in dependence on the similarity measure.

18. (Previously Presented) The measuring system according to claim 17, wherein the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities.

19. (Previously Presented) A measuring system according to claim 1, further comprising a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also in dependence on the further measured value.

20. (Previously Presented) A system for determining the calorie balance of a subject, the system comprising the measuring system according to claim 4, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure.

21. (Currently Amended) A method of deriving a ~~estimating a~~ ~~derived~~ value relating to a subject, the method comprising:

obtaining at least one measured value from a sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject, [[and]]
establishing which of a plurality of subject positions the sensor is attached to, and
deriving the subject-related value from the measured value [[also]] in dependence on the position of the sensor on the subject.

22. (Previously Presented) The measuring system according to claim 6, wherein the acceleration is a tri-axial acceleration.

REMARKS

I. INTRODUCTION

Claims 2, 5, 9-14, and 21 have been amended. The Specification has been amended. The Drawings have been amended. Thus, claims 1-22 remain pending in the present application. No new matter has been added. In light of the above amendments and the following remarks, Applicants respectfully submit that all presently pending claims are in condition for allowance.

II. THE DRAWING OBJECTIONS SHOULD BE WITHDRAWN

The drawings stand objected to for failing for informalities. In view of the amendments to the drawings and specification, the withdrawal of this objection is respectfully requested.

III. THE SPECIFICATION OBJECTIONS SHOULD BE WITHDRAWN

The specification stands objected to for informalities. In view of the amendments to the specification, the withdrawal of these objections is respectfully requested.

IV. THE CLAIM OBJECTION SHOULD BE WITHDRAWN

Claims 2 and 21¹ stand objected to for informalities. In view of the amendments to these claims, the withdrawal of this objection is respectfully requested.

V. THE 35 U.S.C. § 112 REJECTIONS SHOULD BE WITHDRAWN

Claims 1-20 and 22 stand rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.

Specifically, the Examiner states that these claims recite means plus function limitations and, therefore, invoke 35 U.S.C. § 112, sixth paragraph. The Examiner then asserts that “the written description fails to clearly link or associate the disclosed

¹ The Examiner objects to claim 20, but refers to the recitation of claim 21. Applicants will, therefore, treat this objection as applicable to claim 21.

structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function.” (See 11/15/10 Office Action, p. 7). Applicants respectfully disagree with the Examiner’s assertion. In the explanation of each rejection, the Examiner repeatedly states that “no particular physical entity is tied to this particular function in the specification.” (*Id.*). To support this assertion, the Examiner points to portions of the specification that disclose various entities for performing the claimed function. For example, with regards to the recitation in claim 1 of “means for establishing which of the plurality of subject positions the sensor is attached to,” the Examiner states that it is not clear whether the activity monitor or an external device, inter alia, perform this function. (*Id.*). Applicants direct the Examiner’s attention to the Federal Circuit Court’s decision in *Micro Chemical v. Great Plains Chemical Co.* In that case, the Court refers to *Serrano v. Telular Corp.* and states, “[w]hen multiple embodiments in the specification correspond to the claimed function, proper application of § 112, ¶ 6 generally reads the claim element to embrace each of those embodiments.” *Micro Chemical v. Great Plains Chemical Co.*, 194 F.3d 1250, 1999, 1258-1259 (Fed.Cir.1999) (referring to *Serrano v. Telular Corp.*, 111 F.3d 1578, 1583, 42 U.S.P.Q.2d 1538, 1542 (Fed.Cir.1997)). In view of these cases, Applicants respectfully submit that the claims embrace each of the embodiments the Examiner has mentioned. Since the Examiner has been able to identify the embodiments capable of performing the claimed function, then one of ordinary skill in the art can also ascertain what structure, material, or acts perform the claimed function without any difficulty.

With regards to claims 13-15, the Examiner asserts that the specification “fails to disclose the corresponding structure, material, or acts for the claimed function.” (See 11/15/10 Office Action, p. 22). Applicants direct the Examiner’s attention to page 11, lines 6-32 of the originally filed application, which explains how the device determines when the subject is performing a standardized activity.

With regards to claim 20, the Examiner states that the specification provides no support for the recitation of “means for monitoring food consumption” and “means for deriving the calorie balance.” Applicants respectfully disagree and direct the Examiner’s

attention to page 8, line 33 – page 9, line 3 of the originally filed application. This portion of the specification discloses that various types of sensors can be used. So, one of ordinary skill in the art would understand that this disclosure includes a sensor that allows for the monitoring of food consumption. Therefore, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112, first paragraph, rejection of claims 1-20 and 22.

Claims 1-22 stand rejected under 35 U.S.C. § 112, second paragraph, for being indefinite. With respect to the means plus function arguments that the Examiner reiterates in support of the 35 U.S.C. § 112, second paragraph, rejection of claims 1-20 and 22, Applicants direct the Examiner's attention to the arguments presented above.

With regards to claims 5, 9-15, and 21, these claims have been amended to overcome the deficiencies pointed to by the Examiner. However, the Examiner states that, with regards to claim 13 and 14, it is unclear how or why a measured value is used to determine if a user is performing a standardized activity if the user directly tells the device that he/she is performing a standardized activity. (*See* 11/15/10 Office Action, pp. 28-29). Applicants direct the Examiner's attention to page 11, lines 6-32 of the originally filed application. In this portion of the specification, it is clearly disclosed that user entry is an **alternative**. The alternative to user entry is also sufficiently described in this portion of the specification. Furthermore, the Examiner states that it is unclear how claim 14 further limits claim 13. (*See* 11/15/10 Office Action, p. 29). Claim 13 relates to the "means for determining that the subject is performing a standardized activity," whereas claim 14 further explains that this determination is "in dependence on at least one measured value during the time the subject is performing the standardized activity." Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 112, second paragraph, rejection of claims 1-22.

VI. THE 35 U.S.C. § 101 REJECTION SHOULD BE WITHDRAWN

Claims 10-12 stand rejected under 35 U.S.C. § 101 for being directed towards non-statutory subject matter.

The Examiner states that the “means for obtaining from the sensor a plurality of measured values” in claim 10 is interpreted as a wireless link and is, therefore, non-statutory. Applicants respectfully request that reference to claim 10 in its entirety would show that recitation of “the means for establishing which of the plurality of subject positions the sensor is attached to is arranged for performing the establishing in dependence on the measured values measured during the time interval” involves statutory subject matter. In fact, it seems the Examiner understands this because in the 35 U.S.C. § 112, first paragraph, rejection the Examiner refers to the activity monitor or an external device, inter alia, perform this recitation. (*See* 11/15/10 Office Action, p. 7). Since both of these elements are statutory subject matter, Applicants respectfully request the withdrawal of this rejection.

VII. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

Claims 1-3, 5, 6, 9, 10, 13, 14, and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Merkelet al. (U.S. Published App. No. 2007/0032981) in view of Applicants’ assessment of the knowledge of one of ordinary skill in the art (August 25, 2010 Amendment) (hereinafter “Applicants’ previous statement”).

Claim 1 recites, “[a] measuring system comprising: a sensor arranged to be attached at *one of a plurality of positions on a subject* for obtaining a measured value representing a physical or a physiological quantity of the subject, *means for establishing which of the plurality of subject positions the sensor is attached to*, and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.”

Merkel discloses a wearable fitness device that is interchangeable with a plurality of wearable articles. (*See* Merkel, Abstract). The Examiner correctly acknowledges that Merkel fails to disclose means “means for establishing which of the plurality of subject positions the sensor is attached to, and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.” To cure this deficiency, the Examiner relies on Applicants’ statement that “[i]f Mault did

disclose that the monitoring device was attached to one of a plurality of areas on the patient (which Applicants do NOT concede), one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device." (See August 25, 2010 Amendment, p. 14, ll. 9-13).

Applicants respectfully disagree with the Examiner's assertion that Applicants' previous statement renders the claims obvious. Applicants previous statement was an identification of a problem that one of ordinary skill in the art would seek to cure in the Mault reference. However, the mere recognition of the existence of a problem does not make its solution obvious. For example, if a doctor diagnoses a patient with cancer, realizes that the cause of the cancer is a brain tumor, and concludes that the tumor should be removed, it is not obvious how the tumor is removed. That is, identification of a problem does not automatically lead to the correct solution. Specifically, claim 1 is written in means plus function language, "*means for establishing which of the plurality of subject positions the sensor is attached to.*" The applicants statement while being directed to the functional portion of the language does not obviate the means portion. Because it would be recognized by one skilled in the art that where on the body the sensor is worn, this does not teach the means for accomplishing this function. Therefore, Applicants respectfully submit that although Merkel does disclose that the fitness device can be attached to a plurality of wearable articles, one of ordinary skill in the art would still realize that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device.

Accordingly, Applicants respectfully submit that Merkel and Applicants' previous statement, alone or together, fail to disclose or suggest "means for establishing which of the plurality of subject positions the sensor is attached to, and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject," as recited in claim 1. It is, therefore, respectfully submitted that

the rejection of claim 1 and its dependent claims 2, 3, 5, 6, 9, 10, 13, 14 should be withdrawn.

Claim 21, recites, “*establishing which of a plurality of subject positions the sensor is attached to*, and deriving the subject-related value from the measured value also in dependence on the position of the sensor on the subject, wherein the sensor is capable of being attached at one of a plurality of positions on the subject.” Thus, Applicants respectfully submit that the rejection of claim 21 should be withdrawn for at least the foregoing reasons presented with regards to claim 1.

Claims 4 and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Merkel and Applicant’s previous statement in view of Mault et al. (U.S. Published App. No. 2001/0049470).

Applicants respectfully submit that Mault fails to cure the above-identified deficiencies of Merkel and Applicant’s previous statement and that Merkel, Applicant’s previous statement, and Mault, alone or in any combination, fail to disclose or suggest “means for establishing which of the plurality of subject positions the sensor is attached to, and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject,” as recited in claim 1 and, similarly claim 21. Thus, it is respectfully submitted that the rejection of claim 21 should be withdrawn. Because claim 4 depends on and, therefore, contains all of the limitations of claim 1, it is respectfully submitted that the rejection of claim 4 should be withdrawn.

Annotated Sheet

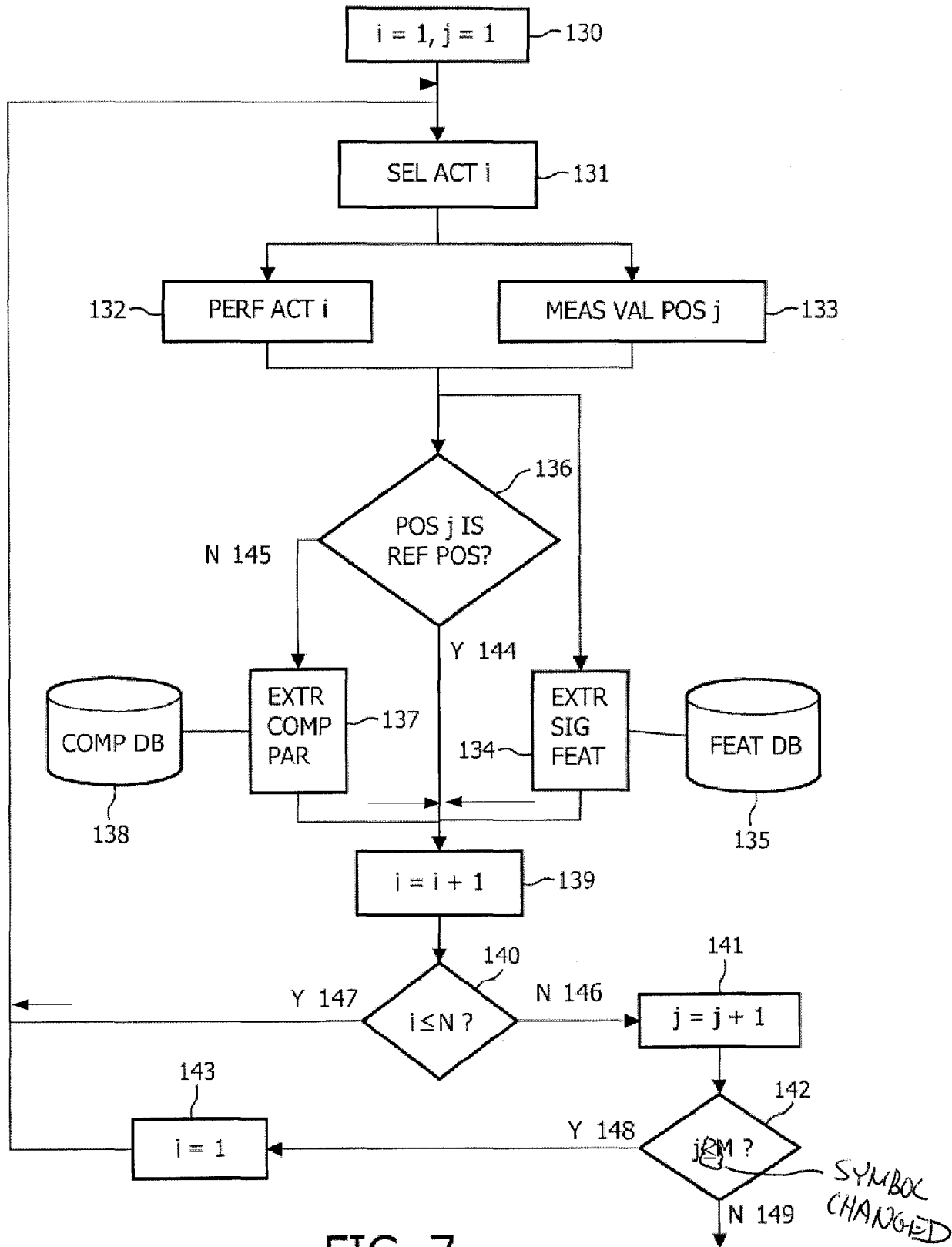


FIG. 7

Replacement Sheet

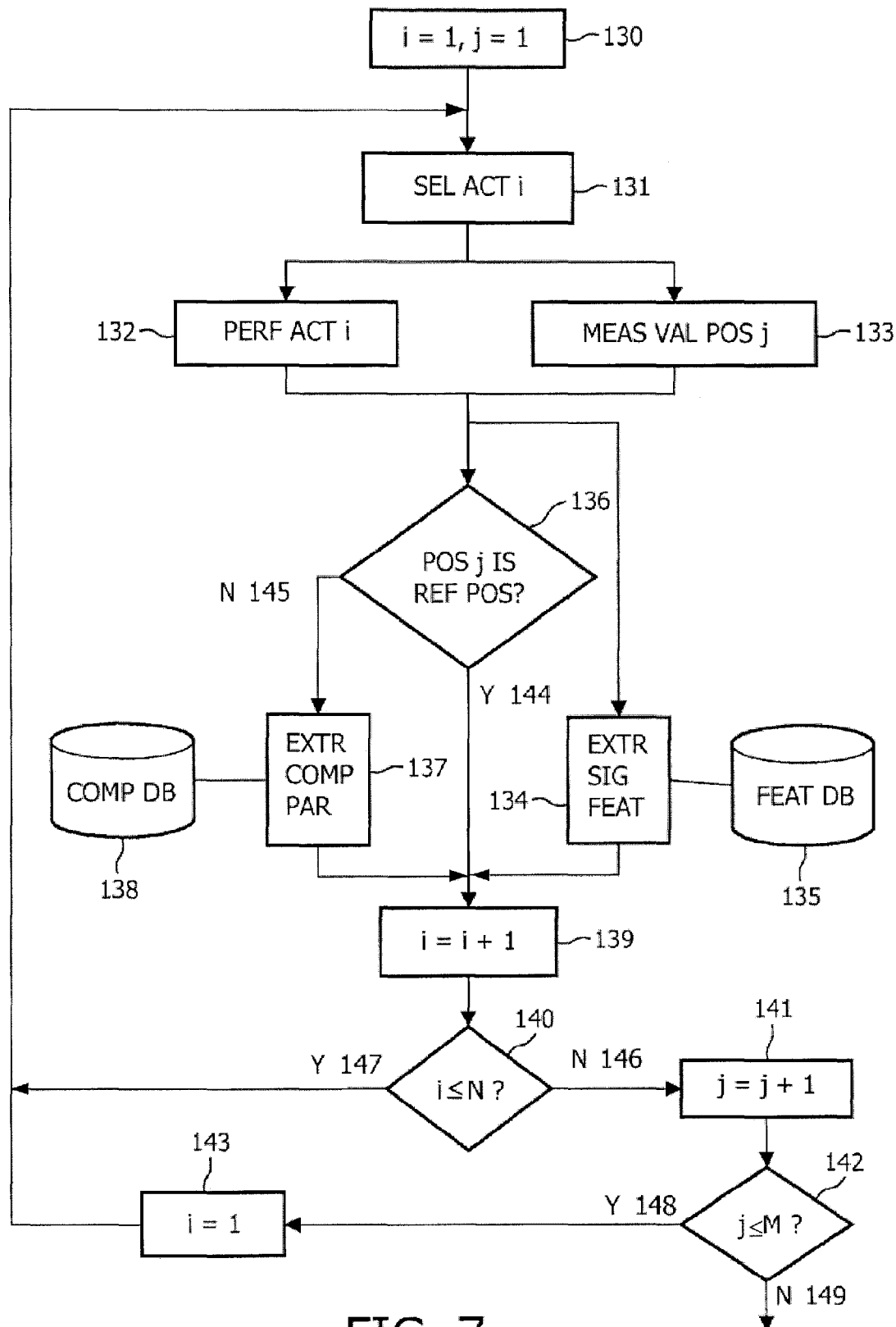


FIG. 7

Electronic Acknowledgement Receipt

#3162

EFS ID:	9451391
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Oleg F. Kaplun/Sandy Gellineau
Filer Authorized By:	Oleg F. Kaplun
Attorney Docket Number:	003603 US1
Receipt Date:	15-FEB-2011
Filing Date:	12-JUN-2008
Time Stamp:	17:05:19
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		003603us1Amdt15Feb11.pdf	912727 e396b1298b777eb000131b43e9adeb9bdf a909af	yes	18

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Miscellaneous Incoming Letter	1	1
Amendment/Req. Reconsideration-After Non-Final Reject	2	18

Warnings:

Information:

Total Files Size (in bytes):	912727
-------------------------------------	--------

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body
Group Art Unit : 3736
Examiner : Emily M. Lloyd
Confirmation No. : 8272

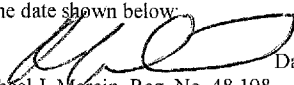
Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate of Facsimile / Electronic Filing

I hereby certify that this correspondence is being transmitted via facsimile or electronically filed to:

**Mail Stop: Amendment
Commissioner for Patents
Alexandria, VA 22313-1450
Fax (571) 273-8300**

on the date shown below:

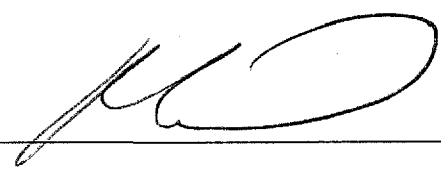
By:  Date: February 15, 2011
Michael J. Marcin, Reg. No. 48,198

TRANSMITTAL

Transmitted herewith please find an Amendment in response to the Non-Final Office Action mailed on November 15, 2010 for filing in the above-identified application. No fees are believed to be required. The Commissioner is hereby authorized to charge any required fees to the Deposit Account of **Fay Kaplun & Marcin, LLP No. 50-1492**. A copy of this paper is enclosed for that purpose.

Respectfully submitted,

Dated: February 15, 2011

By: 
Michael J. Marcin (Reg. No. 48,198)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	SMALL ENTITY <input type="checkbox"/>	OR			
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (j), or (m))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(j))</small>	minus 20 =	*	X \$ =		OR	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
			TOTAL			TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY	OR			
AMENDMENT	02/15/2011	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 22	Minus ** 22	= 0	X \$ =		OR	X \$52=	0
	Independent (37 CFR 1.16(h))	* 2	Minus ***3	= 0	X \$ =		OR	X \$220=	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))								
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)						
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	X \$ =		OR	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus ***	=	X \$ =		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))								
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/Katischa R. Wanzer/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



#3166

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/097,121	06/12/2008	Annelies Goris	003603 US1	8272
------------	------------	----------------	------------	------

24737 7590 11/15/2010
 PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT	PAPER NUMBER
----------	--------------

3736

MAIL DATE	DELIVERY MODE
-----------	---------------

11/15/2010	PAPER
------------	-------

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	#Application No. 12/097,121	Applicant(s) GORIS ET AL.	
	Examiner EMILY M. LLOYD	Art Unit 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 August 2010.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 August 2010 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Application/Control Number: 12/097,121
Art Unit: 3736

Page 2

DETAILED ACTION

This Office Action is in response to Applicant's 25 August 2010 amendment. The Examiner acknowledges Applicant's amendments to the abstract and specification, the replacement drawing sheets for Figures 1A-1D and 7, the amendments to claims 1-21 and the addition of claim 22. Currently, claims 1-22 are pending.

Drawings

The drawings are objected to because decision 142 has a $>$ instead of a \leq (see page 13 lines 5-6 of the original specification). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of

Application/Control Number: 12/097,121

Page 3

Art Unit: 3736

any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

The disclosure is objected to because of the following informalities: page 10 lines 3 and 28 it is unclear if "a reference position" should be "the reference position"; and page 13 line 10 "value" should be "values".

Appropriate correction is required.

The use of the trademark Bluetooth has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 4

The amendment filed 25 August 2010 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the incorporation by reference of "Daily physical activity, energy expenditure and physical fitness; assessment and implications" by Guy Plasqui in the replacement paragraph for page 9 lines 23-35 filed 25 August 2010.

Applicant is required to cancel the new matter in the reply to this Office Action.

The Examiner further notes that the following paragraph was provided to Applicant in the 27 May 2010 Office Action and explains why the Plasqui reference was not considered incorporated by reference upon filing of the present application.

The Examiner notes that page 9 lines 29-32 and subsequent references to "Daily physical activity, energy expenditure and physical fitness; assessment and implications" (Plasqui) appear to be an attempt to incorporate subject matter into this application by reference. If this is the case, Applicant's attempt to incorporate subject matter into this application by reference to Plasqui is ineffective because 37 CFR 1.57 (b) (1) requires the use of the root words "incorporat(e)" and "reference". See also 37 CFR 1.57 (g)(1).

Application/Control Number: 12/097,121
Art Unit: 3736

Page 5

As the Plasqui reference was not incorporated by reference on the filing date of the present application, any amendment to incorporate by reference the Plasqui reference into Applicant's application after the filing date is considered new matter.

Claim Objections

Claim 2 and 20 are objected to because of the following informalities: claim 2 "a head" should be "and a head"; claim 20 "of the subject, and" should have "and" removed. Appropriate correction is required.

Claim Limitations Invoking 35 USC § 112 Sixth Paragraph

The Examiner notes that the following limitations in claims 1, 7-14 and 17-20 invoke 35 USC 112, sixth paragraph, as meeting the 3-prong analysis in MPEP 2181 I: means for establishing which of the plurality of subject positions the sensor is attached to (claim 1); means for determining the position of the sensor on the subject (claims 9-13); means for deriving a subject-related value from the measured value (claims 1 and 19); means for selecting a subset of a predefined set (claim 7); means for converting the measured value into an estimated measured value (claim 8); means for deriving the subject-related value from the estimated value (claim 8); means for obtaining from the sensor a plurality of measured values (claim 10); means for performing a pattern recognition of a signal from the measured values (claim 12); means for determining that the subject is performing a standardized activity (claims 13 and 14); means for establishing that the subject is performing a predetermined activity (claims 17 and 18);

Application/Control Number: 12/097,121

Page 6

Art Unit: 3736

storage means for storing at least one pattern (claim 17); means for determining a similarity measure (claim 17); means for providing feedback in dependence on the similarity measure (claim 17); means for monitoring food consumption (claim 20); and means for deriving the calorie balance (claim 20).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim elements “means for establishing which of the plurality of subject positions the sensor is attached to” (claim 1); “means for determining the position of the sensor on the subject” (claims 9-13); “means for deriving a subject-related value from the measured value” (claims 1 and 19); “means for selecting a subset of a predefined set” (claim 7); “means for converting the measured value into an estimated measured value” (claim 8); “means for deriving the subject-related value from the estimated value” (claim 8); “means for

Application/Control Number: 12/097,121

Page 7

Art Unit: 3736

obtaining from the sensor a plurality of measured values” (claim 10); “means for performing a pattern recognition of a signal from the measured values” (claim 12); “means for determining that the subject is performing a standardized activity” (claims 13 and 14); “means for establishing that the subject is performing a predetermined activity” (claims 17 and 18); “storage means for storing at least one pattern” (claim 17); “means for determining a similarity measure” (claim 17); “means for providing feedback in dependence on the similarity measure” (claim 17); “means for monitoring food consumption” (claim 20); and “means for deriving the calorie balance” (claim 20) are means (or step) plus function limitations that invoke 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function.

Regarding the means for establishing which of the plurality of subject positions the sensor is attached to (claim 1), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see “the activity monitor computes” (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), “means of hardware comprising several distinct elements” (page 14 line 23), “means of a suitably programmed computer” (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what “means

Application/Control Number: 12/097,121

Page 8

Art Unit: 3736

of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this function is accomplished by "using information from a feature database" (page 11 line 10), "the signal from the sensor is analyzed for features that are position-dependent" (page 11 lines 11-12), "the user can provide the activity monitor with input" (page 11 line 14), "Combinations of the values during the standardized activities or the absolute measured values are used to determine the position of the sensor 6 on the subject" (page 11 lines 16-17), "a number of predefined rules are used" (page 11 lines 17-18), exemplary rules provided on page 11 lines 18-23, "fuzzy logic rules" (page 11 line 24), "*Other ways to provide a set of rules, for example neural network methods and logic programming, are obvious to the skilled artisan*" (page 11 lines 24-25, emphasis added), "means of pattern recognition" (page 11 lines 26-27), "*for example by correlating a signal obtained from the sensor with a signal stored in the feature database*" (page 11 lines 27-28, emphasis added), "The pattern recognition can be performed in the time domain, the frequency domain, or *another domain*, preferably a time-frequency domain *such as a wavelet domain*" (page 11 lines 28-30, emphasis added), "Pattern recognition *can be performed in many ways known to the skilled artisan. For example, techniques used in speech recognition can be applied*" (page 11 lines 30-32, emphasis added), "the measured value is first converted to an activity parameter, and the activity parameter is used to determine the position of the

Application/Control Number: 12/097,121

Page 9

Art Unit: 3736

sensor 6 on the subject in a way similar to what is described above" (page 12 lines 7-9), "*It is also possible to use other quantities relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119*" (page 12 lines 13-15, emphasis added), use of data from initialization based on the individual (page 12 line 16-page 13 line 18), use of data from initialization based on a population of subjects (page 13 lines 19-27), and/or use of other methods. The Examiner especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding the means for determining the position of the sensor on the subject (claims 9-13), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this

Application/Control Number: 12/097,121

Page 10

Art Unit: 3736

function is accomplished by "using information from a feature database" (page 11 line 10), "the signal from the sensor is analyzed for features that are position-dependent" (page 11 lines 11-12), "the user can provide the activity monitor with input" (page 11 line 14), "Combinations of the values during the standardized activities or the absolute measured values are used to determine the position of the sensor 6 on the subject" (page 11 lines 16-17), "a number of predefined rules are used" (page 11 lines 17-18), exemplary rules provided on page 11 lines 18-23, "fuzzy logic rules" (page 11 line 24), "*Other ways to provide a set of rules, for example neural network methods and logic programming, are obvious to the skilled artisan*" (page 11 lines 24-25, emphasis added), "means of pattern recognition" (page 11 lines 26-27), "*for example by correlating a signal obtained from the sensor with a signal stored in the feature database*" (page 11 lines 27-28, emphasis added), "The pattern recognition can be performed in the time domain, the frequency domain, or *another domain*, preferably a time-frequency domain *such as a wavelet domain*" (page 11 lines 28-30, emphasis added), "Pattern recognition *can be performed in many ways known to the skilled artisan. For example, techniques used in speech recognition can be applied*" (page 11 lines 30-32, emphasis added), "the measured value is first converted to an activity parameter, and the activity parameter is used to determine the position of the sensor 6 on the subject in a way similar to what is described above" (page 12 lines 7-9), "*It is also possible to use other quantities relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119*" (page 12 lines 13-15, emphasis added), use of data from initialization based on the individual (page 12 line

Application/Control Number: 12/097,121

Page 11

Art Unit: 3736

16-page 13 line 18), use of data from initialization based on a population of subjects (page 13 lines 19-27), and/or use of other methods. The Examiner especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding the means for deriving a subject-related value from the measured value (claims 1 and 19), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this function is accomplished by one or more of the examples of page 10 lines 4-22, "*potentially more flexible compensation methods are easily conceivable. Such methods include* higher order polynomials, generalized linear models, other statistical methods, artificial neural networks, and fuzzy logic methods (page 10 lines 23-25, emphasis added), one or more of the examples of page 10 line

Application/Control Number: 12/097,121

Page 12

Art Unit: 3736

29-page 11 line 5, one or more of the examples of page 12 lines 1-6, the example of page 12 lines 9-13, "*It is also possible to use other quantities relating to measured values obtained from the sensor 6*, in the step to determine the position 116 and/or in the step to compensate for the difference 119" (page 12 lines 13-15, emphasis added), use of data from initialization based on the individual (page 12 line 16-page 13 line 18), use of data from initialization based on a population of subjects (page 13 lines 19-27), and/or use of other methods. The Examiner especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding the means for selecting a subset of a predefined set (claim 7), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. The Examiner notes

Application/Control Number: 12/097,121

Page 13

Art Unit: 3736

that this function is only described on page 5 lines 1-13, and the language provided is mostly exemplary; as such, it is unclear what is defined by the claim.

Regarding the means for converting the measured value into an estimated measured value (claim 8), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this function is accomplished by the descriptions cited for the means for deriving a subject-related value from the measured value listed above and/or in another manner. Further, at least the same problems with the descriptions cited for the means for deriving a subject-related value from the measured value listed above contribute to the lack of clarity as to how this function is performed.

Regarding the means for deriving the subject-related value from the estimated value (claim 8), it is unclear what physical entity is performing the claimed function. The

Application/Control Number: 12/097,121

Page 14

Art Unit: 3736

Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this function is accomplished by the descriptions cited for the means for deriving a subject-related value from the measured value listed above and/or in another manner. Further, at least the same problems with the descriptions cited for the means for deriving a subject-related value from the measured value listed above contribute to the lack of clarity as to how this function is performed.

Regarding the means for obtaining from the sensor a plurality of measured values (claim 10), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably

Application/Control Number: 12/097,121

Page 15

Art Unit: 3736

programmed computer" (page 14 lines 23-24), a "wireless or wired connection" (page 7 line 33), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this function is accomplished by "means to communicate... preferably using a wireless link 32 such a WIFI or Bluetooth" (page 9 lines 16-18), "for example by means of a wireless or wired connection" (page 7 line 33), and/or another mechanism. Further, it is unclear what other mechanisms are available besides the exemplary "wireless or wired connection" on page 7 line 33.

Regarding the means for performing a pattern recognition of a signal from the measured values (claim 12), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a

Application/Control Number: 12/097,121

Page 16

Art Unit: 3736

ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this function is accomplished by "means of pattern recognition" (page 11 lines 26-27), "*for example* by correlating a signal obtained from the sensor with a signal stored in the feature database" (page 11 lines 27-28, emphasis added), "The pattern recognition can be performed in the time domain, the frequency domain, or *another domain*, preferably a time-frequency domain *such as* a wavelet domain" (page 11 lines 28-30, emphasis added), "Pattern recognition *can be performed in many ways known to the skilled artisan*. *For example*, techniques used in speech recognition can be applied" (page 11 lines 30-32, emphasis added), and/or use of other methods. The Examiner especially notes that the language emphasized above provides for open ended interpretations of how the function is performed; as such, it is unclear what is defined by the claim.

Regarding the means for determining that the subject is performing a standardized activity (claims 13 and 14), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular

Application/Control Number: 12/097,121

Page 17

Art Unit: 3736

function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. The Examiner further notes that page 6 lines 15-29, page 11 lines 12-17 and page 13 lines 20-21 of the specification all appear to refer to the use of a standardized activity in initializing the device, where the standardized activity is either instructed to the subject or the subject inputs the standardized activity. The only support that the Examiner found in the specification as to how the device provides the claimed function of determining that the subject is performing a standardized activity is "the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs" (page 11 lines 14-16).

Regarding the means for establishing that the subject is performing a predetermined activity (claims 17 and 18), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular

Application/Control Number: 12/097,121

Page 18

Art Unit: 3736

function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. It is unclear if this function is accomplished by the means for determining that the subject is performing a standardized activity, or if this function is accomplished in another manner. Further, at least the same problems with the descriptions cited for the means for determining that the subject is performing a standardized activity as listed above contribute to the lack of clarity as to how this function is performed.

Regarding the storage means for storing at least one pattern (claim 17), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), a database (page 7 line 12), "storage medium, *such as* a ROM, *for example* a CD ROM or a semiconductor ROM, or a magnetic recording medium, *for example* a floppy disc or hard disk" (page 14 lines 1-2, emphasis added), and/or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct

Application/Control Number: 12/097,121

Page 19

Art Unit: 3736

elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements.

Regarding the means for determining a similarity measure (claim 17), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see “the activity monitor computes” (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), “means of hardware comprising several distinct elements” (page 14 line 23), “means of a suitably programmed computer” (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what “means of hardware comprising several distinct elements” encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. The Examiner notes that the specification only provides the broad statement that “a pattern-matching technique *can be used*” (page 7 line 13, emphasis added) as to how the similarity measure is determined; as “can be used” indicates that other options are available, it is still unclear what boundaries Applicant intended on providing as to how this function is performed.

Regarding the means for providing feedback in dependence on the similarity measure (claim 17), it is unclear what physical entity is performing the claimed function.

Application/Control Number: 12/097,121

Page 20

Art Unit: 3736

The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), the display 10, and/or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. The Examiner notes that the specification provides few examples (page 7 lines 14-19) as to how the feedback in dependence on the similarity measure is provided; as such, it is unclear what boundaries Applicant intended on providing as to how this function is performed.

Regarding the means for monitoring food consumption (claim 20), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), the buttons (21 and 22), the touch screen display (page 9 lines 9-10),

Application/Control Number: 12/097,121

Page 21

Art Unit: 3736

and/or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant intended to carry out the claimed function. The Examiner notes that the only description in the specification as to how food consumption is monitored is on page 2 lines 16-17 which appears to describe the prior art listed on page 1 line 21.

Regarding the means for deriving the calorie balance (claim 20), it is unclear what physical entity is performing the claimed function. The Examiner notes that it is unclear if the physical entity is the activity monitor itself (see "the activity monitor computes" (page 9 lines 27-28)), the microprocessor of an external device (page 9 lines 19-20), an integrated circuit (page 14 lines 6-7), "means of hardware comprising several distinct elements" (page 14 line 23), "means of a suitably programmed computer" (page 14 lines 23-24), or another element. The Examiner notes that no particular physical entity is tied to this particular function in the specification. The Examiner further notes that it is unclear what "means of hardware comprising several distinct elements" encompasses; it is unclear if this is a ROM physical memory, RAM physical memory, processor, physical connection to another element, hardware for a wireless connection to another element, and/or other elements. Further, it is also unclear how Applicant

Application/Control Number: 12/097,121

Page 22

Art Unit: 3736

intended to carry out the claimed function. The Examiner notes that the specification does not provide any description as to how the calorie balance is derived.

For each means (or step) plus function limitation, Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claims 2-20 and 22 are rejected as at least depending on claim 1 (as well as the inclusion of claims 1 and 3 in claim 4 with regards to claim 20), as well as any means plus function limitations in each claim without written support and any additionally rejected intervening claims.

Regarding claims 13-15, claim element “means for determining that the subject is performing a standardized activity” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The only support that the Examiner found in the specification as to how the device provides

Application/Control Number: 12/097,121

Page 23

Art Unit: 3736

the claimed function of determining that the subject is performing a standardized activity is “the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs” (page 11 lines 14-16). However, claims 13 and 14 further refer to “a measured value relating to a time the subject is performing the standardized activity” (claim 13) and “in dependence on at least one measured value” (claim 14). If the determination that the subject is performing a standardized activity is made based on the user providing input, it is unclear what structure will further obtain and use (at least one) measured value in making this determination. In other words, it appears that the “means for determining that the subject is performing a standardized activity” as disclosed in the specification does not further disclose structure corresponding to the use of (at least one) measured value in relation to the determination of performance of a standardized activity.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so

Application/Control Number: 12/097,121

Page 24

Art Unit: 3736

that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claims 14 and 15 are rejected as depending on claim 13.

Regarding claim 20, claim element “means for monitoring food consumption” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The Examiner notes that the only description in the specification as to a structure for monitoring food consumption is on page 2 lines 16-17 which appears to describe the prior art listed on page 1 line 21.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

Application/Control Number: 12/097,121
Art Unit: 3736

Page 25

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Regarding claim 20, claim element “means for deriving the calorie balance” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The Examiner notes that the specification does not provide any description as to a structure that derives the calorie balance.

Applicant is required to:

Application/Control Number: 12/097,121
Art Unit: 3736

Page 26

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 27

Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-20 and 22, it is unclear what structures are claimed by the means plus function limitations rejected under 35 USC 112 first paragraph above, as the written disclosure does not clearly correlate the means plus functions limitations with their corresponding structure(s). Each of claims 2-20 and 22 are rejected as at least depending on claim 1 (as well as the inclusion of claims 1 and 3 in claim 4 with regards to claim 20), as well as any indefinite means plus function limitations in each claim and any additionally rejected intervening claims.

Regarding claim 5, “the activity parameter” lacks antecedent basis. As such, it is unclear if claim 5 is intended to depend from claim 1, 3, 4 or another claim.

Regarding claim 8, it is unclear if the “means for deriving the subject-related value from the estimated measured value” are the same as the “means for deriving a subject-related value from the measured value” of claim 1. Further, if they are not the same, it is unclear how the “means for deriving the subject-related value from the estimated measured value” further limits the “means for deriving a subject-related value from the measured value” of claim 1; it is unclear if the “means for deriving the subject-related value from the estimated measured value” is intended to replace the “means for deriving a subject-related value from the measured value” of claim 1, is intended to supplement the “means for deriving...” of claim 1, or is intended to modify claim 1 in a different manner.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 28

Regarding claims 9-15, it is unclear if "the means for determining the position of the sensor on the subject" is the same as the "means for establishing which of the plurality of subject positions the sensor is attached to" in claim 1. Further, if they are not the same, "the means for determining..." in claim 9 lacks antecedent basis. Claims 10-15 are rejected as at least depending ultimately on claim 9, and are also rejected as including "means for determining..." where appropriate.

Regarding claim 11, it is unclear how claim 11 can further limit claim 10, which requires "a plurality of measured values" (claim 10), and yet provide for "the measured value or measured values measured during the time interval, respectively" (claim 11). It is further unclear if Applicant intended for claim 11 to depend from claim 9, claim 10, claim 9 or 10, and/or another interpretation.

Regarding claim 13, it is unclear if "the measured value" should be "the at least one measured value", all measured values, an indication that "at least one measured value" (also in claim 13) is only one measured value, and/or another interpretation. Claims 14 and 15 are rejected as depending on claim 13.

Regarding claims 13 and 14, it is unclear how "(at least one) measured value" is used in determining that the subject is performing a standardized activity if the "means for determining that the subject is performing a standardized activity" are the input/input device for "the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs" (page 11 lines 14-16). In other words, if the user/subject directly tells the device that they are performing the standardized activity, it is unclear why and how "(at

Application/Control Number: 12/097,121

Page 29

Art Unit: 3736

least one) measured value” would be used in furthering the determination that the user/subject is performing a standardized activity. Claims 14 and 15 are rejected as depending on claim 13.

Regarding claim 14, it is unclear if “in dependence on at least one measured value” is intended to claim “at least one measured value” with regards to any measured value (including measured values when the standardized activity is not performed), or if this is intended to claim only measured values from when the standardized activity is performed.

Regarding claim 14, it is unclear how claim 14 further limits claim 13. It is unclear how or if “the means for determining that the subject is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value” (claim 14) further limits “means for determining that the subject is performing a standardized activity... is arranged for using at least one measured value obtained from the sensor, the measured value relating to a time the subject is performing the standardized activity” (claim 13).

Regarding claim 21, the claim is drawn to “a method of estimating a derived value relating to a subject”. However, while the claim steps provide for “deriving the subject-related value”, they do not provide for “estimating”. As such, it is unclear if Applicant intended to claim “a method for deriving a value relating to a subject”, a step of estimating, and/or another interpretation.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 30

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 10, if "means for obtaining from the sensor a plurality of measured values" is interpreted as "a wireless link 32 such a WIFI or Bluetooth" (page 9 lines 16-18) or "a wireless ... connection" (page 7 line 33), such wireless links/connections include the signal(s) sent between hardware on each side of the wireless link/connection. Signals are not a process, machine, manufacture, or composition of matter; as such, they are non-statutory. Amending the "means for obtaining from the sensor a plurality of measured values" such that it only reads on statutory embodiments will overcome this rejection. Claims 11 and 12 are rejected as depending on claim 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Application/Control Number: 12/097,121

Page 31

Art Unit: 3736

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5, 6, 9, 10, 13, 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Publication 2007/0032981 (Merkel) as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art.

Regarding claim 1, Merkel discloses a measuring system (Figures 1-5) comprising: a sensor (see entire document, including fitness device 12 and [0036]) arranged to be attached at one of a plurality of positions on a subject (see entire document, including Figures 1-5 and [0022]-[0034]) for obtaining a measured value

Application/Control Number: 12/097,121

Page 32

Art Unit: 3736

representing a physical or a physiological quantity of the subject (see entire document, including [0036]), and means for deriving a subject-related value from the measured value (see entire document, including [0036]).

Merkel do not expressly disclose means for establishing which of the plurality of subject positions the sensor is attached to, and that the means for deriving a subject-related value from the measured value is also in dependence on the position of the sensor on the subject. However, Applicant's 25 August 2010 Amendment (page 14 first full paragraph) states, "If [prior art] did disclose that the monitoring device was attached to one of a plurality of areas on the patient.... one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device." As Merkel discloses "that the monitoring device was attached to one of a plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use means for establishing which of the plurality of subject positions the sensor is attached to in the invention of Merkel because "one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device" as admitted by Applicant (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), and it would have been further obvious to one of ordinary skill in the art at the time the invention was made to use dependence on the position of the sensor

Application/Control Number: 12/097,121

Page 33

Art Unit: 3736

on the subject in deriving a subject-related value in the invention of Merkel to provide "compensat[ion] for measurement deviations that result because of the respective placement of the device" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph) that would provide for more accurate measurements with respect to the different "plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph).

Regarding claim 21, Merkel discloses a method of estimating a derived value relating to a subject, the method comprising: obtaining at least one measured value from a sensor attached to the subject, the measured value representing a physical or a physiological quantity of the subject (see entire document, including fitness device 12, [0036] and Figures 1-5), where the sensor can be attached to a plurality of subject positions (see entire document, including Figures 1-5 and [0022]-[0034]), and deriving the subject-related value from the measured value (see entire document, including [0036]).

Merkel do not expressly disclose establishing which of a plurality of subject positions the sensor is attached to, and that the deriving the subject-related value from the measured value is also in dependence on the position of the sensor on the subject. However, Applicant's 25 August 2010 Amendment (page 14 first full paragraph) states, "If [prior art] did disclose that the monitoring device was attached to one of a plurality of areas on the patient.... one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the

Application/Control Number: 12/097,121

Page 34

Art Unit: 3736

device." As Merkel discloses "that the monitoring device was attached to one of a plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), it would have been obvious to one having ordinary skill in the art at the time the invention was made to establish which of the plurality of subject positions the sensor is attached to in the invention of Merkel because "one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device" as admitted by Applicant (Applicant's 25 August 2010 Amendment, page 14, first full paragraph), and it would have been further obvious to one of ordinary skill in the art at the time the invention was made to use dependence on the position of the sensor on the subject in deriving a subject-related value in the invention of Merkel to provide "compensat[ion] for measurement deviations that result because of the respective placement of the device" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph) that would provide for more accurate measurements with respect to the different "plurality of areas on the patient" (Applicant's 25 August 2010 Amendment, page 14, first full paragraph).

Regarding claims 2, 3, 5, 6, 9, 10, 13, and 14, Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art teach the measuring system according to claim 1, wherein the plurality of positions includes a wrist (Merkel see entire document, including strap 26 and [0027]), a lower leg (Merkel see entire document, including anklets 14 and 16), and a waist (Merkel see entire document, including belt 18); wherein the derived value comprises an activity parameter of the

Application/Control Number: 12/097,121

Page 35

Art Unit: 3736

subject (Merkel see entire document, including [0036]), wherein the activity parameter represents a degree of activity of the body part the sensor is attached to (attaching an accelerometer to a body part (Merkel see entire document, including [0036]) will inherently represent a degree of activity of the body part the accelerometer is attached to as the signal of the accelerometer, even if used to calculate steps, will represent the degree of activity of that portion of the body during the steps; even knowing the number of steps as an activity parameter represents the activity of the body part the sensor is attached to as during normal gait the legs move with a different degree of activity than the arms which both differ from the degree of activity of the chest and back); wherein the measured value comprises acceleration (Merkel see entire document, including [0036]); wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured value (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on the measured value); further comprising means for obtaining from the sensor a plurality of measured values measured during a time interval (Merkel see entire document, including [0036], in order for an assessment based on acceleration, heart rate, and/or blood pressure, sampling of the sensor is critical in order to accurately assess both the change and maintenance of the values; as such, the sensor measures values (consecutive data points) over a time interval (any set length of time that provides for the collection of at least 2 data points with the sampling frequency used by the sensor) and these values are obtained from the sensor (as otherwise the device of Merkel can't measure), and

Application/Control Number: 12/097,121

Page 36

Art Unit: 3736

wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured values measured during the time interval (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on the measured values; the measured values are clearly measured during the time interval discussed above); further comprising means for determining that the subject is performing a standardized activity (Merkel see entire document, including abstract and [0006], stepping, especially as part of walking, is a standardized activity), and wherein the means for determining the position of the sensor on the subject is arranged for using at least one measured value obtained from the sensor (Merkel see entire document, as no user input is required to set the activity device of Merkel to the different body positions, the determining must be in dependence on at least one measured value), the at least one measured value relating to a time the subject is performing the standardized activity (as Merkel is designed to measure steps (see entire document), and as values when the subject is not stepping (for example, when the subject is sitting or driving a car) would not contribute to the assessment of Merkel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use at least one measured value from the standardized activity to determining the position of the sensor on the subject); wherein the means for determining that the subject is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value (as Merkel is designed to measure steps (see entire document), and as values when the subject is

Application/Control Number: 12/097,121

Page 37

Art Unit: 3736

not stepping (for example, when the subject is sitting or driving a car) would not contribute to the assessment of Merkel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use at least one measured value from the standardized activity to determining the position of the sensor on the subject).

Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art as applied to claims 1-3, 5, 6, 9, 10, 13, 14 and 21 above, and further in view of United States Patent Publication 2001/0049470 (Mault).

Regarding claims 4 and 20, Merkel as modified by Applicant's assessment of the knowledge of one of ordinary skill in the art teach the measuring system of claim 3. Merkel does not expressly teach that the activity parameter comprises energy expenditure, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure. Mault teaches an activity parameter comprising energy expenditure (see entire document, including Figure 5), and further comprising means for monitoring food consumption (Figure 5) and means for deriving the calorie balance using the derived energy expenditure (Figures 5 and 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the activity parameter comprising energy expenditure, means for monitoring food consumption, and means for deriving the calorie balance using the

Application/Control Number: 12/097,121

Page 38

Art Unit: 3736

derived energy expenditure as taught by Mault in the invention of Merkel to provide for tracking calories for "maintaining or losing weight" (Merkel [0006]).

Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY M. LLOYD whose telephone number is (571)272-2951. The examiner can normally be reached on Monday through Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 39

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily M Lloyd
Examiner
Art Unit 3736

/EML/

/Max Hindenburg/
Supervisory Patent Examiner, Art Unit 3736

#3206

Notice of References Cited	Application/Control No. 12/097,121	Applicant(s)/Patent Under Reexamination GORIS ET AL.	
	Examiner EMILY M. LLOYD	Art Unit 3736	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2007/0032981	02-2007	Merkel et al.	702/160
	B US-			
	C US-			
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S3	46	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S4	78	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S6	132	S1 or S2 or S3 or S4 or S5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S7	4	EP-1254629-\$.did. or US-5111826-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:34
S8	1198	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/14 20:41
S9	1	("20030065257").PN.	US-PGPUB; USPAT	OR	OFF	2008/12/18 14:03
S10	1201	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S11	275	S10 and accelerometer	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S12	2	Nasiff-Roger-E.in.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:42
S13	1	(10/266272).APP.	USPAT; USOCR	OR	ON	2010/03/27 22:58
S14	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S15	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02

S16	56	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S17	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S18	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S19	143	S14 or S15 or S16 or S17 or S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S20	1	("20060161079").PN.	US-PGPUB; USPAT	OR	OFF	2010/03/27 23:03
S21	1	(11/332586).APP.	USPAT; USOCR	OR	ON	2010/03/27 23:03
S22	5	("20060052727" "20060161079" "20060255955" "7028547" "7127370").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/03/27 23:04
S23	2	Nasiff-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S24	86	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S25	23	S24 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S26	4	S22 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S27	21	S25 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:29
S28	1	S25 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:30
S29	1384	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:35

S30	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S31	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S32	57	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S33	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S34	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S35	144	S30 or S31 or S32 or S33 or S34	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
S36	87	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S37	23	S36 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S38	1	S37 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S39	1411	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S40	5	"497572".ap.	US-PGPUB; USPAT	OR	ON	2010/10/30 14:41
S41	9	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S42	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S43	58	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S44	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S45	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55

S46	145	S41 or S42 or S43 or S44 or S45	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/10/31 15:55
S47	5	S46 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)).clm.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:00
S48	167	702/160.ccls.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09
S49	1502	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/10/31 16:09
S50	135	S48 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple different) with (body user subject wearer person human))	US-PGPUB; USPAT	OR	ON	2010/10/31 16:10
S51	1	(10/986303).APP.	USPAT; USOCR	OR	ON	2010/10/31 17:02
S52	0	("7107180").URPN.	USPAT	OR	ON	2010/10/31 17:04
S53	1	("6560903").PN.	US-PGPUB; USPAT	OR	OFF	2010/10/31 18:21
S54	7	"942802".ap.	US-PGPUB; USPAT	OR	ON	2010/10/31 18:22
S55	21	("6560903").URPN.	USPAT	OR	ON	2010/10/31 18:25


EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp

S56	4	Goris-Annelies.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S57	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:01
S58	55	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S59	3	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S60	0	Bodlaender-Maarten.in.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S61	60	S56 S57 S58 S59 S60	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:02
S62	5	S61 and ((location located locating locate place placement placed placing compensated compensation compensate compensating adjust adjusting adjusted adjustment varied various numerous many multiple) with (body user subject wearer person human)). clm.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:03
S63	2	S61 and (wrist arm leg shank ankle shoe chest neck head waist belt back). clm.	US-PGPUB; USPAT; UPAD	OR	ON	2010/10/31 16:05
S64	1	("2008/0281234").URPN.	USPAT	OR	ON	2010/10/31 16:05

11/5/2010 6:43:03 PM

C:\Documents and Settings\elloyd1\My Documents\EAST\Workspaces\12097121.wsp

Index of Claims 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	05/22/2010	11/05/2010						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
	20	✓	✓						
	21	✓	✓						
	22		✓						

Search Notes 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

SEARCHED			
Class	Subclass	Date	Examiner
600	595	5/22/2010	EL
702	160	10/31/2010	EL

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	5/22/2010	EL
Text Search	5/22/2010	EL
EAST Search	5/22/2010	EL
Updated EAST Search	10/31/2010	EL
Brief Google Scholar Search, requested NPL documents	11/2/2010	EL
Reviewed requested NPL documents	11/4/2010	EL

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

--	--

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Goris et al.
Serial No. : 12/097,121
Filed : June 12, 2008
For : Detection and Compensation Method for
Monitoring the Place of Activity on the Body
Group Art Unit : 3736
Examiner : Emily M. Lloyd
Confirmation No. : 8272

Mail Stop: Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

In response to the Non-Final Office Action mailed May 27, 2010, in the above-identified application, please enter the following amendments and consider the following remarks:

IN THE ABSTRACT

Please replace the Abstract with the following amended paragraph:

A measuring system [[(1)]] comprises a sensor [[(6)]] arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises ~~means~~ a microprocessor for deriving a subject-related value from the measured value. The sensor is arranged to be attached at one of a plurality of positions on the subject. The measuring system further comprises ~~means~~ a microprocessor for establishing the position of the sensor on the subject. The ~~means~~ microprocessor for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.

IN THE DRAWINGS

The attached sheets contain changes to Figures 1A, 1B, 1C, and 7. In Figure 1A, character 23 has been omitted. In Figure 1B, character 7 has been omitted. In Figure 1C, character 8 has been omitted. In Figure 7, arrowheads have been added throughout the figure and a symbol has been added to step 142. These sheets, which contain Figures 1A, 1B, 1C, 1D, and 7, replace the original sheets containing these figures.

Attachments: Replacement Sheets

Annotated Sheets showing changes

IN THE SPECIFICATION

Please replace the paragraph at page 9, lines 23-35 with the following amended paragraph:

Figure 4 shows an embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a reference position. In step 100, the sensor 6 delivers a measurement value at the reference position. Preferably, the sensor 6 is a tri-axial accelerometer, and the measurement value is a triple containing acceleration information in X, Y, and ~~Z-direction~~ Z-directions. In step 101, the activity monitor computes the corresponding activity parameter, for example energy expenditure. For a tri-axial accelerometer attached to the back of the waist, a method to compute the corresponding energy expenditure is disclosed in “Daily physical activity, energy expenditure and physical fitness; assessment and implications” by Guy Plasqui, Ph.D. thesis, Maastricht University, 2004, (incorporated herein by reference) referred to hereinafter as “Plasqui”. The back of the waist is near the center of the body and a tri-axial accelerometer attached thereto provides a good estimation of overall movements.

Please replace the paragraph at page 11, line 33 - page 12, line 6 with the following amended paragraph:

After the position of the sensor 6 on the subject has been determined in step 116, and the position is not a reference position (step 118, branch 122), in step 119 the measured value is compensated for by the difference between the value at the position at which the sensor is attached and the corresponding value at a reference position, making use of the information in a compensation database 120, in a way similar to the embodiment according to Figure 5A. However, if the position is a reference position, (step 118, branch 123), the method continues to step 121. Finally, in step 121 the activity parameter is computed from the [[,]] possibly compensated [[,]] measured value [[,]] in a way similar to the embodiment according to Figure 5.

Please replace the paragraph at page 12, line 16 - page 13, line 2 with the following amended paragraph:

Figure 7 shows a diagram of an embodiment of an initialization procedure for the compensation database. In this embodiment, a sequence of steps is performed iteratively. As a first step 130, i and j are both initialized to 1. Each iteration starts with step 131 comprising an instruction to the subject to perform predefined activity i . The instruction can comprise a spoken instruction to walk, sit, or stand, or it can for example comprise showing the activity on a display for a predefined duration. Then, in step 132 the subject performs the predefined activity i , while the sensor 6 attached at position j on the subject measures a physical value, in this case tri-axial acceleration, in step 133. Next, in step 134 the essential features are extracted from the measured value signal and stored in a feature database 135. These essential features may comprise decision rules or constants that are part of decision rules, similar to the constants A , B , C , and D appearing in the description of the embodiment according to Figure 6. Similarly, essential signal patterns can be stored in the time domain, frequency domain, time-frequency domain, or any other domain or combination of domains. Simultaneously, if position j is not a reference position (step 136, branch 145), in step 137 compensation parameters describing the difference between the measured value at the position of the sensor 6 on the subject and the corresponding value at a reference position are determined and stored in a compensation database 138. However, if position j is a reference position (step 136, branch 144), then the method proceeds to step 139. These compensation parameters may comprise constants appearing in the compensation method, similar to the constants a , b , a_i , and $b_{i,j}$ occurring in the description of the embodiment according to Figure 5A.

Please replace the paragraph at page 13, lines 3-8 with the following amended paragraph:

To conclude an iteration, i is increased in step 139, and if i is smaller than or equal to the number of predefined activities (step 140, branch 147), the iteration steps are repeated; otherwise (step 140, branch 146), j is increased in step 141, and if j is smaller than or equal to the predefined number of positions (step 142, branch 148), i is set to 1 in step

143 and the iteration steps are repeated. If j is greater than the predefined number of positions (step 142, branch 149), the initialization procedure is finished.

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A measuring system ~~[[(1)]]~~ comprising:
 - a sensor ~~[[(6)]]~~ arranged to be attached at one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, ~~[[and]]~~
 - means for establishing ~~the position of~~ which of the plurality of subject positions the sensor is attached to on the subject, and
 - means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.
2. (Currently Amended) The measuring system ~~[[(1)]]~~ according to claim 1, wherein the plurality of positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head.
3. (Currently Amended) The measuring system ~~[[(1)]]~~ according to claim 1, wherein the derived value comprises an activity parameter of the subject.
4. (Currently Amended) The measuring system ~~[[(1)]]~~ according to claim 3, wherein the activity parameter comprises energy expenditure.
5. (Currently Amended) The measuring system ~~[[(1)]]~~ according to claim 1, wherein the activity parameter represents a degree of activity of the body part the sensor is attached to.
6. (Currently Amended) The measuring system ~~[[(1)]]~~ according to claim 1, wherein the measured value comprises at least one of temperature, ECG, or acceleration, ~~in particular~~ tri-axial acceleration.

7. (Currently Amended) The measuring system [(1)] according to claim 1, further comprising means for selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset.

8. (Currently Amended) The measuring system [(1)] according to claim 1, further comprising:

means for converting the measured value into an estimated measured value related to a reference position on the subject, and

means for deriving the subject-related value from the estimated measured value.

9. (Currently Amended) The measuring system [(1)] according to claim 1, wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured value.

10. (Currently Amended) The measuring system [(1)] according to claim 9, further comprising means for obtaining from the sensor [(6)] a plurality of measured values measured during a time interval, and wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured values measured during the time interval.

11. (Currently Amended) The measuring system [(1)] according to claim [(9)] 10, wherein the means for determining the position of the sensor [(6)] on the subject is arranged for performing the determining on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively.

12. (Currently Amended) The measuring system [(1)] according to claim 10, wherein the means for determining the position of the sensor [(6)] on the subject comprises means for performing a pattern recognition of a signal derived from the measured values

measured during the time interval.

13. (Currently Amended) The measuring system [(1)] according to claim 9, further comprising means for determining that the [[user]] subject is performing a standardized activity, and wherein the means for determining the position of the sensor on the subject is arranged for using at least one measured value obtained from the sensor [(6)], the measured value relating to a time the [[user]] subject is performing the standardized activity.

14. (Currently Amended) The measuring system [(1)] according to claim 13, wherein the means for determining that the [[user]] subject is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value.

15. (Currently Amended) The measuring system [(1)] according to claim 13, further comprising a user interface for receiving input from ~~a user~~ the subject to indicate when the subject is performing the standardized activity.

16. (Currently Amended) The measuring system [(1)] according to claim 1, further comprising a user interface for receiving input from ~~a user~~ the subject related to the position of the sensor on the subject.

17. (Currently Amended) The measuring system [(1)] according to claim 1, further comprising:

means for establishing that the subject is performing a predetermined activity,
storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,

means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and

means for providing feedback in dependence on the similarity measure.

18. (Currently Amended) The measuring system [[(1)]] according to claim 17, wherein the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities.

19. (Currently Amended) A measuring system [[(1)]] according to claim 1, further comprising a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also in dependence on the further measured value.

20. (Currently Amended) A system for determining the calorie balance of a subject, the system comprising the measuring system [[(1)]] according to claim 4, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure.

21. (Currently Amended) A method of estimating a derived value relating to a subject, the method comprising:

obtaining at least one measured value from a sensor [[(6)]] attached to the subject, the measured value representing a physical or a physiological quantity of the subject, and establishing the position of which of a plurality of subject positions the sensor is attached to ~~on the subject~~, and

deriving the subject-related value from the measured value also in dependence on the position of the sensor on the subject.

22. (New) The measuring system according to claim 6, wherein the acceleration is a tri-axial acceleration.

REMARKS

I. INTRODUCTION

Claims 1-21 have been amended. Claim 22 has been added. Thus, claims 1-22 are now pending in the present application. The drawings have been amended. The specification has been amended. No new matter has been added. In light of the above amendments and the following remarks, Applicants respectfully submit that all presently pending claims are in condition for allowance.

II. THE DRAWING OBJECTIONS SHOULD BE WITHDRAWN

The drawings stand objected to for failing to comply with 37 C.F.R. § 1.84(p)(5) and for informalities. In view of the amendments to the drawings and specification, the withdrawal of these objections is respectfully requested.

III. THE SPECIFICATION OBJECTIONS SHOULD BE WITHDRAWN

The Abstract stands objected to for containing legal phraseology. The specification stands objected to for informalities. In view of the amendments to the Abstract and the specification, the withdrawal of these objections is respectfully requested.

IV. THE CLAIM OBJECTION IS RESPECTFULLY REQUESTED

Claim 11 stands objected to for informalities. In view of the amendment to claim 11, the withdrawal of this objection is respectfully requested.

V. THE 35 U.S.C. § 112 REJECTION SHOULD BE WITHDRAWN

Claims 6 and 13-16 stand rejected under 35 U.S.C. § 112, second paragraph, for being indefinite. In view of the amendments to these claims, the withdrawal of this rejection is respectfully requested.

VI. THE 35 U.S.C. § 101 REJECTION SHOULD BE WITHDRAWN

Claim 5 stands rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. Specifically, the Examiner states that the recitation of “the activity parameter represents a degree of activity of the body part the sensor is attached to” is directed to parts of a human body. (*See* 5/27/10 Office Action, p. 6). Applicants respectfully disagree. Claim 5 is not claiming the body part. Instead, claim 5 is directed to the activity parameter. The recitation of claim 5 further defines what exactly is being measured. Thus, Applicants respectfully submit that claim 5 is not directed to a body part and request the withdrawal of this rejection.

VII. THE 35 U.S.C. § 102(b) REJECTION SHOULD BE WITHDRAWN

Claims 1, 8, and 9 stand rejected under 35 U.S.C. § 102(b) as anticipated by Nasiff (U.S. Patent No. 5,111,826).

Claim 1, as amended, recites, “A measuring system comprising: a sensor arranged to be attached at *one of a plurality of positions on a subject* for obtaining a measured value representing a physical or a physiological quantity of the subject, *means for establishing which of the plurality of subject positions the sensor is attached to*, and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.”

Nasiff discloses a “piezoelectric transducer clamped onto the fingertip” to determine a patient’s blood pressure. (*See* Nasiff, Abstract, Fig. 1). Nasiff discloses that the conventional arm cuff units are undesirable because they cause the patient discomfort. (*Id.* at col. 1, ll. 62-63). The fingertip transducer of Nasiff cures this problem. It can either be worn on one finger or three fingers. (*Id.* at col. 4, ll. 37-41). However, despite the fact that the transducer can be worn on one or three fingers, Applicants respectfully submit that there is no indication that the device of Nasiff determines whether it is actually being worn on one finger or three fingers. As described above, claim 1 recites that the sensor may be “attached at *one of a plurality of positions on a subject*” and

further includes “a means for establishing which of the plurality of subject positions the sensor is attached to.” That is, the system of claim 1 includes a sensor that can be attached to a plurality of positions on a subject’s body and a means for determining which one of those positions the sensor has been attached to. The Examiner refers to Nasiff’s disclosure of a hand position sensor which determines the position of the hand. One method of performing this determination is placing a pressure transducer at the end of a saline-filled tube that is connected to the heart and the hand. The pressure transducer senses a high pressure when the hand is below the heart because the weight of the blood forces more blood to flow to the hand. It senses a low pressure when the hand is above the heart because the heart needs to work harder to overcome the weight of the column of blood. (*Id.* at col. 7, ll. 35). Nasiff discloses that there are other methods to determine the position of the hand. (*Id.* at col. 7, ll. 35-44). However, these techniques are used to determine the position of the hand with respect to the heart and not “*which of the plurality of positions the sensor is attached to*” as recited in claim 1. Applicants respectfully submit there would be no need to determine where on the user’s body the transducer of Nasiff is worn since its placement is predetermined. Accordingly, Nasiff fails to disclose or suggest “*a sensor arranged to be attached at one of a plurality of positions on a subject*” and “*means for establishing which of the plurality of subject positions the sensor is attached to,*” as recited in claim 1. It is, therefore, respectfully submitted that claim 1 and its dependent claims 8 and 9 are allowable over Nasiff.

VIII. THE 35 U.S.C. § 103(a) REJECTION SHOULD BE WITHDRAWN

Claims 1-21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Mault et al. (U.S. Published App. No. 2001/0049470) in view of Nasiff.

Claim 1 has been recited above. Mault discloses a diet and activity-monitoring device. (*See* Mault, Abstract). In one embodiment, the Mault device can be worn as a wristwatch. (*Id.* at ¶ [0031], Fig. 1). In another separate embodiment, the device can be mounted on a patient’s belt. (*Id.* at ¶ [0063], Fig. 9). Mault also discloses that mounting the device on clothing is possible. (*Id.* at ¶ [0013]). However, Applicants respectfully submit that all these possibilities are different (separate) embodiments. The

device that is worn on the patient's belt, as seen in Fig. 9 of Mault, cannot possibly be mounted on the patient's wrist. Also, Mault does not suggest that this is possible. Therefore, Applicants respectfully submit that Mault suffers from the same deficiency as Nasiff, namely, that the device is placed at a predetermined position on the patient.

Furthermore, the Examiner correctly acknowledges that Mault fails to disclose "establishing the position of the sensor on the subject and deriving the subject-related value from the measured value also in dependence on the position of the sensor on the subject." (*See* 5/27/10, p. 9). If Mault did disclose that the monitoring device was attached to one of a plurality of areas on the patient (which Applicants do NOT concede), one of ordinary skill in the art would understand that it would be necessary to determine the position of the device on the patient's body to compensate for measurement deviations that result because of the respective placement of the device. Accordingly, Mault does not disclose or suggest "*a sensor arranged to be attached at one of a plurality of positions on a subject*" and "*means for establishing which of the plurality of subject positions the sensor is attached to,*" as recited in claim 1.

Nasiff was previously discussed. Applicants respectfully submit that Mault and Nasiff, alone or in combination, fail to disclose or suggest "*a sensor arranged to be attached at one of a plurality of positions on a subject*" and "*means for establishing which of the plurality of subject positions the sensor is attached to,*" as recited in claim 1. It is, therefore, respectfully submitted that claim 1 and its dependent claims 2-20 are allowable.

Claim 21, as amended, recites, "*establishing which of a plurality of subject positions the sensor is attached to,* and deriving the subject-related value from the measured value also in dependence on the position of the sensor on the subject, wherein the sensor is capable of being attached at one of a plurality of positions on the subject." Thus, Applicants respectfully submit that claim 21 is also allowable for at least the foregoing reasons presented with regards to claim 1.

CONCLUSION

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

Dated: August 25, 2010

By: 
Michael J. Marcin (Reg. No. 48,198)

Fay Kaplun & Marcin, LLP
150 Broadway, Suite 702
New York, New York 10038
Tel.: (212) 619-6000
Fax: (212) 619-0276

Replacement Sheet

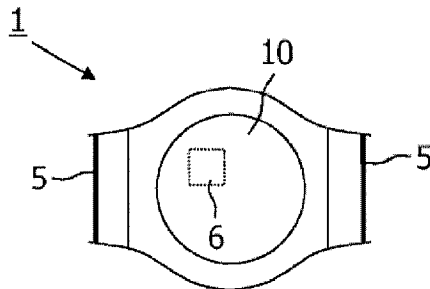


FIG. 1A

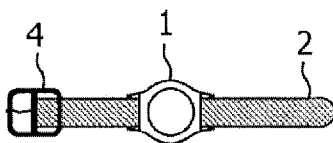


FIG. 1B

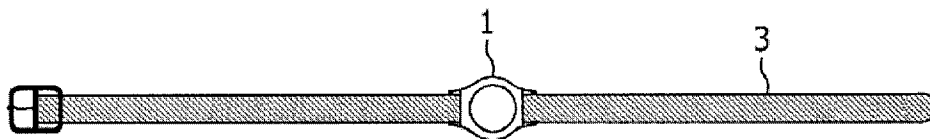


FIG. 1C

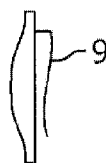


FIG. 1D

Replacement Sheet

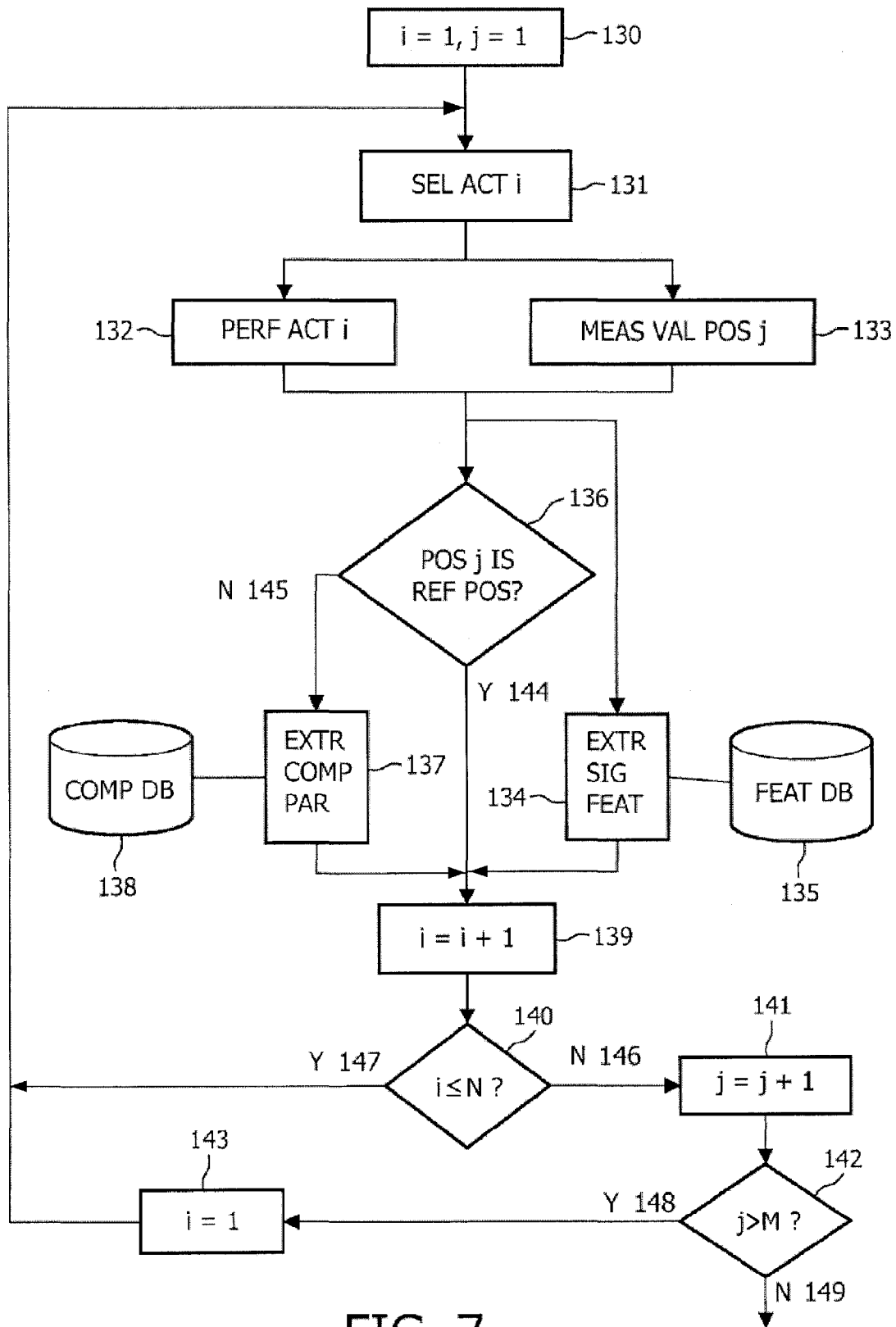


FIG. 7

Annotated Sheet

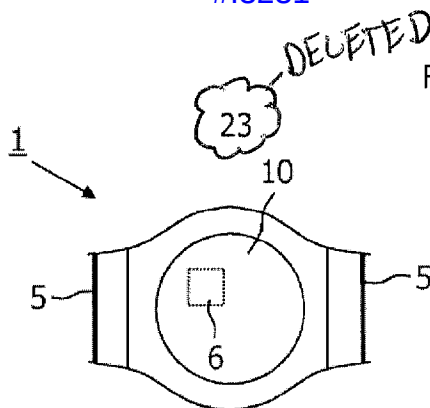


FIG. 1A

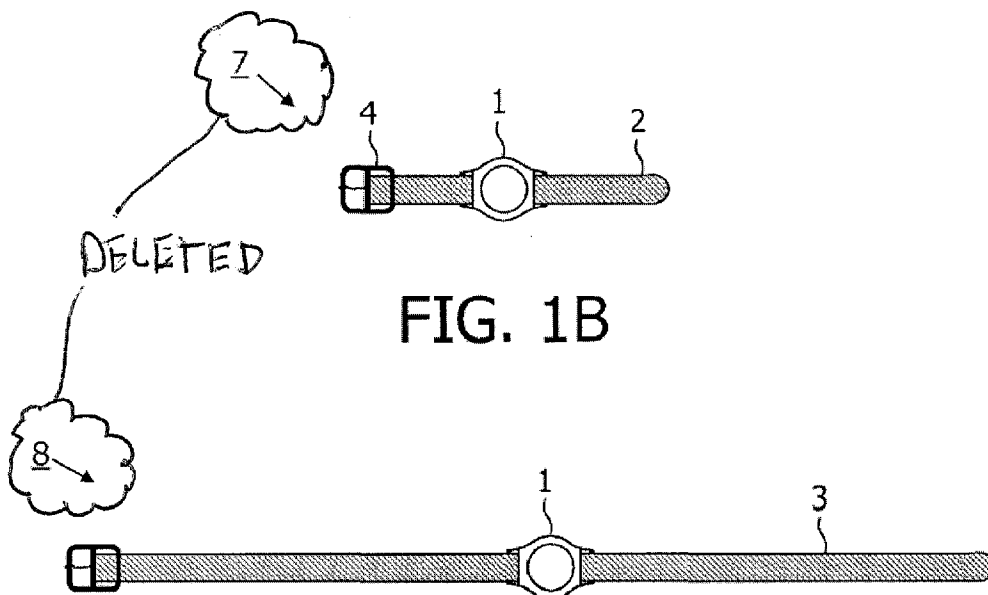


FIG. 1B

FIG. 1C

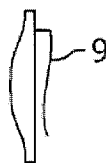
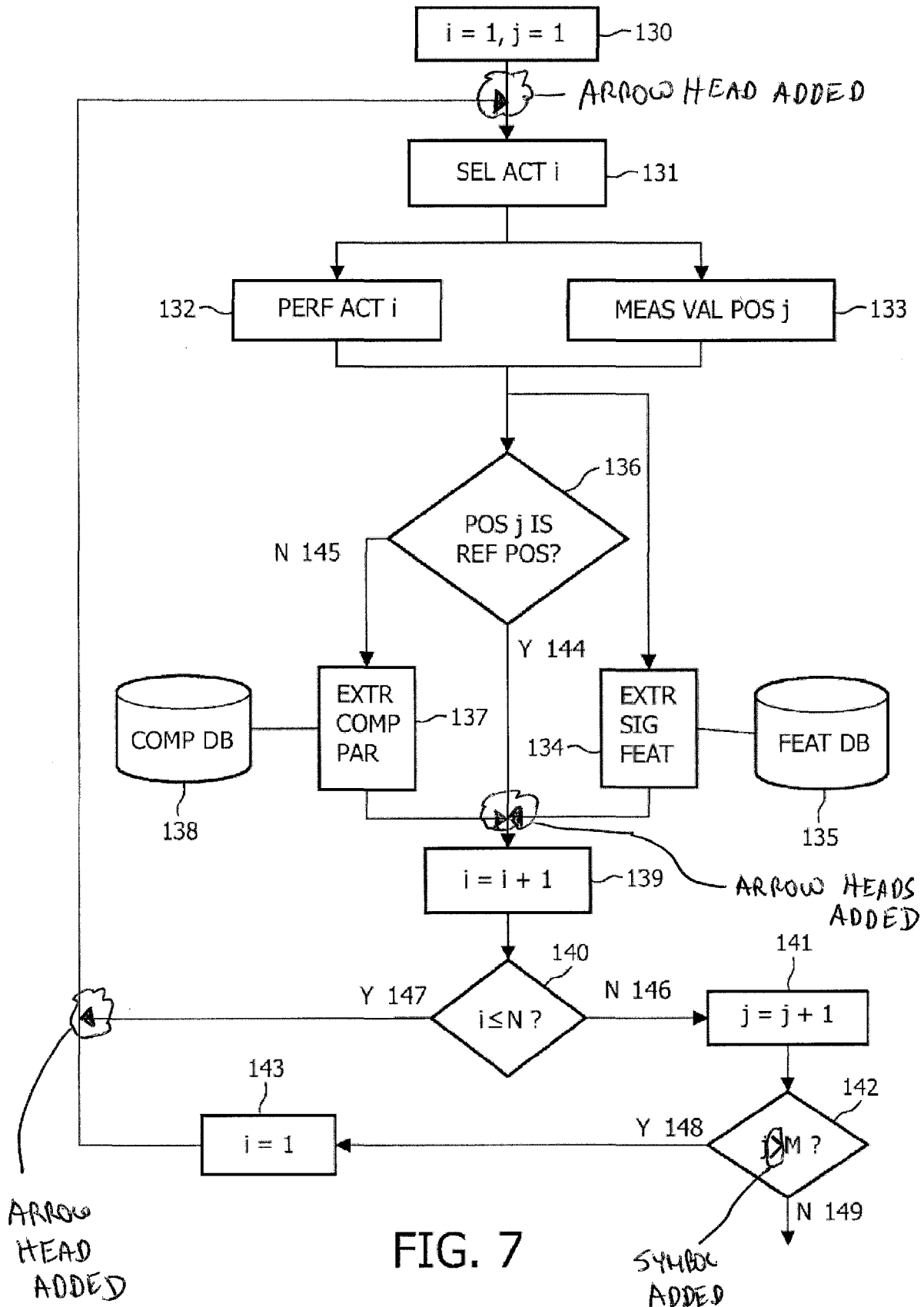


FIG. 1D

Annotated Sheet



Electronic Acknowledgement Receipt

EFS ID:	8287679
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Yan Glickberg/Patricia Heim
Filer Authorized By:	Yan Glickberg
Attorney Docket Number:	003603 US1
Receipt Date:	25-AUG-2010
Filing Date:	12-JUN-2008
Time Stamp:	13:24:35
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		003603US1_Amendment.pdf	734404 253000186a01e78689f95c80190355111ae b381b	yes	15

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Amendment/Req. Reconsideration-After Non-Final Reject	1	1	
Abstract	2	2	
Drawings-only black and white line drawings	3	3	
Specification	4	6	
Claims	7	10	
Applicant Arguments/Remarks Made in an Amendment	11	15	

Warnings:

Information:

2	New or Additional Drawings	003603US1_Replacement_Drawings.pdf	159780	no	4
			6742378a65b8df4929fdc0f2542f19b30b14a24		

Warnings:

Information:

Total Files Size (in bytes):	894184
-------------------------------------	--------

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed
---	---	----------------------------------	---------------------------------------

APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	SMALL ENTITY <input type="checkbox"/>	OR			
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A		OR	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A		OR	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A		OR	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =		OR	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =		OR	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				OR		
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>					OR		
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		OR	TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY	OR			
AMENDMENT	08/25/2010	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 22	Minus	** 21	=		OR	X \$ =	
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	=		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						OR		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY	OR			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=		OR	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						OR		
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

Legal Instrument Examiner:
/ERIC DAVIS/

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed				
APPLICATION AS FILED – PART I					OTHER THAN						
(Column 1)		(Column 2)			SMALL ENTITY <input type="checkbox"/>		OR		SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA			RATE (\$)	FEE (\$)			RATE (\$)	FEE (\$)	
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A			N/A				N/A		
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A			N/A				N/A		
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A			N/A				N/A		
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*			X \$ =		OR		X \$ =		
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*			X \$ =				X \$ =		
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).										
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>											
* If the difference in column 1 is less than zero, enter "0" in column 2.											
APPLICATION AS AMENDED – PART II					OTHER THAN						
(Column 1)		(Column 2)		(Column 3)	SMALL ENTITY		OR		SMALL ENTITY		
AMENDMENT	08/25/2010	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)			RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 22	Minus	** 21	= 1	X \$ =		OR		X \$52=	52
	Independent <small>(37 CFR 1.16(h))</small>	* 2	Minus	***3	= 0	X \$ =		OR		X \$220=	0
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>										
						TOTAL ADD'L FEE		OR		TOTAL ADD'L FEE	52
(Column 1)		(Column 2)		(Column 3)	SMALL ENTITY		OR		SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)			RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =		OR		X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =		OR		X \$ =	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>										
						TOTAL ADD'L FEE		OR		TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.											
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".											
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".											
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.											
Legal Instrument Examiner: /ERIC DAVIS/											

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



#3237

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/097,121	06/12/2008	Annelies Goris	003603 US1	8272
------------	------------	----------------	------------	------

24737 7590 05/27/2010
 PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

EXAMINER

LLOYD, EMILY M

ART UNIT	PAPER NUMBER
----------	--------------

3736

MAIL DATE	DELIVERY MODE
-----------	---------------

05/27/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

#3388

Office Action Summary

Application No. 12/097,121	Applicant(s) GORIS ET AL.	
Examiner EMILY M. LLOYD	Art Unit 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 6/12/2008.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20090501.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 2

DETAILED ACTION

Drawings

1. The drawings are objected to because it is unclear why the number 23 is on top of Figure 1A; decision 142 appears to be missing \leq (see page 13 lines 5-6 of the specification); and Figure 7 the lines leading from 143 and 147 to before 131 are missing arrows. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the

Application/Control Number: 12/097,121

Page 3

Art Unit: 3736

description: 7, 8, 123, 144 and 146. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Application/Control Number: 12/097,121

Page 4

Art Unit: 3736

4. The abstract of the disclosure is objected to because it contains “means for” on numerous occasions. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: page 9 line 27 “direction” should be “directions” and page 12 line 4 appears to be missing a word or phrase at “the,”.

Appropriate correction is required.

6. The Examiner notes that page 9 lines 29-32 and subsequent references to “Daily physical activity, energy expenditure and physical fitness; assessment and implications” (Plasqui) appear to be an attempt to incorporate subject matter into this application by reference. If this is the case, Applicant's attempt to incorporate subject matter into this application by reference to Plasqui is ineffective because 37 CFR 1.57 (b) (1) requires the use of the root words “incorporat(e)” and “reference”. See also 37 CFR 1.57 (g)(1)..

Claim Objections

7. Claim 11 is objected to because of the following informalities: claim 11 “time interval” lacks antecedent basis. Appropriate correction is required.

Claim Invoking 35 USC § 112 Sixth Paragraph

8. The Examiner notes that the following limitations in claims 1, 7-14 and 17-20 invoke 35 USC 112, sixth paragraph, as meeting the 3-prong analysis in MPEP 2181 I: means for establishing the position of the sensor on the subject (claim 1); means for determining the position of the sensor on the subject (claims 9-13); means for deriving a

Application/Control Number: 12/097,121

Page 5

Art Unit: 3736

subject-related value from the measured value (claims 1 and 19); means for selecting a subset of a predefined set (claim 7); means for converting the measured value into an estimated measured value (claim 8); means for deriving the subject-related value from the estimated value (claim 8); means for obtaining from the sensor a plurality of measured values (claim 10); means for performing a pattern recognition of a signal (claim 12); means for determining that the user is performing a standardized activity (claims 13 and 14); means for establishing that the subject is performing a predetermined activity (claims 17 and 18); storage means for storing at least one pattern (claim 17); means for determining a similarity measure (claim 17); means for providing feedback in dependence on the similarity measure (claim 17); means for monitoring food consumption (claim 20); and means for deriving the calorie balance (claim 20).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 6 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 6, it is unclear if Applicant is claiming a tri-axial accelerometer or any accelerometer.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 6

Regarding claims 13 and 16, it is unclear if the user is the subject, or if the user is different from the subject (such as a nurse (user) applying a device to a patient (subject)). Claims 14 and 15 are rejected as depending on claim 13.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 5 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Human bodies and parts of human bodies are non-statutory subject matter. See “body part” (claim 5).

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent 5111826 (Nasiff).

Regarding claim 1, Nasiff discloses a measuring system comprising: a sensor (piezoelectric transducer 14) arranged to be attached at one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological

Application/Control Number: 12/097,121

Page 7

Art Unit: 3736

quantity of the subject (Figure 1 shows the transducer 14 on a finger 10; the transducer obtains a value representing blood pressure); means for establishing the position of the sensor on the subject (Column 7 lines 19-44 determines the position of the sensor with respect to the chest); and means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject (Column 4 lines 42-50).

Regarding claim 8, Nasiff discloses the measuring system according to claim 1, further comprising: means for converting the measured value into an estimated measured value related to a reference position on the subject (Column 4 lines 42-50, where the reference position is the level of the heart), and means for deriving the subject-related value from the estimated measured value (Column 4 lines 42-50, especially "the end reported blood pressure" lines 46-47).

Regarding claim 9, Nasiff discloses the measuring system of claim 1, wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured value (the measured blood pressure).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Application/Control Number: 12/097,121
Art Unit: 3736

Page 8

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Publication 2001/0049470 (Mault) as modified by Nasiff.

Regarding claims 1, 3, 4, 20 and 21, Mault discloses a measuring system and a method of estimating a derived value relating to a subject, the system and method comprising: obtaining at least one measured value from a sensor attached to the subject (Figures 1, 6 and 9), the measured value representing a physical or physiological quantity of the subject (Figure 6), and arranged to be attached at one of a plurality of position on a subject (Figures 1 and 9); wherein the activity parameter

Application/Control Number: 12/097,121

Page 9

Art Unit: 3736

comprises energy expenditure (see entire document, including Figure 5); and further comprising means for monitoring food consumption (Figure 5) and means for deriving the calorie balance using the derived energy expenditure (Figures 5 and 6).

Mault does not expressly disclose establishing the position of the sensor on the subject and deriving the subject-related value from the measured value also in dependence on the position of the sensor on the subject. Nasiff teaches establishing the position of the sensor on the subject (Column 7 lines 19-44 determines the position of the sensor with respect to the chest); and deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject (Column 4 lines 42-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the establishing of the position of the sensor and deriving the subject-related value from the measured value as taught by Nasiff in the invention of Mault to provide for more accurate results regarding the different sensor placements of Mault.

Regarding claims 2 and 6-19, Mault as modified by Nasiff teach that the plurality of positions include a wrist and a waist (Mault Figures 1 and 9); the measured value comprises acceleration (Mault paragraph 14); means for selecting a subset of a predefined set of further quantities of the subject in dependance on the position of the sensor, and the sensor is arranged for generating a further measured value for each quantity in the selected subset (Mault heart rate sensor 104, respiration sensor 105 Figure 4); means for converting the measured value into an estimated measured value related to a reference position on the subject (Nasiff Column 4 lines 42-50, where the

Application/Control Number: 12/097,121

Page 10

Art Unit: 3736

reference position is the level of the heart), and means for deriving the subject-related value from the estimated measured value (Nasiff Column 4 lines 42-50, especially "the end reported blood pressure" lines 46-47), wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured value (Nasiff the measured blood pressure); means for obtaining from the sensor a plurality of measured values measured during a time interval, and wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured values measured during the time interval (Nasiff, it would be obvious to measure position of the sensor over time in the case where someone was moving during measurement); wherein the means for determining the position of the sensor on the subject is arranged for performing the determining on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively (Nasiff, see entire document, including Column 4 lines 42-50 and Column 7 lines 19-44); wherein the means for determining the position of the sensor on the subject comprises means for performing a pattern recognition of a signal derived from the measured values measured during the time interval (Nasiff, see entire document, including Column 4 lines 42-50 and Column 7 lines 19-44, also this is well known with motion sensors such as in Mault); means for determining that the user is performing a standardized activity, and wherein the means for determining the position of the sensor on the subject is arranged for using at least one measured value obtained from the sensor, the measured value relating to a time the user is performing the

Application/Control Number: 12/097,121

Page 11

Art Unit: 3736

standardized activity (Mault, see entire document, including [0008]); the means for determining that the user is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value (Mault, motion sensor 140 data); a user interface for receiving input from a user to indicate when the subject is performing the standardized activity (Mault mode control 106); a user interface for receiving input from a user related to the position of the sensor on the subject (obvious in view of Mault as modified by Nasiff); means for establishing that the subject is performing a predetermined activity (Mault Figures 4 and 6), storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner (Mault memory 92), means for determining a similarity measure relating to a signal representing the derived value and the stored pattern (Mault, this is well known in identifying standardized activities), and means for providing feedback in dependence on the similarity measure (output of Mault, see for example Figures 3A and 5); means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities (Mault, see entire document, including [0008]); and a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also in dependence on the further measured value (Mault heart rate sensor 104 and respiration sensor 105 as modified by Nasiff).

Application/Control Number: 12/097,121
Art Unit: 3736

Page 12

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY M. LLOYD whose telephone number is (571)272-2951. The examiner can normally be reached on Monday through Friday 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily M Lloyd
Examiner
Art Unit 3736

/EML/

#3250

Notice of References Cited	Application/Control No. 12/097,121	Applicant(s)/Patent Under Reexamination GORIS ET AL.	
	Examiner EMILY M. LLOYD	Art Unit 3736	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2001/0049470	12-2001	Mault et al.	600/595
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims 	Application/Control No. 12097121	Applicant(s)/Patent Under Reexamination GORIS ET AL.
	Examiner EMILY M LLOYD	Art Unit 3736

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE								
Final	Original	05/22/2010								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								
	21	✓								

<p>Search Notes</p> 	<p>Application/Control No.</p> <p>12097121</p>	<p>Applicant(s)/Patent Under Reexamination</p> <p>GORIS ET AL.</p>
	<p>Examiner</p> <p>EMILY M LLOYD</p>	<p>Art Unit</p> <p>3736</p>

SEARCHED			
Class	Subclass	Date	Examiner
600	595	5/22/2010	EL

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	5/22/2010	EL
Text Search	5/22/2010	EL
EAST Search	5/22/2010	EL

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

--	--

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 05/31/2008. OMB 0651-0031
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12097121	
	Filing Date		2008-06-12	
	First Named Inventor	GORIS		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		003603US1	

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
	1	5111826		1992-05-12	NASIFF, R.		
	2	6941239	B2	2005-09-06	UNUMA ET AL		
	3	5573013		1996-11-12	CONLAN, R.		

If you wish to add additional U.S. Patent citation information please click the Add button.

Add

U.S.PATENT APPLICATION PUBLICATIONS							Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
	1	20030065257	A1	2003-04-03	MAULT ET AL		
	2	20020109600	A1	2002-08-15	MAULT ET AL		

If you wish to add additional U.S. Published Application citation information please click the Add button.

Add

FOREIGN PATENT DOCUMENTS								Remove
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵

Receipt date: 05/01/2009

Application Number	12097121	12097121	GAU: 3736
Filing Date	2008-06-12		
First Named Inventor	GORIS		
Art Unit			
Examiner Name			
Attorney Docket Number	003603US1		

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

1	WO2005070289	WO	A1	2005-08-04	KPENV	<input type="checkbox"/>
2	EP1254629	EP	A1	2002-11-06	OMRON CORPORATION	<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	PLASQUI, G.: "DAILY PHYSICAL ACTIVITY, ENERGY EXPENDITURE AND PHYSICAL FITNESS: ASSESSMENT AND IMPLICATIONS"; DOCTORAL THESIS, MAASTRICHT UNIVERSITY, 2004, 134 PAGE DOCUMENT.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/Emily Lloyd/	Date Considered	03/27/2010
--------------------	---------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
L2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
L3	57	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
L4	79	Bodlaender-Maarten-P.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
L5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
L6	144	L1 or L2 or L3 or L4 or L5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/05/22 23:49
L7	87	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
L8	23	L7 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
L9	1	L8 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
L10	1411	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/05/22 23:50
S1	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S2	1	Goris-Annelies-Heleen-Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32
S3	46	Bodlaender-Maarten-Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:32

S4	78	Bodlaender-Maarten-P. in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S5	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S6	132	S1 or S2 or S3 or S4 or S5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:33
S7	4	EP-1254629-\$.did. or US- 5111826-\$.did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2008/12/14 20:34
S8	1198	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/14 20:41
S9	1	("20030065257").PN.	US-PGPUB; USPAT	OR	OFF	2008/12/18 14:03
S10	1201	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S11	275	S10 and accelerometer	US-PGPUB; USPAT	OR	ON	2008/12/18 14:35
S12	2	Nasiff-Roger-E.in.	US-PGPUB; USPAT	OR	ON	2008/12/18 14:42
S13	1	(10/266272).APP.	USPAT; USOCR	OR	ON	2010/03/27 22:58
S14	8	Goris-Annelies.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S15	1	Goris-Annelies-Heleen- Carolien.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S16	56	Bodlaender-Maarten- Peter.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S17	79	Bodlaender-Maarten-P. in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S18	4	Bodlaender-Maarten.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S19	143	S14 or S15 or S16 or S17 or S18	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/27 23:02
S20	1	("20060161079").PN.	US-PGPUB; USPAT	OR	OFF	2010/03/27 23:03
S21	1	(11/332586).APP.	USPAT; USOCR	OR	ON	2010/03/27 23:03

S22	5	("20060052727" "20060161079" "20060255955" "7028547" "7127370"). PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/03/27 23:04
S23	2	Nasiff-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S24	86	Mault-\$.in.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:23
S25	23	S24 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S26	4	S22 and (wrist watch arm forearm waist belt) and (calorie energy) and (activity walk walking run running jog jogging) and (food or eat or consumption or consume)	US-PGPUB; USPAT	OR	ON	2010/03/27 23:26
S27	21	S25 and (compensat\$ or transfer or adjust\$ or (location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:29
S28	1	S25 and ((location with (wear worn wearing)))	US-PGPUB; USPAT	OR	ON	2010/03/27 23:30
S29	1384	600/595.ccls.	US-PGPUB; USPAT	OR	ON	2010/03/27 23:35

EAST Search History (Interference)

< This search history is empty >

5/ 22/ 2010 11:57:18 PM**C:\ Documents and Settings\ elloyd1\ My Documents\ EAST\ Workspaces\ 12097121.wsp**

Doc code :IDS

#:3258

PTO/SB/08a (03-08)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 05/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	12097121
	Filing Date	2008-06-12
	First Named Inventor	GORIS
	Art Unit	
	Examiner Name	
	Attorney Docket Number	003603US1

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
	1	5111826		1992-05-12	NASIFF, R.		
	2	6941239	B2	2005-09-06	UNUMA ET AL		
	3	5573013		1996-11-12	CONLAN, R.		

If you wish to add additional U.S. Patent citation information please click the Add button.

Add

U.S.PATENT APPLICATION PUBLICATIONS							Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
	1	20030065257	A1	2003-04-03	MAULT ET AL		
	2	20020109600	A1	2002-08-15	MAULT ET AL		

If you wish to add additional U.S. Published Application citation information please click the Add button.

Add

FOREIGN PATENT DOCUMENTS								Remove
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵

Application Number # 3259		12097121
Filing Date		2008-06-12
First Named Inventor	GORIS	
Art Unit		
Examiner Name		
Attorney Docket Number	003603US1	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

1	WO2005070289	WO	A1	2005-08-04	KPENV	<input type="checkbox"/>
2	EP1254629	EP	A1	2002-11-06	OMRON CORPORATION	<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	PLASQUI, G.: "DAILY PHYSICAL ACTIVITY, ENERGY EXPENDITURE AND PHYSICAL FITNESS: ASSESSMENT AND IMPLICATIONS"; DOCTORAL THESIS, MAASTRICHT UNIVERSITY, 2004, 134 PAGE DOCUMENT.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

Application Number # 3260		12097121
Filing Date		2008-06-12
First Named Inventor	GORIS	
Art Unit		
Examiner Name		
Attorney Docket Number		003603US1

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
- Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Yan Glickberg/	Date (YYYY-MM-DD)	2009-05-01
Name/Print	YAN GLICKBERG	Registration Number	51742

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt

EFS ID:	5256894
Application Number:	12097121
International Application Number:	
Confirmation Number:	8272
Title of Invention:	Detection and Compensation Method for Monitoring the Place of Activity on the Body
First Named Inventor/Applicant Name:	Annelies Goris
Customer Number:	24737
Filer:	Frank Keegan/GiGi Lamprecht
Filer Authorized By:	Frank Keegan
Attorney Docket Number:	003603 US1
Receipt Date:	01-MAY-2009
Filing Date:	12-JUN-2008
Time Stamp:	06:48:15
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Filed (SB/08)	IDS_FORM.pdf	575418 414f78894ac6719b80063a36f30cc0af835bc95d	no	4

Warnings:

Information:

2	Foreign Reference	EP1254629A1_ISR.pdf #:3262	1281148 e020ba378d0190e20c22a72d09a27ce744a39435	no	105
Warnings:					
Information:					
3	Foreign Reference	WO2005070289A1_IDSEARCH.pdf	1213603 7ec1cf768cfae39932f722ac18104c410324b2db	no	35
Warnings:					
Information:					
4	NPL Documents	PLASQUI_NPL_SPEC.pdf	5609431 88bfe3c9b4ec39aed5f7de7be85ad0a0d5a6863e	no	134
Warnings:					
Information:					
Total Files Size (in bytes):				8679600	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PLUS Search Results for S/N 12097121, Searched Mon Dec 08 08:21:46 EST 2008

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

6168569 99	5831593 98
3908636 98	
4013068 98	
4297192 98	
4297685 98	
4324191 98	
4444199 98	
4480830 98	
4495953 98	
4556214 98	
4572197 98	
4776338 98	
4797550 98	
4860759 98	
4890235 98	
4906976 98	
4947855 98	
4949730 98	
4951674 98	
4977896 98	
5183056 98	
5197489 98	
5218961 98	
5253168 98	
5269325 98	
5286357 98	
5323429 98	
5363344 98	
5370603 98	
5421798 98	
5448996 98	
5458142 98	
5476484 98	
5524618 98	
5526811 98	
5552766 98	
5573013 98	
5588427 98	
5617868 98	
5619187 98	
5628890 98	
5669392 98	
5701895 98	
5772610 98	
5788655 98	
5805718 98	
5813994 98	
5815407 98	
5817030 98	



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/097,121	06/12/2008	Annelies Goris	003603 US1

CONFIRMATION NO. 8272

PUBLICATION NOTICE

24737
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510



Title:Detection and Compensation Method for Monitoring the Place of Activity on the Body

Publication No.US-2008-0281234-A1

Publication Date:11/13/2008

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

U.S. APPLICATION NUMBER NO. 12/097,121	FIRST NAMED APPLICANT Annelies Goris	ATTY. DOCKET NO. 003603 US1
---	---	--------------------------------

24737
 PHILIPS INTELLECTUAL PROPERTY & STANDARDS
 P.O. BOX 3001
 BRIARCLIFF MANOR, NY 10510

INTERNATIONAL APPLICATION NO. PCT/IB06/54599	
I.A. FILING DATE 12/05/2006	PRIORITY DATE 12/15/2005

CONFIRMATION NO. 8272
371 ACCEPTANCE LETTER



Date Mailed: 08/04/2008

NOTICE OF ACCEPTANCE OF APPLICATION UNDER 35 U.S.C 371 AND 37 CFR 1.495

The applicant is hereby advised that the United States Patent and Trademark Office in its capacity as a Designated / Elected Office (37 CFR 1.495), has determined that the above identified international application has met the requirements of 35 U.S.C. 371, and is ACCEPTED for national patentability examination in the United States Patent and Trademark Office.

The United States Application Number assigned to the application is shown above and the relevant dates are:

<u>06/12/2008</u>	<u>06/15/2008</u>
DATE OF RECEIPT OF 35 U.S.C. 371(c)(1), (c)(2) and (c)(4) REQUIREMENTS	DATE OF COMPLETION OF ALL 35 U.S.C. 371 REQUIREMENTS

A Filing Receipt (PTO-103X) will be issued for the present application in due course. **THE DATE APPEARING ON THE FILING RECEIPT AS THE " FILING DATE" IS THE DATE ON WHICH THE LAST OF THE 35 U.S.C. 371 (c)(1), (c)(2) and (c)(4) REQUIREMENTS HAS BEEN RECEIVED IN THE OFFICE. THIS DATE IS SHOWN ABOVE.** *The filing date of the above identified application is the international filing date of the international application (Article 11(3) and 35 U.S.C. 363).* Once the Filing Receipt has been received, send all correspondence to the Group Art Unit designated thereon.

The following items have been received:

- Copy of the International Application filed on 06/12/2008
- Copy of the International Search Report filed on 06/12/2008
- Preliminary Amendments filed on 06/12/2008
- Oath or Declaration filed on 06/12/2008
- U.S. Basic National Fees filed on 06/12/2008
- Priority Documents filed on 06/12/2008
- Power of Attorney filed on 06/12/2008
- Specification filed on 06/12/2008
- Claims filed on 06/12/2008
- Abstracts filed on 06/12/2008
- Drawings filed on 06/12/2008

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

WINSTON M ALVARADO

Telephone: (703) 308-9140 EXT 206



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/097,121	06/12/2008		980	003603 US1	21	2

CONFIRMATION NO. 8272

24737
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

FILING RECEIPT



Date Mailed: 08/04/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Annelies Goris, Eindhoven, NETHERLANDS;
Maarten Peter Bodlaender, Eindhoven, NETHERLANDS;

Assignment For Published Patent Application

Koninklijke Philips Electronics, N.V., Eindhoven, NETHERLANDS

Power of Attorney: The patent practitioners associated with Customer Number 24737

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/IB06/54599 12/05/2006

Foreign Applications

EUROPEAN PATENT OFFICE (EPO) 05112250.5 12/15/2005

If Required, Foreign Filing License Granted: 07/30/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/097,121**

Projected Publication Date: 11/13/2008

Non-Publication Request: No

Early Publication Request: No

Title

Detection and Compensation Method for Monitoring the Place of Activity on the Body

Preliminary Class

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier

license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

#3270

Application or Docket Number

PATENT APPLICATION FEE DETERMINATION RECORD

Effective September 30, 2007 **30 JUL 2008**

12/097121

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
U.S. NATIONAL STAGE FEES		
BASIC FEE	SMALL ENT. = \$ 155	LARGE ENT. = \$ 310
EXAMINATION FEE	Satisfies PCT Article 33(1)-(4) = \$ 50 / \$ 100	All other situations = \$ 105 / \$ 210
SEARCH FEE	U.S. is ISA = \$ 50 / \$ 100 ALL other countries = \$ 205 / \$ 410	ALL other situations = \$ 255 / \$ 510
FEE FOR EXTRA SPEC. PGS.	minus 100 =	/ 50 =
TOTAL CHARGEABLE CLAIMS	<i>21</i> minus 20 = *	<i>-1</i>
INDEPENDENT CLAIMS	<i>2</i> minus 3 = *	
MULTIPLE DEPENDENT CLAIM PRESENT	<input type="checkbox"/>	

SMALL ENTITY TYPE OR

OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	
EXAM. FEE	
SEARCH FEE	
X \$ 130 =	
X \$ 25 =	
X \$ 105 =	
+ \$ 185 =	
TOTAL	

OR

OR

OR

OR

OR

RATE	FEE
BASIC FEE	<i>310</i>
EXAM. FEE	<i>210</i>
SEARCH FEE	<i>410</i>
X \$ 260 =	
X \$ 50 =	<i>50</i>
X \$ 210 =	
+ \$ 370 =	
TOTAL	<i>980</i>

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			<input type="checkbox"/>

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X \$ 25 =	
X \$ 105 =	
+ \$ 185 =	
TOTAL ADDIT. FEE	

OR

OR

OR

OR

RATE	ADDITIONAL FEE
X \$ 50 =	
X \$ 210 =	
+ \$ 370 =	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			<input type="checkbox"/>

RATE	ADDITIONAL FEE
X \$ 25 =	
X \$ 105 =	
+ \$ 185 =	
TOTAL ADDIT. FEE	

OR

OR

OR

OR

RATE	ADDITIONAL FEE
X \$ 50 =	
X \$ 210 =	
+ \$ 370 =	
TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than '20', enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than '3', enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

**MULTIPLE DEPENDENT CLAIM
FEE CALCULATION SHEET**
(FOR USE WITH FORM PTO-875)

SERIAL NO.

12/09/12/

FILING DATE

30 JUL 2008

APPLICANT(S)

CLAIMS

	AS FILED		AFTER 1 st AMENDMENT		AFTER 2 nd AMENDMENT	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
1	/		/			
2		/		/		
3		/		/		
4		/		/		
5		/		/		
6		/		/		
7		/		/		
8		/		/		
9		/		/		
10		/		/		
11		2		/		
12		1		/		
13		2		/		
14		2		/		
15		2		/		
16		1		/		
17		/		/		
18		/		/		
19		/		/		
20		/		/		
21	/		/			
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
TOTAL IND.	2	↓	2	↓		↓
TOTAL DEP.	23	←	19	←		←
TOTAL CLAIMS	25		21			

	AS FILED		AFTER 1 st AMENDMENT		AFTER 2 nd AMENDMENT	
	IND.	DEP.	IND.	DEP.	IND.	DEP.
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						
TOTAL IND.		↓		↓		↓
TOTAL DEP.		←		←		←
TOTAL CLAIMS						

DO/EO WORKSHEET

30 JUL 2008

Patent Application Specialist/ National Stage Division

U.S. Appl. No. 12/097121

International Appl. No. PCT/IB06/54599

WIPO PUBLICATION INFORMATION :

Publication No.: WO2007/069127 Publication Language : English (IA used as specification) German Japanese
 Chinese Korean French Spanish Russian Other : _____

Publication Date : 21 Jun 2007 Not Published : U.S. only Early Pub. Request Published : Early Pub.

INTERNATIONAL APPLICATION PAPERS IN THE APPLICATION FILE :

International Application (RECORD COPY) PCT/IB/306

Article 19 Amendments Request form PCT/RO/101

PCT/IPEA/409 - IPER (check Examination Authority) : PCT/ISA/210 - Search Report (check Searching Authority) :
 EP JP SE AU US FR CN ES
 RU AT CA KR _____ NONE

Annexes to 409 Search Report References

PCT/ISA/237 (check Searching Authority) : Priority Document (s) No. 1
 EP JP SE AU US FR CN ES
 RU AT CA KR _____ N/A
 Priority Document was NOT AVAILABLE at the time of paralegal review

Other : _____ Other : _____

RECEIPTS FROM THE APPLICANT (filed with the application unless noted otherwise) :

Basic National Fee (or authorization to charge) Express Request to Begin Nat'l Examination Procedures

Description Claims Abstract Preliminary Amendment(s) Filed on :
14 4 1
 1. 06/12/08 3. _____

Number of Drawing Sheets : 5 Information Disclosure Statement(s) Filed on :
 1. _____ 3. _____

Translation of Article 19 Amendments Assignee Statement Under 37 CFR 3.73(b)
 entered not entered : Assignee PG Publication Notice
 not a page for page substitution
 replaced by Article 34 Amendment

Annexes to 409 Substitute Specification Filed on :
 entered not entered : 1. same as 371 request date 2. _____ 3. _____
 not a page for page substitution
 no translation other : _____

Application Data Sheet 06/12/08 Oath/ Declaration (executed) 06/12/08
 Power of Attorney 06/12/08 Defective Oath/ Declaration unsigned no citizenship other

Change of Address DNA Diskette Sequence Listing

PG Pub Early Publication Request Other : _____

NOTES :

35 U.S.C. 371 - Receipt of Request (PTO-1390)	<u>06/12/08</u>
Date Acceptable Oath/ Declaration Received	<u>06/12/08</u>
Date of Completion of requirements under 35 U.S.C. 371	<u>06/12/08</u>
Date of Completion of DO/EO 903 - Notification of Acceptance	<u>07/30/08</u>
Date of Completion of DO/EO 905 - Notification of Missing Requirements	
Date of Completion of DO/EO 909 - Notification of Abandonment	
Date of Completion of DO/EO 916 - Notification of Defective Response	
Date of Completion of DO/EO 922 - Notification to Comply w/ Requirements for Patent Applications Containing Nucleotide and/or Amino Acid Sequence Disclosures	
Date of Completion of DO/EO 923 - Insufficient Fees	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/097,121	Filing Date 06/12/2008	<input type="checkbox"/> To be Mailed
APPLICATION AS FILED – PART I					OTHER THAN SMALL ENTITY		
(Column 1)		(Column 2)		SMALL ENTITY <input type="checkbox"/>		OR	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	
<input checked="" type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A		N/A	0	
<input checked="" type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A		N/A	0	
<input checked="" type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A		N/A	0	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	21 minus 20 =	* 1	X \$ =		OR	X \$0 =	0
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	1 minus 3 =	* 0	X \$ =		OR	X \$0 =	0
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
* If the difference in column 1 is less than zero, enter "0" in column 2.							
APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY		
(Column 1)		(Column 2)		SMALL ENTITY		OR	
AMENDMENT	06/21/2008	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 21	Minus	** 21	= 0		OR
	Independent <small>(37 CFR 1.16(h))</small>	* 1	Minus	*** 3	= 0		OR
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>							
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							
					TOTAL ADD'L FEE		OR
						TOTAL ADD'L FEE	0
(Column 1)		(Column 2)		(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=		OR
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=		OR
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>							
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							
					TOTAL ADD'L FEE		OR
						TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.							
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".							
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".							
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.							

Legal Instrument Examiner:
/MARCUS MONROE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Atty. Docket

GORIS et al. 003603

Serial No. Group Art Unit

Filed: CONCURRENTLY Ex.

DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF
ACTIVITY ON THE BODY

Commissioner for Patents
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Sir:

Prior to calculation of the filing fee and examination, please amend the above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

1. (original) A measuring system (1) comprising
 - a sensor (6) arranged to be attached at one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, and
 - means for establishing the position of the sensor on the subject, and
 - means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.

2. (original) The measuring system (1) according to claim 1, wherein the plurality of positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head.

3. (original) The measuring system (1) according to claim 1, wherein the derived value comprises an activity parameter of the subject.

4. (original) The measuring system (1) according to claim 3, wherein the activity parameter comprises energy expenditure.

5. (original) The measuring system (1) according to claim 1, wherein the activity parameter represents a degree of activity of the body part the sensor is attached to.

6. (original) The measuring system (1) according to claim 1, wherein the measured value comprises at least one of temperature, ECG, or acceleration, in particular tri-axial acceleration.

7. (original) The measuring system (1) according to claim 1, further comprising means for selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset.

8. (original) The measuring system (1) according to claim 1, further comprising

- means for converting the measured value into an estimated measured value related to a reference position on the subject, and

- means for deriving the subject-related value from the estimated measured value.

9. (original) The measuring system (1) according to claim 1, wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured value.

10. (original) The measuring system (1) according to claim 9, further comprising means for obtaining from the sensor (6) a plurality of measured values measured during a time interval, and wherein the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured values measured during the time interval.

11. (currently amended) The measuring system (1) according to claim 9 ~~or 10~~, wherein the means for determining the position of the sensor (6) on the subject is arranged for performing the determining on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively.

12. (original) The measuring system (1) according to claim 10, wherein the means for determining the position of the sensor (6) on the subject comprises means for performing a pattern recognition of a signal derived from the measured values measured during the time interval.

13. (currently amended) The measuring system (1) according to claim 9 ~~or 10~~, further comprising means for determining that the user is performing a standardized activity, and wherein the means for determining the position of the sensor on the subject is arranged for using at least one measured value obtained from the sensor (6), the measured value relating to a time the user is performing the standardized activity.

14. (original) The measuring system (1) according to claim 13, wherein the means for determining that the user is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value.

15. (original) The measuring system (1) according to claim 13, further comprising a user interface for receiving input from a user to indicate when the subject is performing the standardized activity.

16. (original) The measuring system (1) according to claim 1, further comprising a user interface for receiving input from a user related to the position of the sensor on the subject.

17. (original) The measuring system (1) according to claim 1, further comprising

- means for establishing that the subject is performing a predetermined activity,

- storage means for storing at least one pattern related to performing the

predetermined activity in a predetermined manner,

- means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and

- means for providing feedback in dependence on the similarity measure.

18. (original) The measuring system (1) according to claim 17, wherein the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities.

19. (original) A measuring system (1) according to claim 1, further comprising a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also in dependence on the further measured value.

20. (original) A system for determining the calorie balance of a subject, the system comprising the measuring system (1) according to claim 4, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure.

21. (original) A method of estimating a derived value relating to a subject, the method comprising

- obtaining at least one measured value from a sensor (6) attached to the subject, the measured value representing a physical or a physiological quantity of the subject, and
- establishing the position of the sensor on the subject, and
- deriving the subject-related value from the measured value also in dependence on the position of the sensor on the subject.

REMARKS

This is a preliminary amendment. The claims are amended for non-statutory reasons: to remove multiple dependencies, to correct one or more informalities, to remove figure label number(s), and/or to replace European-style claim phraseology with American-style claim language. The scope of the claims have not been changed and no new matter is added.

The amendment to the claims does not address issues of patentability. Applicant(s) reserve(s) the right to continue prosecution of any subject matter canceled, or not claimed because of eliminating multiple dependencies, in this, a divisional, or other continuing application.

Examination of the application is now respectfully requested. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

By /Yan Glickberg/
Yan Glickberg, Reg. 51,742
Attorney
(914) 333-9618

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 June 2007 (21.06.2007)

PCT

(10) International Publication Number
WO 2007/069127 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/IB2006/054599

(22) International Filing Date:
5 December 2006 (05.12.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
05112250.5 15 December 2005 (15.12.2005) EP

(71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GORIS, Annelies [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). BODLAENDER, Maarten, P. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agents: DAMEN, Daniel, M. et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

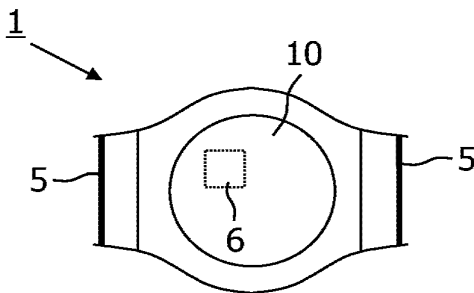
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY



(57) Abstract: A measuring system (1) comprises a sensor (6) arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises means for deriving a subject-related value from the measured value. The sensor is arranged to be attached at one of a plurality of positions on the subject. The measuring system further comprises means for establishing the position of the sensor on the subject. The means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.



WO 2007/069127 A2

Detection and compensation method for monitoring the place of activity on the body

FIELD OF THE INVENTION

The invention relates to a measuring system comprising

- a sensor arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, and

5 - means for deriving a subject-related value from the measured value.

The invention also relates to a system for determining the calorie balance of a subject, and to a method of estimating a subject-related derived value.

BACKGROUND OF THE INVENTION

10 Overweight and obesity are growing problems; for example over 60% of the American population can be classified as overweight or obese. Weight gain occurs when a human has a higher energy intake (food) than energy expenditure (resting metabolic rate + activity). Since this unbalance causes the weight gain problem, many weight loss programs require that users log the food consumed and activities done in order to estimate the calorie
15 balance.

Tables and equations exist for converting nutrition values and activities into calorie intake and expenditure, respectively. However, manual calorie counting is a cumbersome process requiring knowledge, time, effort, recording and discipline. Thus, calorie logging is a problem for many people and hence it is a challenge for researchers to
20 find a solution therefore.

In US patent application publication US2003/0065257, a combination of a diet and activity-monitoring device is described for monitoring both the consumption and activity of the subject. Such a monitoring device includes a body activity monitor for monitoring the body activity of the subject. The body activity monitor is operable to output a signal
25 indicative of the subject's body activity. An activity calculator may also be provided, which receives the activity indicative signal and determines body activity level and/or energy expenditure for the subject. The monitoring device may take the form of a wristwatch-style device or a belt or clothing-mounted monitor. The monitoring device may comprise a heart rate monitor. The heart rate of the subject increases with activity and decreases when the

subject is resting. The activity monitor may be calibrated using an indirect calorimeter. The heart rate sensor may be part of the wristwatch-style activity monitor, or it may be provided as a separate unit, for example in the form of a chest-strap, which communicates with the activity monitor.

5 The activity monitor may alternatively comprise a motion sensor such as a mechanical pendulum or a single or multi-axis accelerometer. An accelerometer is preferred since it may provide information on body movement as well as the direction and intensity of the movement. The motion sensor may form part of the wristwatch or belt or clothing-mounted monitoring device or may be part of a separate accessory that communicates with
10 the monitoring device. The body activity monitor may be calibrated to determine activity-related energy expenditure using an indirect calorimeter.

 As another alternative, the body activity monitor may include multiple modes for recording a variety of activities, such as swimming, biking, and use of stationary exercise equipment. The subject presses a start button and the body activity monitor will record the
15 duration of the activity.

 Furthermore, the monitoring device also preferably includes a consumption notation control for use by the subject to indicate when the subject consumes food. The body activity monitor and the consumption notation control may take a variety of forms. It may include a GPS antenna to determine the position of the subject using GPS signals. It may
20 combine a time-indicative signal with the GPS signals to determine changes in position of the subject as well as the rate of change in position. This allows determination of movement or body activity. The device may be calibrated to determine caloric expenditure from the measured body activity.

 Moreover, a position and/or activity discriminator may be included in or
25 communicating with the body activity monitor. The discriminator functions to determine the position and/or activity of the subject by determining the proximity of the subject to various devices and locations, such as exercise equipment and buildings. For example, it may be determined that the subject is close to running shoes to discriminate the activity of running. In a more advanced configuration, proximity to running shoes may be combined with GPS
30 signals, heart rate sensor and/or motion sensor output to allow the activity calculator to determine the type of activity being performed, the duration of the activity, and the intensity of the activity.

When the user uses the system for the first time, he or she may designate certain movement patterns as correlating with certain activities. This will aid to calibrate the activity monitor.

Each of the described activity monitors and sensors is designed to be placed on a single position on the body. Bodily signals such as acceleration and ECG signals, are measured local to the position where the sensor is attached to the object. For example, acceleration measured by an accelerometer on the wrist includes motion of the arm, which is not detected by an accelerometer mounted on the waist.

The existing activity monitors, including for example a wrist strap or a waist belt, are often designed to be worn on one place on the body. The existing activity monitor is calibrated such that it provides accurate results if it is attached at a predefined location on the body. If the activity monitor is attached at a different location, the measured activity may be less accurate. If the activity monitor is not attached at the reference position, errors exceeding 5% in the estimation of energy expenditure may occur. This amounts to an error exceeding approximately 100 kilocalories per day.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a measuring system that yields a more accurate estimate of a parameter relating to a subject.

According to the invention, this object is achieved in that

- the sensor is arranged to be attached at one of a plurality of positions on the subject,

- the measuring system further comprises means for establishing the position of the sensor on the subject, and

- the means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.

With these provisions, the accuracy of the derived value is guaranteed for any of a plurality of positions on the body. The subject may attach the sensor at any preferred position on the body, and can preferably attach it at a different position whenever he or she desires to do so.

Subjects may have different preferences where they prefer wearing the sensor, and the same subject may prefer wearing the sensor at different locations, depending on for example the location of the subject, the local weather, or the activity the subject is performing at any given time. Advantageously, a plurality of sensors are attached at different

positions on the subject and the means for deriving the subject-related value is arranged for combining the respective obtained measured values in order to increase the accuracy of the derived value.

The invention is particularly suitable for determining a derived value relating to a human or an animal.

According to an aspect of the invention, the plurality of positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head. This allows for an especially flexible use of the activity monitor, because the positions mentioned are especially well suited for measuring the activity of the subject, and they are particularly convenient for wearing a sensor device.

According to another aspect of the invention, the derived value comprises an activity parameter of the subject. With this aspect, the measuring system becomes an activity monitor that enables to monitor the degree of activity performed by the subject. Other possible derived values include a temperature value or an ECG value that is automatically compensated for by the location of the sensor. Advantageously, the position of the sensor on the subject is established in dependence on an accelerometer measurement and a temperature or ECG value is compensated for in dependence on the established position.

According to an aspect of the invention, the activity parameter comprises energy expenditure. This makes the activity monitor particularly suitable for use in weight management.

According to another aspect of the invention, the activity parameter represents the degree of activity of the body part the sensor is attached to. When the position of the sensor on the subject is known, it becomes possible to monitor activity parameters related to a specific body part. For example, if the sensor is attached to the arm, the activity monitor can track energy expenditure, and in addition can track local acceleration of the arm. For example, with additional information provided by fitness equipment, the forces applied to the arm can be estimated and combined with acceleration information provided by the sensor to obtain local energy expenditure. This enables subjects to optimize a training schedule to train a specific body part. Also, if a predefined safety limit is exceeded, this can be provided as feedback to the user to avoid potentially dangerous situations.

According to an aspect of the invention, the measured value comprises at least one of temperature, ECG, or acceleration, in particular tri-axial acceleration. These examples of measured values are correlated with activity.

According to another aspect of the invention, the system further comprises means for selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset. The subset may contain zero or more further physical and/or physiological quantities of the subject, for example temperature, ECG, or acceleration. This aspect allows the system to generate measurements that are particularly relevant to the body part the sensor is attached to. For example, a temperature measurement may provide relevant information when the temperature sensor is attached to the trunk of the body, and not when it is attached to, for example, an ankle. The system can take this into account for example by disregarding, or compensating, temperature measurement if the sensor is attached to an ankle. Further physical and/or physiological quantities, such as heart rate or temperature, can be used alongside for example a derived activity parameter in various health applications.

According to another aspect of the invention, the system further comprises
- means for converting the measured value into an estimated measured value related to a reference position on the subject, and
- means for deriving the subject-related value from the estimated measured value.

This aspect allows the measuring system to accurately measure, for example, an activity parameter with the sensor at one of a plurality of positions on the subject, even if the measuring system is calibrated for only a single reference position, because the deviation of the measured value caused by wearing the activity monitor at a different position is compensated for. The accuracy may be increased even further by calibrating a plurality of reference positions. In case a plurality of reference positions is calibrated, and the sensor is attached at a position that is not a reference position, the means for converting can compensate the measured value with respect to the nearest reference position or with respect to a weighted average of reference positions, thereby increasing the accuracy further.

Another aspect of the invention is characterized in that the means for determining the position of the sensor on the subject is arranged for determining the position in dependence on the measured value. This allows the sensor to be attached at different positions on the subject, without any additional user interaction to indicate the actual position of the device.

According to another aspect of the invention, it further comprises means for obtaining from the sensor a plurality of measured values measured during a time interval, and

wherein the means for determining the position of the sensor on the subject is arranged for determining the position in dependence on the measured values measured during the time interval. This allows the position of the sensor to be determined in an especially reliable manner.

5 According to another aspect of the invention, the means for determining the position of the sensor on the subject is arranged for determining the position on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively. A set of rules, preferably part of a rule-based system, possibly making use of fuzzy logic, is particularly suited for determining the position of the sensor.

10 According to another aspect of the invention, the means for determining the position of the sensor on the subject comprises means for performing a pattern recognition of a signal derived from the measured values measured during the time interval. A pattern recognition means is especially favorable to achieve a high reliability in establishing the position of the sensor on the subject.

15 According to an aspect of the invention, it further comprises means for determining that the user is performing a standardized activity, and the means for determining the position of the sensor on the subject is arranged for using at least one measured value obtained from the sensor, the measured value relating to a time the user is performing the standardized activity. This allows the activity monitor to determine the
20 position of the device on the body with greater certainty. Preferably, the standardized activity has a repetition pattern with a cycle time of, for example, 1 to 2 seconds and the standardized activity is performed for at least five cycles.

 According to another aspect of the invention, the means for establishing that the user is performing a standardized activity is arranged for establishing the activity in
25 dependence on at least one measured value. This increases the accuracy and reduces the amount of required user interaction.

 Another aspect of the invention further comprises a user interface for receiving input from a user for indicating when the subject is performing the standardized activity. This allows a very economical implementation of the activity monitor.

30 Another aspect of the invention further comprises a user interface for receiving input from a user related to the position of the sensor on the subject. This allows a very economical implementation of the activity monitor.

 Another aspect of the invention further comprises

- means for establishing that the subject is performing a predetermined activity,

- storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,

5 - means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and

- means for providing feedback in dependence on the similarity measure.

If the sensor position and the type of activity are known, the actual body movements can be compared to movements that are “optimal” for that particular activity.

10 This translates into a measure of efficiency and proficiency in the selected activity. For example, inexperienced runners have a larger vertical acceleration component than experienced runners. Optimal movement patterns can be looked up in a database with key (desired activity, body part), and a pattern-matching technique can be used to determine how the actual pattern compares to the optimal pattern. Moreover, suggestions to change
15 movement patterns of the specific body part can be given, such as for example, “when striking a ball with a racket, try to move in a continuous circular motion, and do not stop the motion after impact, to maximize acceleration of the ball upon impact”. Alternatively, movements associated with health problems such as a baseball-arm, can be detected and feedback can be provided about the undesired movements.

20 According to another aspect of the invention, the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities. This allows the activity monitor to distinguish between a plurality of activities of the subject, so that feedback can be provided in relation to the established activity.

25 According to another aspect of the invention, it further comprises a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also in dependence on the further measured value. Advantageously, a plurality of sensors are
30 attached at different positions on the subject and the means for deriving the subject-related value is arranged for combining the respective obtained measured values in order to increase the accuracy of the derived value. Advantageously, the sensors communicate with each other or with a central unit, for example by means of a wireless or wired connection, for coordinated processing of the obtained measured values.

The system for determining the calorie balance of a subject according to the invention is characterized in that it comprises the activity monitor set forth, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure. This system can provide accurate calorie balance because the activity parameter is determined with a high degree of accuracy.

The method according to the invention is characterized in that

- the method further comprises the step of determining the position of the sensor on the subject, and

- the step of deriving the subject-related value is performed also in dependence on the position of the sensor on the subject.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other aspects of the method of the invention will be further elucidated and described with reference to the drawing, in which:

Figs. 1 A,B,C,D show sketches of a device with attachment means that can be attached at several positions on a subject.

Fig. 2 shows an activity monitor with user interface.

Fig. 3 shows an activity monitor comprising a device with a sensor connected to a separate unit by means of a wireless link.

Fig. 4 shows a diagram of an embodiment of the method according to the invention.

Figs. 5 A,B show diagrams of embodiments of the measuring method according to the invention including the compensation method according to the invention.

Fig. 6 shows a diagram of an embodiment of the method according to the invention including the method according to the invention to determine the position of the sensor on the subject.

Fig. 7 shows a diagram of an embodiment of the method according to the invention including the compensation initialization method according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1A shows an activity monitor 1 comprising a sensor 6 (shown in dotted lines), a display 10, and strap attachment means 5. The activity monitor 1 further comprises a microprocessor (not shown) for computing and displaying an activity parameter. The sensor 6 can comprise a single-axial or multi-axial accelerometer, a temperature sensor, an electrical

sensor for measuring electrical body signals such as the ECG signal, a heart rate sensor, a pedometer, a global or local positioning system, or any other type of sensor. Such sensors are known to the skilled artisan. Figure 1B shows the activity monitor 1, fixed to a short strap 2 with a buckle 4, and Figure 1C shows the activity monitor 1 fixed to a long strap 3. The short strap 2 is suitable for attaching the activity monitor to a wrist or ankle, while the long strap 3 is suitable for attaching the activity monitor to a waist or chest. Figure 1D shows a side view of the activity monitor illustrating a clip 9 fixed to the back of the activity monitor, making it possible to attach the activity monitor to clothing. The activity monitor with accessories as shown can be attached at one of a plurality of positions on a subject. The display 10 can be a touch-screen display for having a subject provide input to the activity monitor.

Figure 2 shows an activity monitor 20 with at least one button 21,22, a display 23, and a sensor 24. The button can be used for receiving input from a user. Preferably, more buttons are provided to make it easier for the subject to provide different kinds of input to the activity monitor.

Figure 3 shows an activity monitor comprising a device 30 with a sensor 33. The device 30 does not have any buttons or display. The device 30 has means to communicate with a separate unit 31, preferably using a wireless link 32 such as WIFI or Bluetooth. The separate unit 31 is used to control the device 30. The separate unit 31, for example a personal computer or a personal digital assistant, comprises a microprocessor (not shown) for processing the information gathered by the device 30 by means of sensor 33. The separate unit 31 further comprises means for receiving user input and communicating the processed information to a user.

Figure 4 shows an embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a reference position. In step 100, the sensor 6 delivers a measurement value at the reference position. Preferably, the sensor 6 is a tri-axial accelerometer, and the measurement value is a triple containing acceleration information in X, Y, and Z-direction. In step 101, the activity monitor computes the corresponding activity parameter, for example energy expenditure. For a tri-axial accelerometer attached to the back of the waist, a method to compute the corresponding energy expenditure is disclosed in "Daily physical activity, energy expenditure and physical fitness; assessment and implications" by Guy Plasqui, Ph.D. thesis, Maastricht University, 2004, referred to hereinafter as "Plasqui". The back of the waist is near the center of the body and a tri-axial accelerometer attached thereto provides a good estimation of overall movements.

Figure 5A shows an example of embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a position on the subject that is not a reference position. In step 105, the sensor 6 delivers a measurement value measured at the position where the sensor is attached. After this, in step 5 106, the measurement value is compensated for the difference of the value at the position the sensor 6 is attached and the corresponding value at the reference position. After this, in step 108, the activity parameter, in this case energy expenditure, is computed using the method of computing the corresponding energy expenditure disclosed in Plasqui. The compensation method of step 106, in a very simple version, in this embodiment can be expressed as:

$$10 \quad x_{\text{corrected}} = a + bx_{\text{raw}},$$

where x_{raw} represents the measured value at the position where the sensor 6 is attached, $x_{\text{corrected}}$ is the corrected measured value, and a and b are compensation constants that have been stored in a compensation database 107 as part of an initialization procedure. In a multivariate system, where the measurement value comprises a tuple, for example the X, Y, 15 and Z-components measured by a tri-axial accelerometer, the compensation method can be expressed as:

$$x_{\text{corrected},i} = a_i + b_{i,1}x_{\text{raw},1} + b_{i,2}x_{\text{raw},2} + \dots + b_{i,N}x_{\text{raw},N},$$

where $x_{\text{raw},1}, x_{\text{raw},2}, \dots, x_{\text{raw},N}$ represent the N components of the measurement value tuple;

$x_{\text{corrected},i}$ represents the i -th component of the corrected measurement value tuple

20 $(x_{\text{corrected},1}, x_{\text{corrected},2}, \dots, x_{\text{corrected},N})$, and a_i and $b_{i,j}$, for $i, j = 1, 2, \dots, N$, are compensation constants that have been stored in a compensation database 107 as part of an initialization procedure. This example of a compensation method is particularly easy to implement. Other, potentially more flexible compensation methods are easily conceivable. Such methods include higher order polynomials, generalized linear models, other statistical methods, 25 artificial neural networks, and fuzzy logic methods.

Figure 5B shows an alternative embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a position on the subject that is not a reference position. In step 110, the sensor 6 delivers a measurement value measured at the position where it is attached. After this, in step 111, the 30 activity parameter, in this case energy expenditure, is computed using the method of computing the corresponding energy expenditure disclosed in Plasqui. Finally, in step 112 the computed energy expenditure is compensated for the difference of the energy expenditure as

computed from the value measured at the position where the sensor 6 is attached and the “real” energy expenditure that would have been obtained if the sensor had been attached at the reference position. The compensation method, which is similar to the compensation method appearing in the embodiment according to Figure 5A, makes use of the information stored in the compensation database 113.

Figure 6 shows a diagram of an embodiment of a method of determining the position on the subject where the sensor 6 is attached and of computing the activity parameter, regardless of where the sensor was attached. In step 115, the measured value or a sequence of measured values is obtained from the sensor 6. Next, the position on the body is determined in step 116, using information from a feature database 117. To determine the position of the sensor 6 on the body, the signal from the sensor is analyzed for features that are position-dependent. Also, the subject is instructed to perform predefined standardized activities, such as walking, sitting, and standing, preferably for about 20 seconds each. Alternatively, the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs. Combinations of the values during the standardized activities or the absolute measured values are used to determine the position of the sensor 6 on the subject. Thereto, a number of predefined rules are used. These rules can be in the form of “if...then” rules. An example of such a rule is: “if the measured value during walking is in the range of A to B times higher than during sitting, the sensor 6 is positioned on the lower arm”, where A and B are constants stored in the feature database 117. Another example of such a rule is: “if the measured value during walking is in the range of C to D , the sensor 6 is positioned on the leg”, where C and D are constants stored in the feature database 117. The rules can also be implemented in terms of fuzzy logic rules. Other ways to provide a set of rules, including for example neural network methods and logic programming, are obvious to the skilled artisan. In a preferred embodiment, the position of the sensor 6 on the subject is determined by means of pattern recognition. The pattern recognition can be performed for example by correlating a signal obtained from the sensor with a signal stored in the feature database 117. The pattern recognition can be performed in the time domain, the frequency domain, or another domain, preferably a time-frequency domain such as a wavelet domain. Pattern recognition can be performed in many ways known to the skilled artisan. For example, techniques used in speech recognition can be applied.

After the position of the sensor 6 on the subject has been determined in step 116, and the position is not a reference position (step 118, branch 122), in step 119 the

measured value is compensated for by the difference between the value at the position at which the sensor is attached and the corresponding value at a reference position, making use of the information in a compensation database 120, in a way similar to the embodiment according to Figure 5A. Finally, in step 121 the activity parameter is computed from the, possibly compensated, measured value, in a way similar to the embodiment according to Figure 5.

In another embodiment, the measured value is first converted to an activity parameter, and the activity parameter is used to determine the position of the sensor 6 on the subject in a way similar to what is described above. In that case, after the position has been determined, the computed activity parameter is compensated for the difference between the computed activity parameter and the corresponding activity parameter computed from a value measured at a reference position, while information stored in a compensation database is made use of in a way similar to the embodiment according to Figure 5B. It is also possible to use other quantities relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119.

Figure 7 shows a diagram of an embodiment of an initialization procedure for the compensation database. In this embodiment, a sequence of steps is performed iteratively. As a first step 130, i and j are both initialized to 1. Each iteration starts with step 131 comprising an instruction to the subject to perform predefined activity i . The instruction can comprise a spoken instruction to walk, sit, or stand, or it can for example comprise showing the activity on a display for a predefined duration. Then, in step 132 the subject performs the predefined activity i , while the sensor 6 attached at position j on the subject measures a physical value, in this case tri-axial acceleration, in step 133. Next, in step 134 the essential features are extracted from the measured value signal and stored in a feature database 135. These essential features may comprise decision rules or constants that are part of decision rules, similar to the constants A , B , C , and D appearing in the description of the embodiment according to Figure 6. Similarly, essential signal patterns can be stored in the time domain, frequency domain, time-frequency domain, or any other domain or combination of domains. Simultaneously, if position j is not a reference position (step 136, branch 145), in step 137 compensation parameters describing the difference between the measured value at the position of the sensor 6 on the subject and the corresponding value at a reference position are determined and stored in a compensation database 138. These compensation parameters may

comprise constants appearing in the compensation method, similar to the constants a , b , a_i , and $b_{i,j}$ occurring in the description of the embodiment according to Figure 5A.

To conclude an iteration, i is increased in step 139, and if i is smaller than or equal to the number of predefined activities (step 140, branch 147), the iteration steps are repeated; otherwise, j is increased in step 141, and if j is smaller than or equal to the predefined number of positions (step 142, branch 148), i is set to 1 in step 143 and the iteration steps are repeated. If j is greater than the predefined number of positions (step 142, branch 149), the initialization procedure is finished.

In general, this sequence could be paralleled further, for example by using a plurality of sensors 6 to measure the value at a plurality of positions on the subject simultaneously. In this embodiment, the steps of extracting compensation parameters and extracting essential signal features are performed in parallel. However, they can also be performed sequentially. In an alternative embodiment, the activity parameter is computed after the sensor 6 has delivered the signal in step 133, and before extracting essential features in step 134 and determining compensation parameters in step 137. It is also possible to compute at least one derived quantity from the values measured by the sensor 6, and perform the steps of extracting essential features and determining compensation parameters based on the derived quantity.

In another embodiment, the initialization of the compensation database and the feature database are performed on the basis of a population of subjects. All subjects are asked to perform the standardized activities, the measured values are obtained from the sensor 6 at multiple positions on the subject, and after the data of all subjects have been collected and stored in an intermediate database, the compensation database and the feature database are filled with values that are representative of the population. This embodiment has the advantage that the activity monitor needs to be initialized only once, possibly by the manufacturer, and after that an unlimited number of activity monitors can be produced using the same database values.

It will be appreciated that the invention also extends to computer programs, particularly computer programs on or in a carrier, adapted for putting the invention into practice. The program may be in the form of source code, object code, a code intermediate source and object code such as partially compiled form, or in any other form suitable for use in the implementation of the method according to the invention. The carrier may be any entity or device capable of carrying the program. For example, the carrier may include a

storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk. Further, the carrier may be a transmissible carrier such as an electrical or optical signal, which may be conveyed via electrical or optical cable or by radio or other means. When the program is embodied in such a signal, the carrier may be constituted by such cable or other device or means. Alternatively, the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for performing, or for use in the performance of, the relevant method.

A measuring system comprises a sensor arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises means for deriving a subject-related value from the measured value. The sensor is arranged to be attached at one of a plurality of positions on the subject. The measuring system further comprises means for establishing the position of the sensor on the subject. The means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.

It should be noted that the above-mentioned embodiments illustrate rather than limit the invention, and that those skilled in the art will be able to design many alternative embodiments without departing from the scope of the appended claims. In the claims, any reference signs placed between parentheses shall not be construed as limiting the claim. Use of the verb "to comprise" and its conjugations does not exclude the presence of elements or steps other than those stated in a claim. The article "a" or "an" preceding an element does not exclude the presence of a plurality of such elements. The invention may be implemented by means of hardware comprising several distinct elements, and by means of a suitably programmed computer. In the device claim enumerating several means, several of these means may be embodied by one and the same item of hardware. The mere fact that certain measures are recited in mutually different dependent claims does not indicate that a combination of these measures cannot be used to advantage.

CLAIMS:

1. A measuring system (1) comprising
- a sensor (6) arranged to be attached at one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, and
5 - means for establishing the position of the sensor on the subject, and
- means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.

2. The measuring system (1) according to claim 1, wherein the plurality of
10 positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head.

3. The measuring system (1) according to claim 1, wherein the derived value
15 comprises an activity parameter of the subject.

4. The measuring system (1) according to claim 3, wherein the activity parameter
comprises energy expenditure.

5. The measuring system (1) according to claim 1, wherein the activity parameter
20 represents a degree of activity of the body part the sensor is attached to.

6. The measuring system (1) according to claim 1, wherein the measured value
comprises at least one of temperature, ECG, or acceleration, in particular tri-axial
acceleration.

7. The measuring system (1) according to claim 1, further comprising means for
25 selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset.

8. The measuring system (1) according to claim 1, further comprising
- means for converting the measured value into an estimated measured value
related to a reference position on the subject, and
5 - means for deriving the subject-related value from the estimated measured
value.

9. The measuring system (1) according to claim 1, wherein the means for
determining the position of the sensor on the subject is arranged for performing the
10 determining in dependence on the measured value.

10. The measuring system (1) according to claim 9, further comprising means for
obtaining from the sensor (6) a plurality of measured values measured during a time interval,
and wherein the means for determining the position of the sensor on the subject is arranged
15 for performing the determining in dependence on the measured values measured during the
time interval.

11. The measuring system (1) according to claim 9 or 10, wherein the means for
determining the position of the sensor (6) on the subject is arranged for performing the
20 determining on the basis of a predefined set of rules related to the measured value or
measured values measured during the time interval, respectively.

12. The measuring system (1) according to claim 10, wherein the means for
determining the position of the sensor (6) on the subject comprises means for performing a
25 pattern recognition of a signal derived from the measured values measured during the time
interval.

13. The measuring system (1) according to claim 9 or 10, further comprising
means for determining that the user is performing a standardized activity, and wherein the
30 means for determining the position of the sensor on the subject is arranged for using at least
one measured value obtained from the sensor (6), the measured value relating to a time the
user is performing the standardized activity.

14. The measuring system (1) according to claim 13, wherein the means for determining that the user is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value.

5 15. The measuring system (1) according to claim 13, further comprising a user interface for receiving input from a user to indicate when the subject is performing the standardized activity.

10 16. The measuring system (1) according to claim 1, further comprising a user interface for receiving input from a user related to the position of the sensor on the subject.

17. The measuring system (1) according to claim 1, further comprising
- means for establishing that the subject is performing a predetermined activity,

15 - storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,

- means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and

- means for providing feedback in dependence on the similarity measure.

20

18. The measuring system (1) according to claim 17, wherein the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities.

25

19. A measuring system (1) according to claim 1, further comprising a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also
30 in dependence on the further measured value.

20. A system for determining the calorie balance of a subject, the system comprising the measuring system (1) according to claim 4, means for monitoring food

consumption, and means for deriving the calorie balance using the derived energy expenditure.

21. A method of estimating a derived value relating to a subject, the method
5 comprising

- obtaining at least one measured value from a sensor (6) attached to the
subject, the measured value representing a physical or a physiological quantity of the subject,
and

- establishing the position of the sensor on the subject, and

10 - deriving the subject-related value from the measured value also in
dependence on the position of the sensor on the subject.

1/5

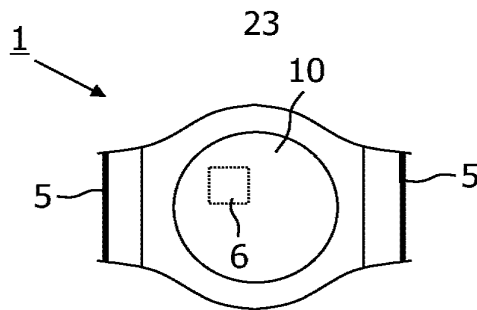


FIG. 1A

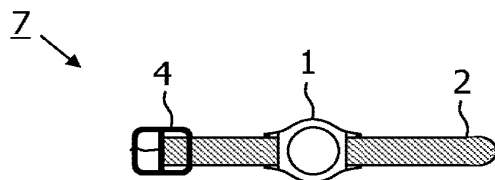


FIG. 1B

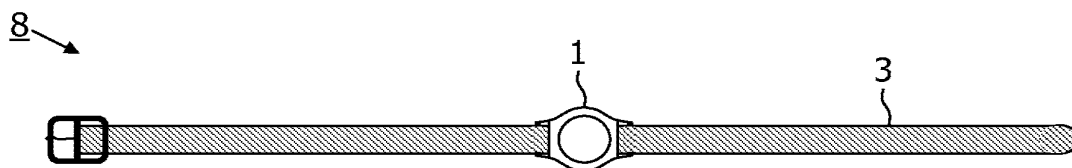


FIG. 1C

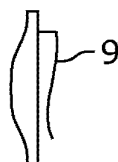


FIG. 1D

2/5

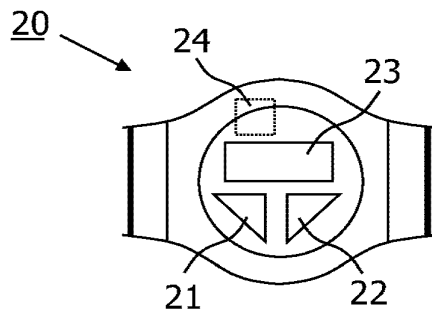


FIG. 2

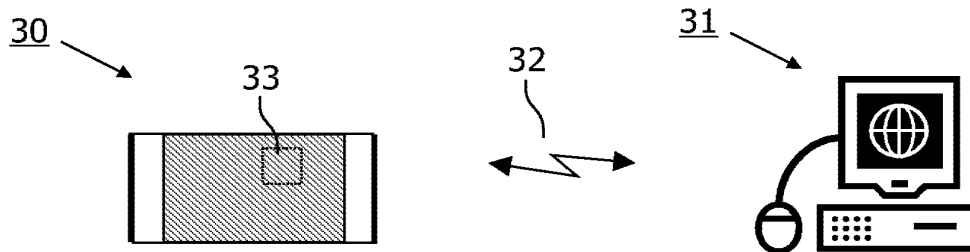


FIG. 3

3/5

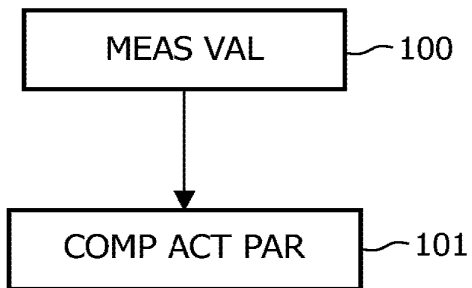


FIG. 4

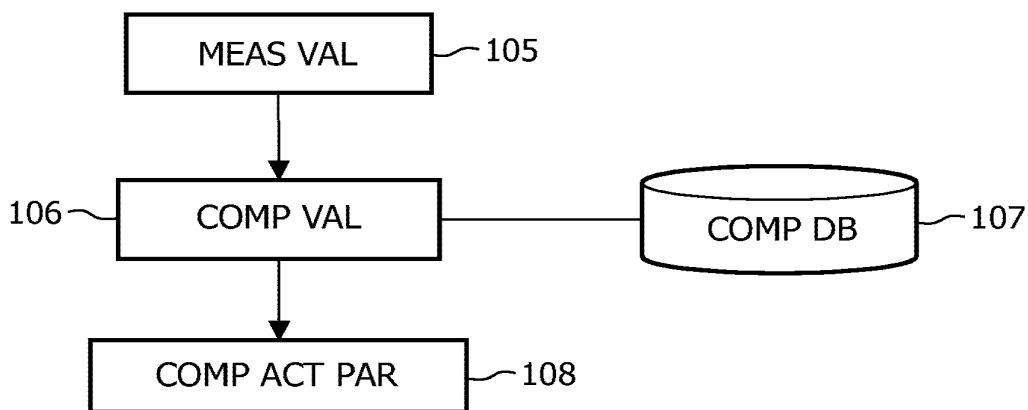


FIG. 5A

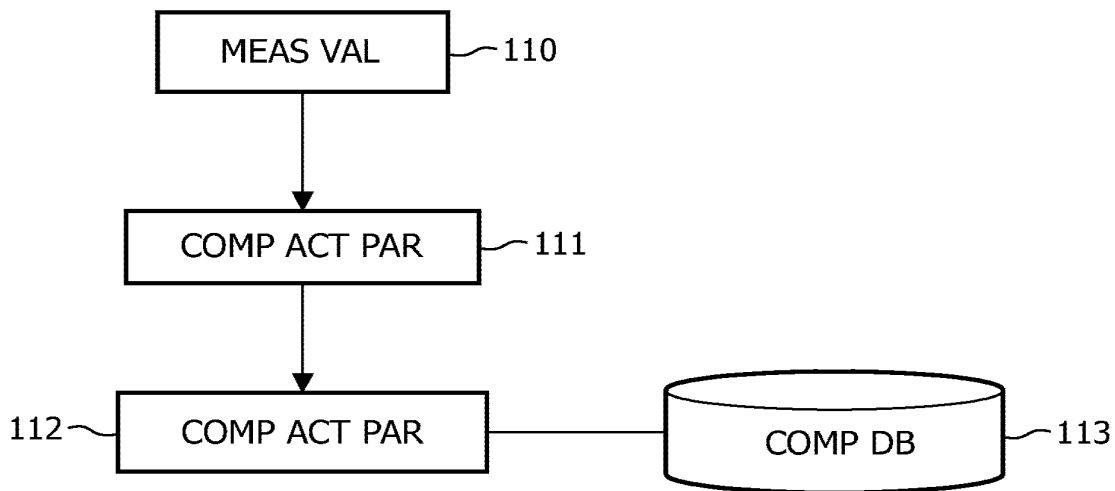


FIG. 5B

4/5

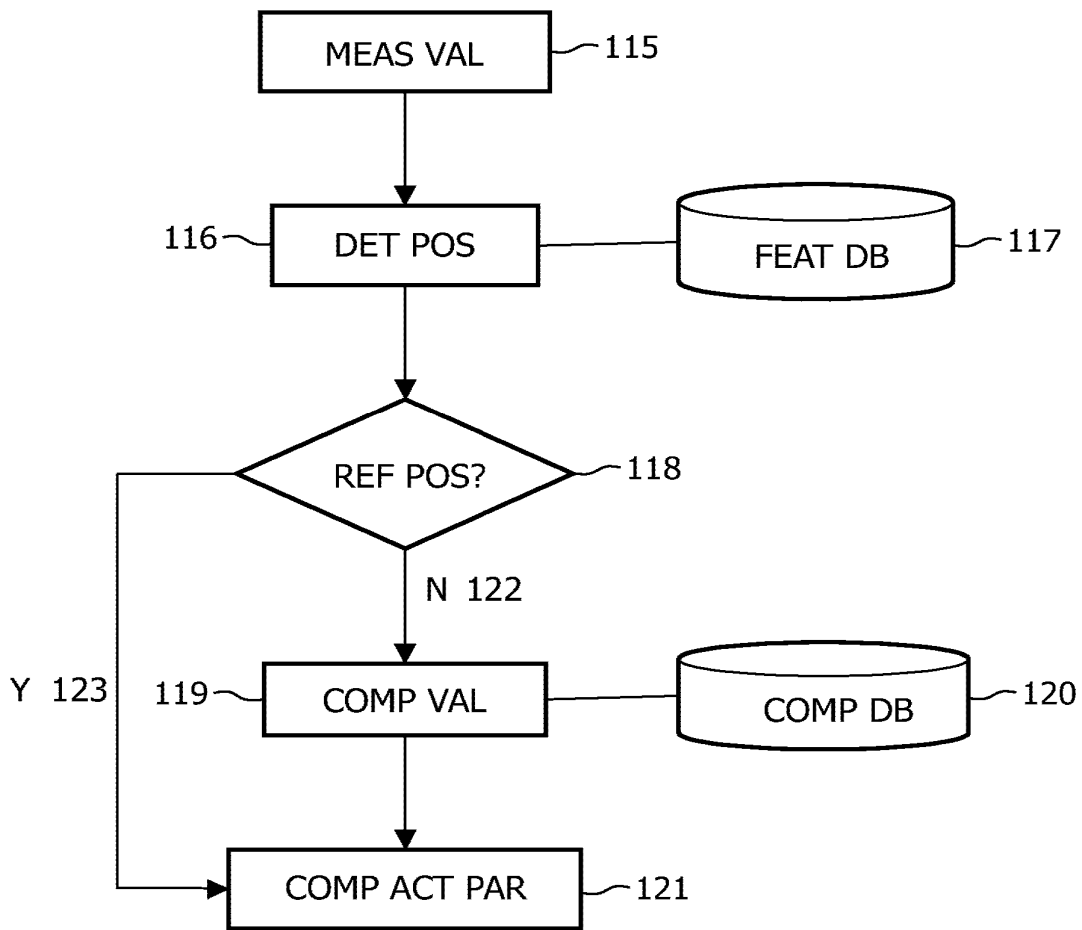


FIG. 6

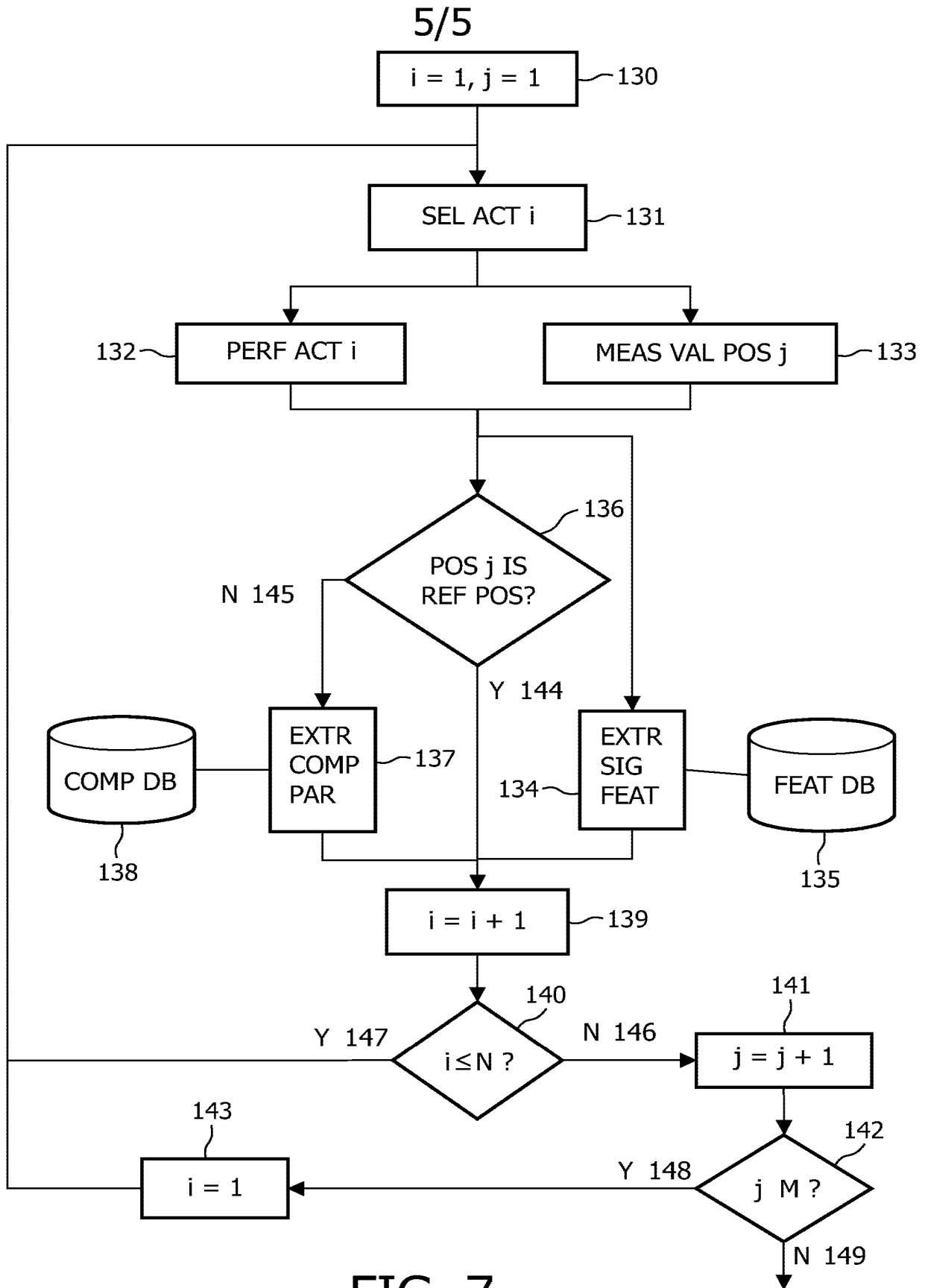


FIG. 7

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 June 2007 (21.06.2007)

PCT

(10) International Publication Number
WO 2007/069127 A3

(51) International Patent Classification:
A61B 5/00 (2006.01)

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(21) International Application Number:
PCT/IB2006/054599

(22) International Filing Date:
5 December 2006 (05.12.2006)

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

(30) Priority Data:
05112250.5 15 December 2005 (15.12.2005) EP

(71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

Declaration under Rule 4.17:
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

(72) Inventors; and

Published:
— with international search report

(75) Inventors/Applicants (for US only): GORIS, Annelies [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). BODLAENDER, Maarten, P. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

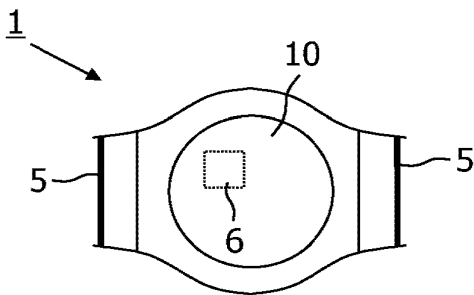
(74) Agents: DAMEN, Daniel, M. et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(88) Date of publication of the international search report:
18 October 2007

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY



(57) Abstract: A measuring system (1) comprises a sensor (6) arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises means for deriving a subject-related value from the measured value. The sensor is arranged to be attached at one of a plurality of positions on the subject. The measuring system further comprises means for establishing the position of the sensor on the subject. The means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.

WO 2007/069127 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2006/054599

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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 practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, COMPENDEX, EMBASE, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 111 826 A (NASIFF ROGER E [US]) 12 May 1992 (1992-05-12) column 4, lines 42-50 column 7, paragraph 2 -----	1-21
X	EP 1 254 629 A1 (OMRON TATEISI ELECTRONICS CO [JP] OMRON HEALTHCARE CO LTD [JP]) 6 November 2002 (2002-11-06) paragraphs [0052] - [0056], [0070] -----	1-21
A	US 2003/065257 A1 (MAULT JAMES R [US] ET AL) 3 April 2003 (2003-04-03) abstract -----	1-21

Further documents are listed in the continuation of Box C.

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 document 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

21 June 2007

Date of mailing of the international search report

02/07/2007

Name and mailing address of the ISA/
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Clevorn, Jens

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2006/054599

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5111826	A	12-05-1992	NONE	
EP 1254629	A1	06-11-2002	AT 320754 T CN 1400882 A DE 60118236 T2 WO 0239893 A1 US 2004077958 A1	15-04-2006 05-03-2003 01-03-2007 23-05-2002 22-04-2004
US 2003065257	A1	03-04-2003	CA 2397133 A1 EP 1250085 A2 JP 2004509652 T WO 0152718 A2 US 2001049470 A1	26-07-2001 23-10-2002 02-04-2004 26-07-2001 06-12-2001

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY			
First Named Inventor/Applicant Name:	ANNELIES GORIS			
Filer:	Yan Glickberg/Jeanne Rusciano			
Attorney Docket Number:	003603 US1			
Filed as Large Entity				
U.S. National Stage under 35 USC 371 Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
National Stage Fee	1631	1	310	310
Natl Stage Search Fee - Report provided	1642	1	410	410
National Stage Exam - all other cases	1633	1	210	210
Pages:				
Claims:				
Claims in excess of 20	1615	1	50	50
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				980

Electronic Acknowledgement Receipt

EFS ID:	3445713
Application Number:	12097121
International Application Number:	PCT/IB06/54599
Confirmation Number:	8272
Title of Invention:	DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY
First Named Inventor/Applicant Name:	ANNELIES GORIS
Customer Number:	24737
Filer:	Yan Glickberg/Jeanne Rusciano
Filer Authorized By:	Yan Glickberg
Attorney Docket Number:	003603 US1
Receipt Date:	12-JUN-2008
Filing Date:	
Time Stamp:	14:39:20
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$980
RAM confirmation Number	8905
Deposit Account	141270
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. 1.492 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	2-003603-ADS.pdf	73358 494f804590372767d981598a3acd6459d6890e4d	no	4

Warnings:**Information:**

This is not an USPTO supplied ADS fillable form

2	Oath or Declaration filed	003603-Dec.pdf	1107278 37b2228953a3ba6e004b2ad0f6ec30ffa89fc9e	no	4
---	---------------------------	----------------	--	----	---

Warnings:**Information:**

3		003603-PRELIM.pdf	58134 27087aa0bbda5d5cc72e03fab11d21cd1f58514c	yes	7
---	--	-------------------	---	-----	---

Multipart Description/PDF files in .zip description

Document Description	Start	End
Preliminary Amendment	1	1
Claims	2	6
Applicant Arguments/Remarks Made in an Amendment	7	7

Warnings:**Information:**

4	Documents submitted with 371 Applications	WO2007069127A2.pdf	1077919 73ee65c08b35162cfb8b018b1a81bd0a7d6e67c0	no	24
---	---	--------------------	---	----	----

Warnings:**Information:**

5	Documents submitted with 371 Applications	WO2007069127R4A3.pdf	124727 61faa365996d584f27a8ec626ba22546b27c5b5b	no	3
---	---	----------------------	--	----	---

Warnings:**Information:**

6	Fee Worksheet (PTO-06)	fee-info.pdf	8571 1ebc75d402ad718025a87177df5768cb29333d48	no	2
---	------------------------	--------------	--	----	---

Warnings:

Information:

Total Files Size (in bytes):

2449987

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	003603 US1
		Application Number	
Title of Invention	DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1				
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix
	ANNELIES		GORIS	
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
City	EINDHOVEN	Country Of Residence ⁱ	NL	
Citizenship under 37 CFR 1.41(b) ⁱ		NL		
Mailing Address of Applicant:				
Address 1	PROF. HOLSTLAAN 6			
Address 2				
City	EINDHOVEN	State/Province		
Postal Code	5656 AA	Country ⁱ	NL	
Applicant 2				
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix
	MAARTEN	PETER	BODLAENDER	
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
City	EINDHOVEN	Country Of Residence ⁱ	NL	
Citizenship under 37 CFR 1.41(b) ⁱ		NL		
Mailing Address of Applicant:				
Address 1	PROF. HOLSTLAAN 6			
Address 2				
City	EINDHOVEN	State/Province		
Postal Code	5656 AA	Country ⁱ	NL	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. <input type="button" value="Add"/>				

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

An Address is being provided for the correspondence Information of this application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	003603 US1
		Application Number	
Title of Invention	DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY		
Customer Number	24737		
Email Address	jeanne.rusciano@philips.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY		
Attorney Docket Number	003603 US1	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Publication Information:

<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/> Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	24737		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status		<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	a 371 of international	PCT/IB2006/054599	2006-12-05
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	003603 US1
		Application Number	
Title of Invention	DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY		

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

<input type="button" value="Remove"/>			
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
05112250.5	EP	2005-12-15	<input checked="" type="radio"/> Yes <input type="radio"/> No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1			
If the Assignee is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	KONINKLIJKE PHILIPS ELECTRONICS, N.V.		
Mailing Address Information:			
Address 1	GROENEWOUDSEWEG 1		
Address 2			
City	EINDHOVEN	State/Province	
Country ⁱ	NL	Postal Code	5621 BA
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the Add button.			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Yan Glickberg/	Date (YYYY-MM-DD)	2008-05-14
First Name	YAN	Last Name	GLICKBERG
		Registration Number	51742

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY <small>(includes Reference to PCT International Applications)</small>	ATTORNEY'S DOCKET NUMBER PH003603 US1
---	--

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention the specification of which (check only one item below):

entitled:

is attached hereto.

was filed as United States application

Serial No _____

on _____

and was amended _____

on _____

was filed as PCT international application

Number **PCT/IB2006/054599**

on **December 05, 2006**

and was amended under PCT Article 19.

on _____ (if applicable).


I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or of any PCT international application having a filing date before that of the application of which priority is claimed.

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

COUNTRY	APPLICATION NUMBER	DATE OF FILING DAY, MONTH, YEAR.	PRIORITY CLAIMED UNDER 35 USC 119
Europe	05112250.5	15 December 2005	YES

Combined Declaration For Patent Application and Power of Attorney (Continued) (includes Reference to PCT International Applications)				Attorneys Docket Number PH003603 US1
POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number)				
Jack E. Haken, Reg. No. 26,902 Michael E. Marion, Reg. No. 32, 266 Edward M. Blocker, Reg. No. 30,245				Direct Telephone Calls to: (name and telephone number) (914)332-0222
201	FULL NAME OF INVENTOR	FAMILY NAME GORIS	FIRST GIVEN NAME Annelies	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY Eindhoven	STATE OR FOREIGN COUNTRY The Netherlands	COUNTRY OF CITIZENSHIP The Netherlands
	POST OFFICE ADDRESS	POST OFFICE ADDRESS Prof. Holstlaan 6	CITY 5656 AA Eindhoven	STATE & ZIP CODE/COUNTRY The Netherlands
202	FULL NAME OF INVENTOR	FAMILY NAME BODLAENDER	FIRST GIVEN NAME Maarten	SECOND GIVEN NAME Peter
	RESIDENCE & CITIZENSHIP	CITY Eindhoven	STATE OR FOREIGN COUNTRY The Netherlands	COUNTRY OF CITIZENSHIP The Netherlands
	POST OFFICE ADDRESS	POST OFFICE ADDRESS Prof. Holstlaan 6	CITY 5656 AA Eindhoven	STATE & ZIP CODE/COUNTRY The Netherlands
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true: and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.				
SIGNATURE OF INVENTOR 201		SIGNATURE OF INVENTOR 202		
				
DATE 15 August 2007		DATE		

U.S. DEPARTMENT OF COMMERCE- Patent and Trademarks Office

(July 1994)

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (includes Reference to PCT International Applications)	ATTORNEY'S DOCKET NUMBER PH003603 US1
---	---

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention the specification of which (check only one item below):

entitled:

is attached hereto.

was filed as United States application

Serial No

on

and was amended

on

was filed as PCT international application

Number **PCT/IB2006/054599**

on **December 05, 2006**

and was amended under PCT Article 19

on (if applicable).


I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or of any PCT international application having a filing date before that of the application of which priority is claimed.

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

COUNTRY	APPLICATION NUMBER	DATE OF FILING DAY, MONTH, YEAR	PRIORITY CLAIMED UNDER 35 USC 119
Europe	05112250.5	15 December 2005	YES

Combined Declaration For Patent Application and Power of Attorney (Continued) (includes Reference to PCT International Applications)			Attorneys Docket Number PH003603 US1	
POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number)				
Jack E. Haken, Reg. No. 26,902 Michael E. Marion, Reg. No. 32, 266 Edward M. Blocker, Reg. No. 30,245			Direct Telephone Calls to: (name and telephone number) (914)332-0222	
201	FULL NAME OF INVENTOR	FAMILY NAME GORIS	FIRST GIVEN NAME Annelies	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY Eindhoven	STATE OR FOREIGN COUNTRY The Netherlands	COUNTRY OF CITIZENSHIP The Netherlands
	POST OFFICE ADDRESS	POST OFFICE ADDRESS: Prof. Holstlaan 6	CITY 5656 AA Eindhoven	STATE & ZIP CODE/COUNTRY The Netherlands
202	FULL NAME OF INVENTOR	FAMILY NAME BODLAENDER	FIRST GIVEN NAME Maarten	SECOND GIVEN NAME Peter
	RESIDENCE & CITIZENSHIP	CITY Eindhoven	STATE OR FOREIGN COUNTRY The Netherlands	COUNTRY OF CITIZENSHIP The Netherlands
	POST OFFICE ADDRESS	POST OFFICE ADDRESS Prof. Holstlaan 6	CITY 5656 AA Eindhoven	STATE & ZIP CODE/COUNTRY The Netherlands
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements; and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.				
SIGNATURE OF INVENTOR 201		SIGNATURE OF INVENTOR 202 		
DATE		DATE 15 August 2007		

U.S. DEPARTMENT OF COMMERCE- Patent and Trademarks Office

(July 1994)

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 June 2007 (21.06.2007)

PCT

(10) International Publication Number
WO 2007/069127 A2

(51) International Patent Classification: **Not classified**

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(21) International Application Number:
PCT/IB2006/054599

(22) International Filing Date:
5 December 2006 (05.12.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
05112250.5 15 December 2005 (15.12.2005) EP

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

Declaration under Rule 4.17:

(75) Inventors/Applicants (for US only): **GORIS, Annelies** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **BODLAENDER, Maarten, P.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

(74) Agents: **DAMEN, Daniel, M.** et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

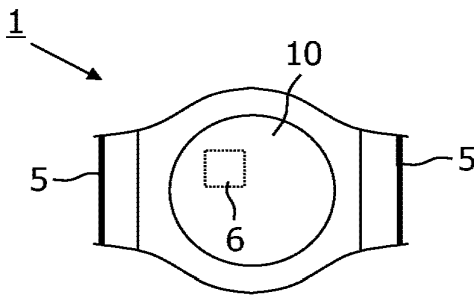
Published:

— without international search report and to be republished upon receipt of that report

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY



(57) Abstract: A measuring system (1) comprises a sensor (6) arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises means for deriving a subject-related value from the measured value. The sensor is arranged to be attached at one of a plurality of positions on the subject. The measuring system further comprises means for establishing the position of the sensor on the subject. The means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.



WO 2007/069127 A2

Detection and compensation method for monitoring the place of activity on the body

FIELD OF THE INVENTION

The invention relates to a measuring system comprising

- a sensor arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, and

5 - means for deriving a subject-related value from the measured value.

The invention also relates to a system for determining the calorie balance of a subject, and to a method of estimating a subject-related derived value.

BACKGROUND OF THE INVENTION

10 Overweight and obesity are growing problems; for example over 60% of the American population can be classified as overweight or obese. Weight gain occurs when a human has a higher energy intake (food) than energy expenditure (resting metabolic rate + activity). Since this unbalance causes the weight gain problem, many weight loss programs require that users log the food consumed and activities done in order to estimate the calorie
15 balance.

Tables and equations exist for converting nutrition values and activities into calorie intake and expenditure, respectively. However, manual calorie counting is a cumbersome process requiring knowledge, time, effort, recording and discipline. Thus, calorie logging is a problem for many people and hence it is a challenge for researchers to
20 find a solution therefore.

In US patent application publication US2003/0065257, a combination of a diet and activity-monitoring device is described for monitoring both the consumption and activity of the subject. Such a monitoring device includes a body activity monitor for monitoring the body activity of the subject. The body activity monitor is operable to output a signal
25 indicative of the subject's body activity. An activity calculator may also be provided, which receives the activity indicative signal and determines body activity level and/or energy expenditure for the subject. The monitoring device may take the form of a wristwatch-style device or a belt or clothing-mounted monitor. The monitoring device may comprise a heart rate monitor. The heart rate of the subject increases with activity and decreases when the

subject is resting. The activity monitor may be calibrated using an indirect calorimeter. The heart rate sensor may be part of the wristwatch-style activity monitor, or it may be provided as a separate unit, for example in the form of a chest-strap, which communicates with the activity monitor.

5 The activity monitor may alternatively comprise a motion sensor such as a mechanical pendulum or a single or multi-axis accelerometer. An accelerometer is preferred since it may provide information on body movement as well as the direction and intensity of the movement. The motion sensor may form part of the wristwatch or belt or clothing-mounted monitoring device or may be part of a separate accessory that communicates with
10 the monitoring device. The body activity monitor may be calibrated to determine activity-related energy expenditure using an indirect calorimeter.

 As another alternative, the body activity monitor may include multiple modes for recording a variety of activities, such as swimming, biking, and use of stationary exercise equipment. The subject presses a start button and the body activity monitor will record the
15 duration of the activity.

 Furthermore, the monitoring device also preferably includes a consumption notation control for use by the subject to indicate when the subject consumes food. The body activity monitor and the consumption notation control may take a variety of forms. It may include a GPS antenna to determine the position of the subject using GPS signals. It may
20 combine a time-indicative signal with the GPS signals to determine changes in position of the subject as well as the rate of change in position. This allows determination of movement or body activity. The device may be calibrated to determine caloric expenditure from the measured body activity.

 Moreover, a position and/or activity discriminator may be included in or
25 communicating with the body activity monitor. The discriminator functions to determine the position and/or activity of the subject by determining the proximity of the subject to various devices and locations, such as exercise equipment and buildings. For example, it may be determined that the subject is close to running shoes to discriminate the activity of running. In a more advanced configuration, proximity to running shoes may be combined with GPS
30 signals, heart rate sensor and/or motion sensor output to allow the activity calculator to determine the type of activity being performed, the duration of the activity, and the intensity of the activity.

When the user uses the system for the first time, he or she may designate certain movement patterns as correlating with certain activities. This will aid to calibrate the activity monitor.

Each of the described activity monitors and sensors is designed to be placed on a single position on the body. Bodily signals such as acceleration and ECG signals, are measured local to the position where the sensor is attached to the object. For example, acceleration measured by an accelerometer on the wrist includes motion of the arm, which is not detected by an accelerometer mounted on the waist.

The existing activity monitors, including for example a wrist strap or a waist belt, are often designed to be worn on one place on the body. The existing activity monitor is calibrated such that it provides accurate results if it is attached at a predefined location on the body. If the activity monitor is attached at a different location, the measured activity may be less accurate. If the activity monitor is not attached at the reference position, errors exceeding 5% in the estimation of energy expenditure may occur. This amounts to an error exceeding approximately 100 kilocalories per day.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a measuring system that yields a more accurate estimate of a parameter relating to a subject.

According to the invention, this object is achieved in that

- the sensor is arranged to be attached at one of a plurality of positions on the subject,

- the measuring system further comprises means for establishing the position of the sensor on the subject, and

- the means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.

With these provisions, the accuracy of the derived value is guaranteed for any of a plurality of positions on the body. The subject may attach the sensor at any preferred position on the body, and can preferably attach it at a different position whenever he or she desires to do so.

Subjects may have different preferences where they prefer wearing the sensor, and the same subject may prefer wearing the sensor at different locations, depending on for example the location of the subject, the local weather, or the activity the subject is performing at any given time. Advantageously, a plurality of sensors are attached at different

positions on the subject and the means for deriving the subject-related value is arranged for combining the respective obtained measured values in order to increase the accuracy of the derived value.

The invention is particularly suitable for determining a derived value relating to a human or an animal.

According to an aspect of the invention, the plurality of positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head. This allows for an especially flexible use of the activity monitor, because the positions mentioned are especially well suited for measuring the activity of the subject, and they are particularly convenient for wearing a sensor device.

According to another aspect of the invention, the derived value comprises an activity parameter of the subject. With this aspect, the measuring system becomes an activity monitor that enables to monitor the degree of activity performed by the subject. Other possible derived values include a temperature value or an ECG value that is automatically compensated for by the location of the sensor. Advantageously, the position of the sensor on the subject is established in dependence on an accelerometer measurement and a temperature or ECG value is compensated for in dependence on the established position.

According to an aspect of the invention, the activity parameter comprises energy expenditure. This makes the activity monitor particularly suitable for use in weight management.

According to another aspect of the invention, the activity parameter represents the degree of activity of the body part the sensor is attached to. When the position of the sensor on the subject is known, it becomes possible to monitor activity parameters related to a specific body part. For example, if the sensor is attached to the arm, the activity monitor can track energy expenditure, and in addition can track local acceleration of the arm. For example, with additional information provided by fitness equipment, the forces applied to the arm can be estimated and combined with acceleration information provided by the sensor to obtain local energy expenditure. This enables subjects to optimize a training schedule to train a specific body part. Also, if a predefined safety limit is exceeded, this can be provided as feedback to the user to avoid potentially dangerous situations.

According to an aspect of the invention, the measured value comprises at least one of temperature, ECG, or acceleration, in particular tri-axial acceleration. These examples of measured values are correlated with activity.

According to another aspect of the invention, the system further comprises means for selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset. The subset may contain zero or more further physical and/or physiological quantities of the subject, for example temperature, ECG, or acceleration. This aspect allows the system to generate measurements that are particularly relevant to the body part the sensor is attached to. For example, a temperature measurement may provide relevant information when the temperature sensor is attached to the trunk of the body, and not when it is attached to, for example, an ankle. The system can take this into account for example by disregarding, or compensating, temperature measurement if the sensor is attached to an ankle. Further physical and/or physiological quantities, such as heart rate or temperature, can be used alongside for example a derived activity parameter in various health applications.

According to another aspect of the invention, the system further comprises

- means for converting the measured value into an estimated measured value related to a reference position on the subject, and
- means for deriving the subject-related value from the estimated measured value.

This aspect allows the measuring system to accurately measure, for example, an activity parameter with the sensor at one of a plurality of positions on the subject, even if the measuring system is calibrated for only a single reference position, because the deviation of the measured value caused by wearing the activity monitor at a different position is compensated for. The accuracy may be increased even further by calibrating a plurality of reference positions. In case a plurality of reference positions is calibrated, and the sensor is attached at a position that is not a reference position, the means for converting can compensate the measured value with respect to the nearest reference position or with respect to a weighted average of reference positions, thereby increasing the accuracy further.

Another aspect of the invention is characterized in that the means for determining the position of the sensor on the subject is arranged for determining the position in dependence on the measured value. This allows the sensor to be attached at different positions on the subject, without any additional user interaction to indicate the actual position of the device.

According to another aspect of the invention, it further comprises means for obtaining from the sensor a plurality of measured values measured during a time interval, and

wherein the means for determining the position of the sensor on the subject is arranged for determining the position in dependence on the measured values measured during the time interval. This allows the position of the sensor to be determined in an especially reliable manner.

5 According to another aspect of the invention, the means for determining the position of the sensor on the subject is arranged for determining the position on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively. A set of rules, preferably part of a rule-based system, possibly making use of fuzzy logic, is particularly suited for determining the position of the sensor.

10 According to another aspect of the invention, the means for determining the position of the sensor on the subject comprises means for performing a pattern recognition of a signal derived from the measured values measured during the time interval. A pattern recognition means is especially favorable to achieve a high reliability in establishing the position of the sensor on the subject.

15 According to an aspect of the invention, it further comprises means for determining that the user is performing a standardized activity, and the means for determining the position of the sensor on the subject is arranged for using at least one measured value obtained from the sensor, the measured value relating to a time the user is performing the standardized activity. This allows the activity monitor to determine the
20 position of the device on the body with greater certainty. Preferably, the standardized activity has a repetition pattern with a cycle time of, for example, 1 to 2 seconds and the standardized activity is performed for at least five cycles.

 According to another aspect of the invention, the means for establishing that the user is performing a standardized activity is arranged for establishing the activity in
25 dependence on at least one measured value. This increases the accuracy and reduces the amount of required user interaction.

 Another aspect of the invention further comprises a user interface for receiving input from a user for indicating when the subject is performing the standardized activity. This allows a very economical implementation of the activity monitor.

30 Another aspect of the invention further comprises a user interface for receiving input from a user related to the position of the sensor on the subject. This allows a very economical implementation of the activity monitor.

 Another aspect of the invention further comprises

- means for establishing that the subject is performing a predetermined activity,

- storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,

5 - means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and

- means for providing feedback in dependence on the similarity measure.

If the sensor position and the type of activity are known, the actual body movements can be compared to movements that are “optimal” for that particular activity.

10 This translates into a measure of efficiency and proficiency in the selected activity. For example, inexperienced runners have a larger vertical acceleration component than experienced runners. Optimal movement patterns can be looked up in a database with key (desired activity, body part), and a pattern-matching technique can be used to determine how the actual pattern compares to the optimal pattern. Moreover, suggestions to change
15 movement patterns of the specific body part can be given, such as for example, “when striking a ball with a racket, try to move in a continuous circular motion, and do not stop the motion after impact, to maximize acceleration of the ball upon impact”. Alternatively, movements associated with health problems such as a baseball-arm, can be detected and feedback can be provided about the undesired movements.

20 According to another aspect of the invention, the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities. This allows the activity monitor to distinguish between a plurality of activities of the subject, so that feedback can be provided in relation to the established activity.

25 According to another aspect of the invention, it further comprises a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also in dependence on the further measured value. Advantageously, a plurality of sensors are
30 attached at different positions on the subject and the means for deriving the subject-related value is arranged for combining the respective obtained measured values in order to increase the accuracy of the derived value. Advantageously, the sensors communicate with each other or with a central unit, for example by means of a wireless or wired connection, for coordinated processing of the obtained measured values.

The system for determining the calorie balance of a subject according to the invention is characterized in that it comprises the activity monitor set forth, means for monitoring food consumption, and means for deriving the calorie balance using the derived energy expenditure. This system can provide accurate calorie balance because the activity parameter is determined with a high degree of accuracy.

The method according to the invention is characterized in that

- the method further comprises the step of determining the position of the sensor on the subject, and

- the step of deriving the subject-related value is performed also in dependence on the position of the sensor on the subject.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other aspects of the method of the invention will be further elucidated and described with reference to the drawing, in which:

Figs. 1 A,B,C,D show sketches of a device with attachment means that can be attached at several positions on a subject.

Fig. 2 shows an activity monitor with user interface.

Fig. 3 shows an activity monitor comprising a device with a sensor connected to a separate unit by means of a wireless link.

Fig. 4 shows a diagram of an embodiment of the method according to the invention.

Figs. 5 A,B show diagrams of embodiments of the measuring method according to the invention including the compensation method according to the invention.

Fig. 6 shows a diagram of an embodiment of the method according to the invention including the method according to the invention to determine the position of the sensor on the subject.

Fig. 7 shows a diagram of an embodiment of the method according to the invention including the compensation initialization method according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1A shows an activity monitor 1 comprising a sensor 6 (shown in dotted lines), a display 10, and strap attachment means 5. The activity monitor 1 further comprises a microprocessor (not shown) for computing and displaying an activity parameter. The sensor 6 can comprise a single-axial or multi-axial accelerometer, a temperature sensor, an electrical

sensor for measuring electrical body signals such as the ECG signal, a heart rate sensor, a pedometer, a global or local positioning system, or any other type of sensor. Such sensors are known to the skilled artisan. Figure 1B shows the activity monitor 1, fixed to a short strap 2 with a buckle 4, and Figure 1C shows the activity monitor 1 fixed to a long strap 3. The short strap 2 is suitable for attaching the activity monitor to a wrist or ankle, while the long strap 3 is suitable for attaching the activity monitor to a waist or chest. Figure 1D shows a side view of the activity monitor illustrating a clip 9 fixed to the back of the activity monitor, making it possible to attach the activity monitor to clothing. The activity monitor with accessories as shown can be attached at one of a plurality of positions on a subject. The display 10 can be a touch-screen display for having a subject provide input to the activity monitor.

Figure 2 shows an activity monitor 20 with at least one button 21,22, a display 23, and a sensor 24. The button can be used for receiving input from a user. Preferably, more buttons are provided to make it easier for the subject to provide different kinds of input to the activity monitor.

Figure 3 shows an activity monitor comprising a device 30 with a sensor 33. The device 30 does not have any buttons or display. The device 30 has means to communicate with a separate unit 31, preferably using a wireless link 32 such as WIFI or Bluetooth. The separate unit 31 is used to control the device 30. The separate unit 31, for example a personal computer or a personal digital assistant, comprises a microprocessor (not shown) for processing the information gathered by the device 30 by means of sensor 33. The separate unit 31 further comprises means for receiving user input and communicating the processed information to a user.

Figure 4 shows an embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a reference position. In step 100, the sensor 6 delivers a measurement value at the reference position. Preferably, the sensor 6 is a tri-axial accelerometer, and the measurement value is a triple containing acceleration information in X, Y, and Z-direction. In step 101, the activity monitor computes the corresponding activity parameter, for example energy expenditure. For a tri-axial accelerometer attached to the back of the waist, a method to compute the corresponding energy expenditure is disclosed in "Daily physical activity, energy expenditure and physical fitness; assessment and implications" by Guy Plasqui, Ph.D. thesis, Maastricht University, 2004, referred to hereinafter as "Plasqui". The back of the waist is near the center of the body and a tri-axial accelerometer attached thereto provides a good estimation of overall movements.

Figure 5A shows an example of embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a position on the subject that is not a reference position. In step 105, the sensor 6 delivers a measurement value measured at the position where the sensor is attached. After this, in step 5 106, the measurement value is compensated for the difference of the value at the position the sensor 6 is attached and the corresponding value at the reference position. After this, in step 108, the activity parameter, in this case energy expenditure, is computed using the method of computing the corresponding energy expenditure disclosed in Plasqui. The compensation method of step 106, in a very simple version, in this embodiment can be expressed as:

$$10 \quad x_{\text{corrected}} = a + bx_{\text{raw}},$$

where x_{raw} represents the measured value at the position where the sensor 6 is attached, $x_{\text{corrected}}$ is the corrected measured value, and a and b are compensation constants that have been stored in a compensation database 107 as part of an initialization procedure. In a multivariate system, where the measurement value comprises a tuple, for example the X, Y, 15 and Z-components measured by a tri-axial accelerometer, the compensation method can be expressed as:

$$x_{\text{corrected},j} = a_j + b_{i,1}x_{\text{raw},1} + b_{i,2}x_{\text{raw},2} + \dots + b_{i,N}x_{\text{raw},N},$$

where $x_{\text{raw},1}, x_{\text{raw},2}, \dots, x_{\text{raw},N}$ represent the N components of the measurement value tuple;

$x_{\text{corrected},i}$ represents the i -th component of the corrected measurement value tuple

20 $(x_{\text{corrected},1}, x_{\text{corrected},2}, \dots, x_{\text{corrected},N})$, and a_i and $b_{i,j}$, for $i, j = 1, 2, \dots, N$, are compensation constants that have been stored in a compensation database 107 as part of an initialization procedure. This example of a compensation method is particularly easy to implement. Other, potentially more flexible compensation methods are easily conceivable. Such methods include higher order polynomials, generalized linear models, other statistical methods, 25 artificial neural networks, and fuzzy logic methods.

Figure 5B shows an alternative embodiment of the method according to the invention for activity monitoring applicable to the case where the sensor 6 is attached at a position on the subject that is not a reference position. In step 110, the sensor 6 delivers a measurement value measured at the position where it is attached. After this, in step 111, the 30 activity parameter, in this case energy expenditure, is computed using the method of computing the corresponding energy expenditure disclosed in Plasqui. Finally, in step 112 the computed energy expenditure is compensated for the difference of the energy expenditure as

computed from the value measured at the position where the sensor 6 is attached and the “real” energy expenditure that would have been obtained if the sensor had been attached at the reference position. The compensation method, which is similar to the compensation method appearing in the embodiment according to Figure 5A, makes use of the information stored in the compensation database 113.

Figure 6 shows a diagram of an embodiment of a method of determining the position on the subject where the sensor 6 is attached and of computing the activity parameter, regardless of where the sensor was attached. In step 115, the measured value or a sequence of measured values is obtained from the sensor 6. Next, the position on the body is determined in step 116, using information from a feature database 117. To determine the position of the sensor 6 on the body, the signal from the sensor is analyzed for features that are position-dependent. Also, the subject is instructed to perform predefined standardized activities, such as walking, sitting, and standing, preferably for about 20 seconds each. Alternatively, the user can provide the activity monitor with input to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs. Combinations of the values during the standardized activities or the absolute measured values are used to determine the position of the sensor 6 on the subject. Thereto, a number of predefined rules are used. These rules can be in the form of “if...then” rules. An example of such a rule is: “if the measured value during walking is in the range of A to B times higher than during sitting, the sensor 6 is positioned on the lower arm”, where A and B are constants stored in the feature database 117. Another example of such a rule is: “if the measured value during walking is in the range of C to D , the sensor 6 is positioned on the leg”, where C and D are constants stored in the feature database 117. The rules can also be implemented in terms of fuzzy logic rules. Other ways to provide a set of rules, including for example neural network methods and logic programming, are obvious to the skilled artisan. In a preferred embodiment, the position of the sensor 6 on the subject is determined by means of pattern recognition. The pattern recognition can be performed for example by correlating a signal obtained from the sensor with a signal stored in the feature database 117. The pattern recognition can be performed in the time domain, the frequency domain, or another domain, preferably a time-frequency domain such as a wavelet domain. Pattern recognition can be performed in many ways known to the skilled artisan. For example, techniques used in speech recognition can be applied.

After the position of the sensor 6 on the subject has been determined in step 116, and the position is not a reference position (step 118, branch 122), in step 119 the

measured value is compensated for by the difference between the value at the position at which the sensor is attached and the corresponding value at a reference position, making use of the information in a compensation database 120, in a way similar to the embodiment according to Figure 5A. Finally, in step 121 the activity parameter is computed from the, possibly compensated, measured value, in a way similar to the embodiment according to Figure 5.

In another embodiment, the measured value is first converted to an activity parameter, and the activity parameter is used to determine the position of the sensor 6 on the subject in a way similar to what is described above. In that case, after the position has been determined, the computed activity parameter is compensated for the difference between the computed activity parameter and the corresponding activity parameter computed from a value measured at a reference position, while information stored in a compensation database is made use of in a way similar to the embodiment according to Figure 5B. It is also possible to use other quantities relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119.

Figure 7 shows a diagram of an embodiment of an initialization procedure for the compensation database. In this embodiment, a sequence of steps is performed iteratively. As a first step 130, i and j are both initialized to 1. Each iteration starts with step 131 comprising an instruction to the subject to perform predefined activity i . The instruction can comprise a spoken instruction to walk, sit, or stand, or it can for example comprise showing the activity on a display for a predefined duration. Then, in step 132 the subject performs the predefined activity i , while the sensor 6 attached at position j on the subject measures a physical value, in this case tri-axial acceleration, in step 133. Next, in step 134 the essential features are extracted from the measured value signal and stored in a feature database 135. These essential features may comprise decision rules or constants that are part of decision rules, similar to the constants A , B , C , and D appearing in the description of the embodiment according to Figure 6. Similarly, essential signal patterns can be stored in the time domain, frequency domain, time-frequency domain, or any other domain or combination of domains. Simultaneously, if position j is not a reference position (step 136, branch 145), in step 137 compensation parameters describing the difference between the measured value at the position of the sensor 6 on the subject and the corresponding value at a reference position are determined and stored in a compensation database 138. These compensation parameters may

comprise constants appearing in the compensation method, similar to the constants a , b , a_i , and $b_{i,j}$ occurring in the description of the embodiment according to Figure 5A.

To conclude an iteration, i is increased in step 139, and if i is smaller than or equal to the number of predefined activities (step 140, branch 147), the iteration steps are repeated; otherwise, j is increased in step 141, and if j is smaller than or equal to the predefined number of positions (step 142, branch 148), i is set to 1 in step 143 and the iteration steps are repeated. If j is greater than the predefined number of positions (step 142, branch 149), the initialization procedure is finished.

In general, this sequence could be paralleled further, for example by using a plurality of sensors 6 to measure the value at a plurality of positions on the subject simultaneously. In this embodiment, the steps of extracting compensation parameters and extracting essential signal features are performed in parallel. However, they can also be performed sequentially. In an alternative embodiment, the activity parameter is computed after the sensor 6 has delivered the signal in step 133, and before extracting essential features in step 134 and determining compensation parameters in step 137. It is also possible to compute at least one derived quantity from the values measured by the sensor 6, and perform the steps of extracting essential features and determining compensation parameters based on the derived quantity.

In another embodiment, the initialization of the compensation database and the feature database are performed on the basis of a population of subjects. All subjects are asked to perform the standardized activities, the measured values are obtained from the sensor 6 at multiple positions on the subject, and after the data of all subjects have been collected and stored in an intermediate database, the compensation database and the feature database are filled with values that are representative of the population. This embodiment has the advantage that the activity monitor needs to be initialized only once, possibly by the manufacturer, and after that an unlimited number of activity monitors can be produced using the same database values.

It will be appreciated that the invention also extends to computer programs, particularly computer programs on or in a carrier, adapted for putting the invention into practice. The program may be in the form of source code, object code, a code intermediate source and object code such as partially compiled form, or in any other form suitable for use in the implementation of the method according to the invention. The carrier may be any entity or device capable of carrying the program. For example, the carrier may include a

storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk. Further, the carrier may be a transmissible carrier such as an electrical or optical signal, which may be conveyed via electrical or optical cable or by radio or other means. When the program is embodied in such a signal, the carrier may be constituted by such cable or other device or means. Alternatively, the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for performing, or for use in the performance of, the relevant method.

A measuring system comprises a sensor arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises means for deriving a subject-related value from the measured value. The sensor is arranged to be attached at one of a plurality of positions on the subject. The measuring system further comprises means for establishing the position of the sensor on the subject. The means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.

It should be noted that the above-mentioned embodiments illustrate rather than limit the invention, and that those skilled in the art will be able to design many alternative embodiments without departing from the scope of the appended claims. In the claims, any reference signs placed between parentheses shall not be construed as limiting the claim. Use of the verb "to comprise" and its conjugations does not exclude the presence of elements or steps other than those stated in a claim. The article "a" or "an" preceding an element does not exclude the presence of a plurality of such elements. The invention may be implemented by means of hardware comprising several distinct elements, and by means of a suitably programmed computer. In the device claim enumerating several means, several of these means may be embodied by one and the same item of hardware. The mere fact that certain measures are recited in mutually different dependent claims does not indicate that a combination of these measures cannot be used to advantage.

CLAIMS:

1. A measuring system (1) comprising
- a sensor (6) arranged to be attached at one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, and
5 - means for establishing the position of the sensor on the subject, and
- means for deriving a subject-related value from the measured value also in dependence on the position of the sensor on the subject.

2. The measuring system (1) according to claim 1, wherein the plurality of
10 positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head.

3. The measuring system (1) according to claim 1, wherein the derived value
15 comprises an activity parameter of the subject.

4. The measuring system (1) according to claim 3, wherein the activity parameter
comprises energy expenditure.

5. The measuring system (1) according to claim 1, wherein the activity parameter
20 represents a degree of activity of the body part the sensor is attached to.

6. The measuring system (1) according to claim 1, wherein the measured value
comprises at least one of temperature, ECG, or acceleration, in particular tri-axial
acceleration.

7. The measuring system (1) according to claim 1, further comprising means for
25 selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset.

8. The measuring system (1) according to claim 1, further comprising
- means for converting the measured value into an estimated measured value
related to a reference position on the subject, and

5 - means for deriving the subject-related value from the estimated measured
value.

9. The measuring system (1) according to claim 1, wherein the means for
determining the position of the sensor on the subject is arranged for performing the
10 determining in dependence on the measured value.

10. The measuring system (1) according to claim 9, further comprising means for
obtaining from the sensor (6) a plurality of measured values measured during a time interval,
and wherein the means for determining the position of the sensor on the subject is arranged
15 for performing the determining in dependence on the measured values measured during the
time interval.

11. The measuring system (1) according to claim 9 or 10, wherein the means for
determining the position of the sensor (6) on the subject is arranged for performing the
20 determining on the basis of a predefined set of rules related to the measured value or
measured values measured during the time interval, respectively.

12. The measuring system (1) according to claim 10, wherein the means for
determining the position of the sensor (6) on the subject comprises means for performing a
25 pattern recognition of a signal derived from the measured values measured during the time
interval.

13. The measuring system (1) according to claim 9 or 10, further comprising
means for determining that the user is performing a standardized activity, and wherein the
30 means for determining the position of the sensor on the subject is arranged for using at least
one measured value obtained from the sensor (6), the measured value relating to a time the
user is performing the standardized activity.

14. The measuring system (1) according to claim 13, wherein the means for determining that the user is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value.

5 15. The measuring system (1) according to claim 13, further comprising a user interface for receiving input from a user to indicate when the subject is performing the standardized activity.

10 16. The measuring system (1) according to claim 1, further comprising a user interface for receiving input from a user related to the position of the sensor on the subject.

17. The measuring system (1) according to claim 1, further comprising
- means for establishing that the subject is performing a predetermined activity,

15 - storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,

- means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and

- means for providing feedback in dependence on the similarity measure.

20

18. The measuring system (1) according to claim 17, wherein the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities.

25

19. A measuring system (1) according to claim 1, further comprising a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the subject-related value is arranged for deriving the measured value also
30 in dependence on the further measured value.

20. A system for determining the calorie balance of a subject, the system comprising the measuring system (1) according to claim 4, means for monitoring food

consumption, and means for deriving the calorie balance using the derived energy expenditure.

21. A method of estimating a derived value relating to a subject, the method
5 comprising

- obtaining at least one measured value from a sensor (6) attached to the
subject, the measured value representing a physical or a physiological quantity of the subject,
and

- establishing the position of the sensor on the subject, and

10 - deriving the subject-related value from the measured value also in
dependence on the position of the sensor on the subject.

1/5

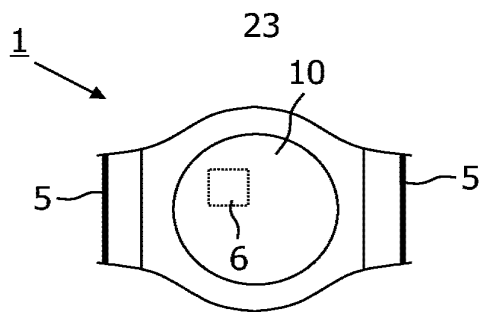


FIG. 1A

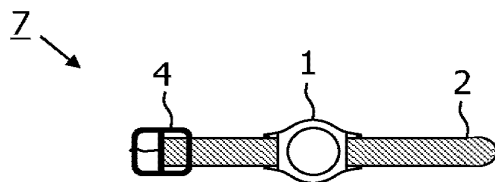


FIG. 1B

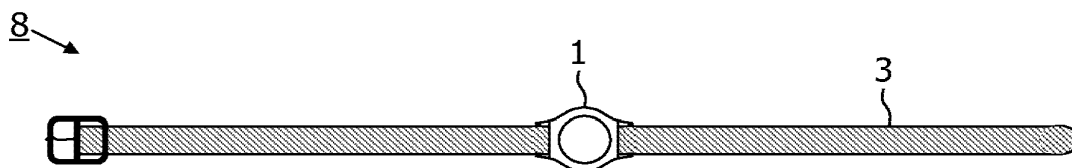


FIG. 1C

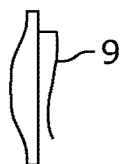


FIG. 1D

2/5

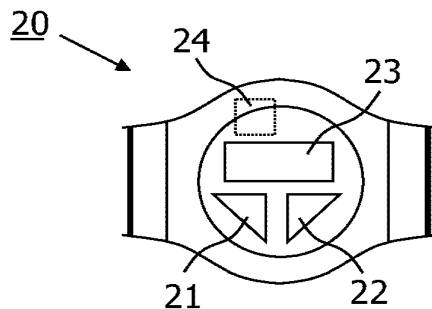


FIG. 2

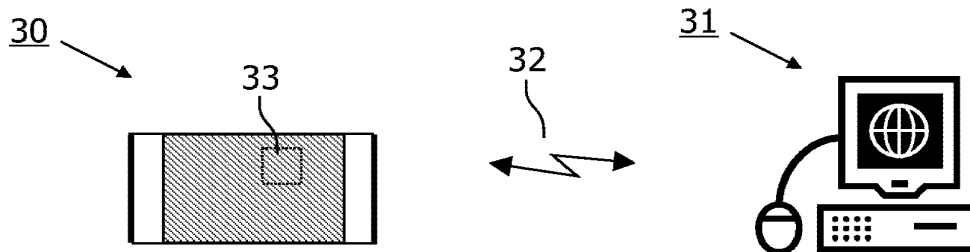


FIG. 3

3/5

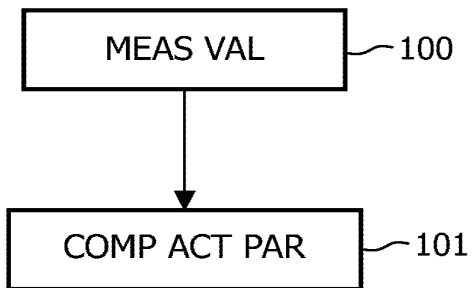


FIG. 4

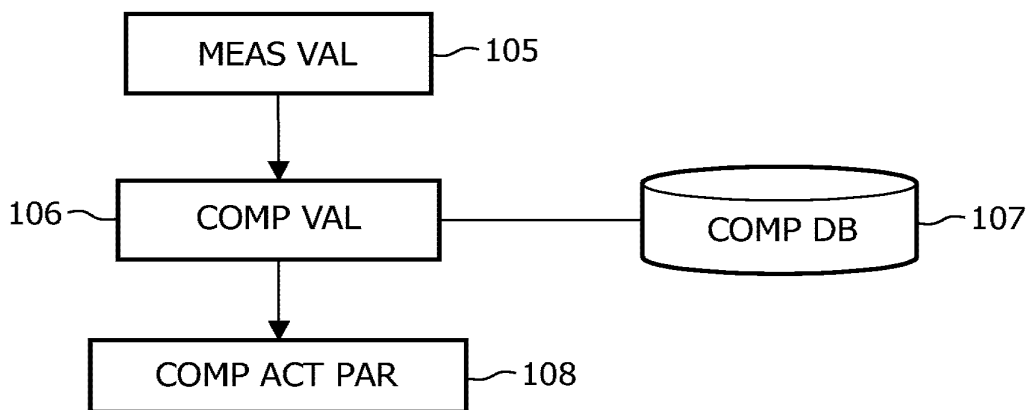


FIG. 5A

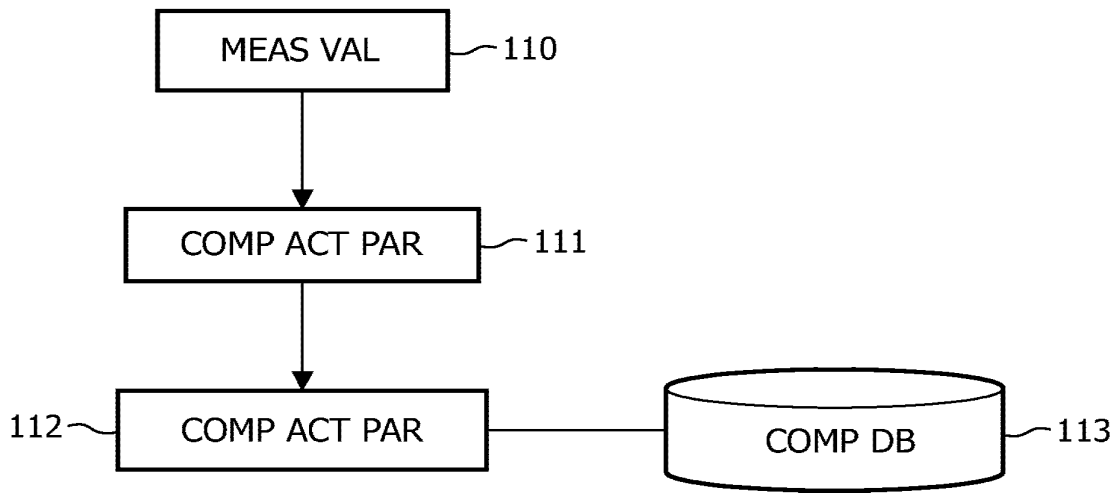


FIG. 5B

4/5

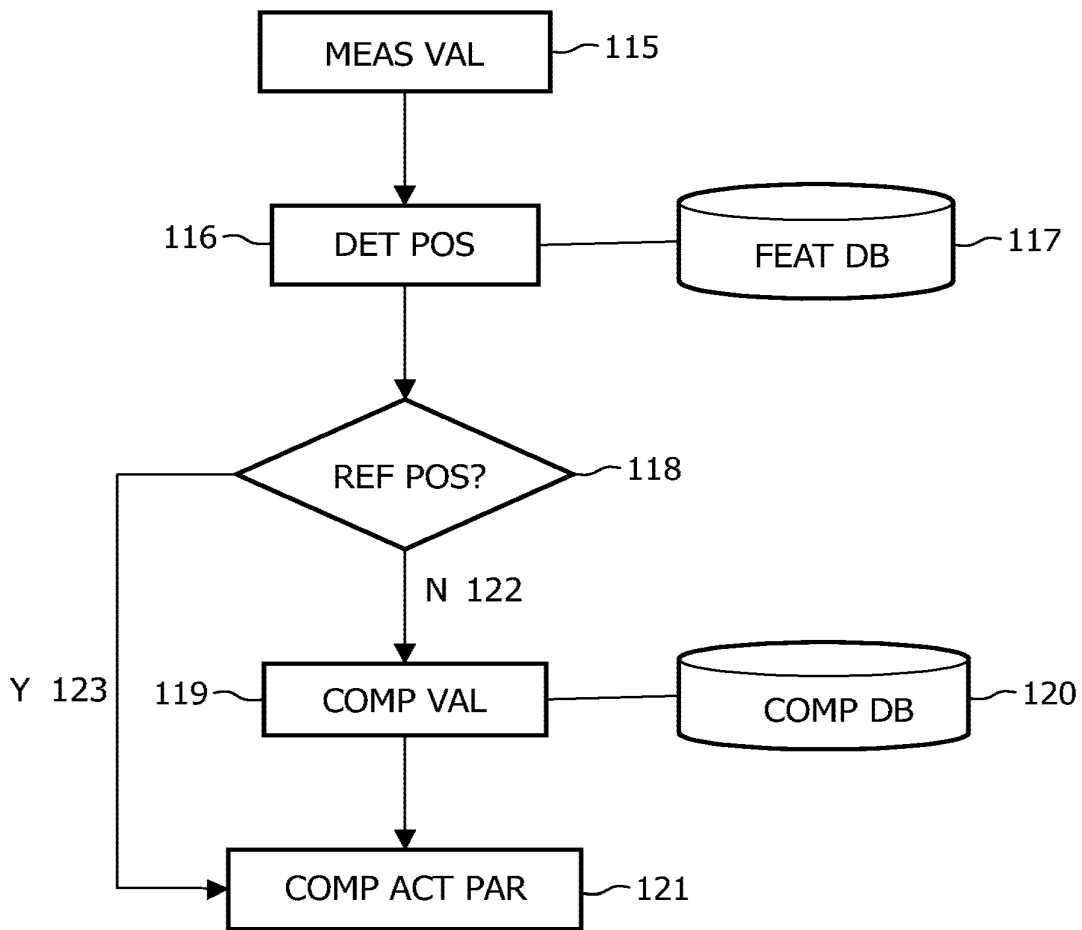
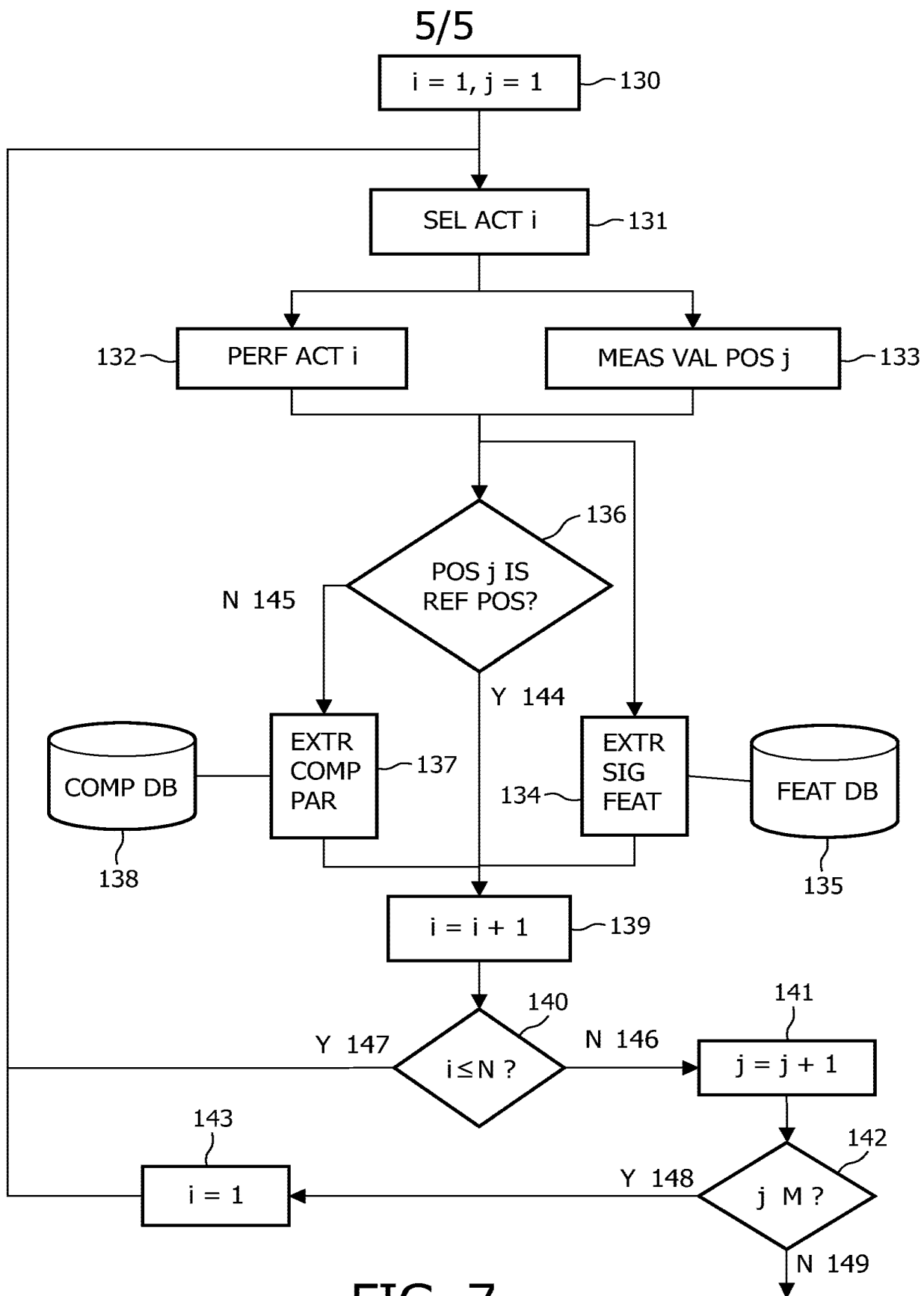


FIG. 6



(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 June 2007 (21.06.2007)

PCT

(10) International Publication Number
WO 2007/069127 A3

(51) International Patent Classification:
A61B 5/00 (2006.01)

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(21) International Application Number:
PCT/IB2006/054599

(22) International Filing Date:
5 December 2006 (05.12.2006)

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

(30) Priority Data:
05112250.5 15 December 2005 (15.12.2005) EP

(71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

(72) Inventors; and

Published:

— with international search report

(75) Inventors/Applicants (for US only): GORIS, Annelies [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). BODLAENDER, Maarten, P. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

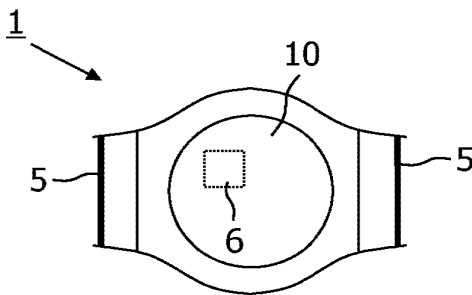
(74) Agents: DAMEN, Daniel, M. et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(88) Date of publication of the international search report:
18 October 2007

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETECTION AND COMPENSATION METHOD FOR MONITORING THE PLACE OF ACTIVITY ON THE BODY



(57) Abstract: A measuring system (1) comprises a sensor (6) arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises means for deriving a subject-related value from the measured value. The sensor is arranged to be attached at one of a plurality of positions on the subject. The measuring system further comprises means for establishing the position of the sensor on the subject. The means for deriving the subject-related value is arranged for deriving the subject-related value also in dependence on the position of the sensor on the subject.

WO 2007/069127 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2006/054599

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
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 practical, search terms used)
EPO-Internal, WPI Data, BIOSIS, COMPENDEX, EMBASE, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 111 826 A (NASIFF ROGER E [US]) 12 May 1992 (1992-05-12) column 4, lines 42-50 column 7, paragraph 2 -----	1-21
X	EP 1 254 629 A1 (OMRON TATEISI ELECTRONICS CO [JP] OMRON HEALTHCARE CO LTD [JP]) 6 November 2002 (2002-11-06) paragraphs [0052] - [0056], [0070] -----	1-21
A	US 2003/065257 A1 (MAULT JAMES R [US] ET AL) 3 April 2003 (2003-04-03) abstract -----	1-21

Further documents are listed in the continuation of Box C. 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	*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
E earlier document but published on or after the international filing date	*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
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)	*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.
O document referring to an oral disclosure, use, exhibition or other means	*&* document member of the same patent family
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 21 June 2007	Date of mailing of the international search report 02/07/2007
--	---

Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Clevorn, Jens
---	--

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2006/054599

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5111826	A	12-05-1992	NONE	
EP 1254629	A1	06-11-2002	AT 320754 T CN 1400882 A DE 60118236 T2 WO 0239893 A1 US 2004077958 A1	15-04-2006 05-03-2003 01-03-2007 23-05-2002 22-04-2004
US 2003065257	A1	03-04-2003	CA 2397133 A1 EP 1250085 A2 JP 2004509652 T WO 0152718 A2 US 2001049470 A1	26-07-2001 23-10-2002 02-04-2004 26-07-2001 06-12-2001

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/IB2006/054599

International filing date: 05 December 2006 (05.12.2006)

Document type: Certified copy of priority document

Document details: Country/Office: EP
Number: 05112250.5
Filing date: 15 December 2005 (15.12.2005)

Date of receipt at the International Bureau: 07 December 2006 (07.12.2006)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



#3349



Europäisches Patentamt
GD1

European Patent Office
DG1

Office européen des brevets
DG1

003603

IB/06/54599

Bescheinigung

Certificate

Attestation

Die angehefteten Unterlagen stimmen mit der ursprünglich eingereichten Fassung der auf dem nächsten Blatt bezeichneten europäischen Patentanmeldung überein.

The attached documents are exact copies of the European patent application described on the following page, as originally filed.

Les documents fixés à cette attestation sont conformes à la version initialement déposée de la demande de brevet européen spécifiée à la page suivante.

Patentanmeldung Nr.

Patent application No.

Demande de brevet n°

05112250.5 / EP05112250

The organization code and number of your priority application, to be used for filing abroad under the Paris Convention, is EP05112250

REC'D 07 DEC 2006
WIPO PCT RO/IB

Der Präsident des Europäischen Patentamts;
Im Auftrag
For the President of the European Patent Office
Le Président de l'Office européen des brevets
p.o.

R.C. van Dijk



Europäisches Patentamt
GD1

European Patent Office
DG1

Office européen des brevets
DG1

Anmeldung Nr:
Application no.: 05112250.5
Demande no:

Anmeldetag:
Date of filing: 15.12.05
Date de dépôt:

Anmelder/Applicant(s)/Demandeur(s):

Koninklijke Philips Electronics N.V.
Groenewoudseweg 1
5621 BA Eindhoven/NL

Bezeichnung der Erfindung/Title of the invention/Titre de l'invention:
(Falls die Bezeichnung der Erfindung nicht angegeben ist, siehe Beschreibung.
If no title is shown please refer to the description.
Si aucun titre n'est indiqué se referer à la description.)

Detection and compensation method for place of activity monitor on the body

In anspruch genommene Priorität(en) / Priority(ies) claimed / Priorité(s) revendiquée(s)
Staat/Tag/Aktenzeichen / State/Date/File no. / Pays/Date/Numéro de dépôt:

Internationale Patentklassifikation / International Patent Classification / Classification internationale de brevets:

A61B5/00

Am Anmeldetag benannte Vertragsstaaten / Contracting states designated at date of filing / Etats contractants désignées lors du dépôt:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Detection and compensation method for place of activity monitor on the body

FIELD OF THE INVENTION

The invention relates to a measuring system (1) comprising

- a sensor (6) arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, and
5 - means for deriving a derived value relating to the subject from the measured value.

The invention also relates to a system for determining the calorie balance of a subject, and to a method for estimating a derived value relating to a subject.

10 BACKGROUND OF THE INVENTION

Overweight and obesity are growing problems, for example over 60% of the American population can be classified as overweight or obese. Weight gain occurs when a human has a higher energy intake (food) than energy expenditure (resting metabolic rate + activity). Since this misbalance causes the weight gain problem, many weight loss programs
15 require that users log the food consumed and activities done in order to estimate the calorie balance.

Tables and equations exist for converting nutrition values and activities into calorie intake and expenditure, respectively. However, manual calorie counting is a cumbersome process requiring knowledge, time, effort, recording and discipline. Thus,
20 calorie logging is a problem for many people and hence it is a challenge for researchers to find a solution therefore.

In US patent application publication US2003/0065257, a combination of a diet and activity-monitoring device is described for monitoring both the consumption and activity of the subject. Such a monitoring device includes a body activity monitor for monitoring the
25 body activity of the subject. The body activity monitor is operable to output a signal indicative of the subject's body activity. An activity calculator may also be provided, which receives the activity indicative signal and determines body activity level and/or energy expenditure for the subject. The monitoring device may take the form of a wristwatch-style device or a belt or clothing-mounted monitor. The monitoring device may comprise a heart

rate monitor. The heart rate of the subject increases with activity and decreases when the subject is resting. The activity monitor may be calibrated using an indirect calorimeter. The heart rate sensor may be part of the wristwatch-style activity monitor, or it may be provided as a separate unit, for example in the form of a chest-strap, that communicates with the activity monitor.

The activity monitor may alternatively comprise a motion sensor such as a mechanical pendulum or a single or multi-axis accelerometer. An accelerometer is preferred since it may provide information on body movement as well as the direction and intensity of the movement. The motion sensor may form part of the wristwatch or belt or clothing mounted monitoring device or may be part of a separate accessory that communicates with the monitoring device. The body activity monitor may be calibrated to determine activity related energy expenditure using an indirect calorimeter.

As another alternative, the body activity monitor may include multiple modes for recording a variety of activities, such as swimming, biking, and use of stationary exercise equipment. The subject presses a start button and the body activity monitor will record the duration of the activity.

Furthermore, the monitoring device also preferably includes a consumption notation control for use by the subject to indicate when the subject consumes food. The body activity monitor and the consumption notation control can take a variety of forms. It can include a GPS antenna to determine the position of the subject using GPS signals. It can combine a time-indicative signal with the GPS signals to determine changes in position of the subject as well as the rate of change in position. This allows determination of movement or body activity. The device may be calibrated to determine caloric expenditure from the measured body activity.

Moreover, a position and/or activity discriminator can be included in or communicating with the body activity monitor. The discriminator functions to determine the position and/or activity of the subject by determining the proximity of the subject to various devices and locations, such as exercise equipment and buildings. For example, it may be determined that the subject is close to running shoes to discriminate the activity of running. In a more advanced configuration, proximity to running shoes may be combined with GPS signals, heart rate sensor and/or motion sensor output to allow the activity calculator to determine the type of activity being performed, the duration of the activity, and the intensity of the activity.

When the user first uses the system, he or she may designate certain movement patterns as correlating with certain activities. This will aid in calibrating the activity monitor.

5 Each of the described activity monitors and sensors are designed to be placed on a single position on the body. Bodily signals such as acceleration and ECG signals, are measured local to the position where the sensor is attached to the object. For example, acceleration measured by an accelerometer at the wrist includes motion of the arm, which is not detected by an accelerometer mounted at the waist.

10 The existing activity monitors, including for example a wrist strap or a waist belt, are often designed to be worn on one place on the body. The existing activity monitor is calibrated such that it provides accurate results if it is attached to a predefined location on the body. If the activity monitor is attached to a different location, the measured activity may be less accurate. If the activity monitor is not attached to the reference position, errors exceeding 5% in the estimation of energy expenditure may occur. This amounts to an error exceeding 15 approximately 100 kilocalories per day.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a measurement system that provides a more accurate estimate of a parameter relating to a subject.

20 According to the invention, this object is realized in that

- the sensor is arranged to be attached to one of a plurality of positions on the subject,

- the measuring system further comprises means for establishing the position of the sensor on the subject, and

25 - the means for deriving the derived value is arranged for deriving the derived value also in dependence on the position of the sensor on the subject.

With these provisions, the accuracy of the derived value is guaranteed for any of a plurality of positions on the body. The subject can attach the sensor to any preferred position on the body, and can preferably attach it to a different position whenever he or she 30 desires to do so.

Subjects may have different preferences where they prefer to wear the sensor, and the same subject may prefer to wear the sensor at different locations, depending on for example the location of the subject, the local weather, or the activity the subject is performing at any given time. Advantageously, a plurality of sensors are attached to different

positions on the subject and the means for deriving the derived value is arranged for combining the respective obtained measured values in order to increase the accuracy of the derived value.

5 The invention is particularly suitable for determining a derived value relating to a human or an animal.

According to an aspect of the invention, the plurality of positions includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head. This allows for an especially flexible use of the activity monitor, because the mentioned positions are especially well suited for measuring the activity
10 of the subject, and they are particularly convenient for wearing a sensor device.

According to another aspect of the invention, the derived value comprises an activity parameter of the subject. With this aspect, the measuring system becomes an activity monitor that enables to monitor the degree of activity performed by the subject. Other possible derived values include a temperature value or an ECG value that is automatically
15 compensated for the location of the sensor. Advantageously, the position of the sensor on the subject is established in dependence on an accelerometer measurement and a temperature or ECG value is compensated in dependence on the established position.

According to an aspect of the invention, the activity parameter comprises energy expenditure. This makes the activity monitor particularly suitable for use in weight
20 management.

According to another aspect of the invention, the activity parameter represents the degree of activity of the body part the sensor is attached to. When the position of the sensor on the subject is known, it becomes possible to monitor activity parameters related to a specific body part. For example, if the sensor is attached to the arm, the activity monitor
25 can track energy expenditure, and in addition can track local acceleration of the arm. For example, with additional information provided by fitness equipment, the forces applied to the arm can be estimated and combined with acceleration information provided by the sensor to obtain local energy expenditure. This enables subjects to optimize a training schedule to train a specific body part. Also, if a predefined safety limit is exceeded, this can be provided as
30 feedback to the user to avoid potentially dangerous situations.

According to an aspect of the invention, the measured value comprises at least one of temperature, ECG, or acceleration, in particular tri-axial acceleration. These examples of measured values are correlated to activity.

According to another aspect of the invention, the system further comprises means for selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected
5 subset. The subset may contain zero or more further physical and/or physiological quantities of the subject, for example temperature, ECG, or acceleration. This aspect allows the system to generate measurements that are particularly relevant to the body part the sensor is attached to. For example, a temperature measurement may provide relevant information when the temperature sensor is attached to the trunk of the body, and not when it is attached to, for
10 example, an ankle. The system can take this into account for example by disregarding, or compensating, temperature measurement if the sensor is attached to an ankle. Further physical and/or physiological quantities, such as heartbeat rate or temperature, can be used alongside for example a derived activity parameter in various health applications.

According to another aspect of the invention, the system further comprises
15 - means for converting the measured value to an estimated measured value related to a reference position on the subject, and

- means for deriving the derived value from the estimated measured value.

This aspect allows the measuring system to accurately measure, for example, an activity parameter with the sensor at one of a plurality of positions on the subject, even if
20 the measuring system is calibrated for only a single reference position, because the deviation of the measured value caused by wearing the activity monitor at a different position is compensated for. The accuracy can be increased even further by calibrating a plurality of reference positions. In case a plurality of reference positions is calibrated, and the sensor is attached to a position that is not a reference position, the means for converting can
25 compensate the measured value with respect to the nearest reference position or with respect to a weighted average of reference positions, thereby increasing the accuracy further.

Another aspect of the invention is characterized in that the means for determining the position of the sensor on the subject is arranged for performing the determining in dependence on the measured value. This allows the sensor to be attached to
30 different positions on the subject, without any additional user interaction to indicate the actual position of the device.

According to another aspect of the invention, it further comprises means for obtaining from the sensor a plurality of measured values measured during a time interval, and wherein the means for determining the position of the sensor on the subject is arranged for

performing the determining in dependence on the measured values measured during the time interval. This allows for an especially reliable determining of the position of the sensor.

According to another aspect of the invention, the means for determining the position of the sensor on the subject is arranged for performing the determining on the basis of a predefined set of rules related to the measured value or measured values measured during the time interval, respectively. A set of rules, preferably part of a rule-based system, possibly making use of fuzzy logic, is particularly suited for determining the position of the sensor.

According to another aspect of the invention, the means for determining the position of the sensor on the subject comprises means for performing a pattern recognition of a signal derived from the measured values measured during the time interval. Pattern recognition means is especially favorable to achieve a high reliability in establishing the position of the sensor on the subject.

According to an aspect of the invention, it further comprises means for determining that the user is performing a standardized activity, and the means for determining the position of the sensor on the subject is arranged for using at least one measured value obtained from the sensor, the measured value relating to a time the user is performing the standardized activity. This allows the activity monitor to determine the position of the device on the body with greater certainty. Preferably, the standardized activity has a repeating pattern with a cycle time of, for example, 1 to 2 seconds and the standardized activity is performed for at least five cycles.

According to another aspect of the invention, the means for determining that the user is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value. This increases the accuracy and reduces the amount of required user interaction.

Another aspect of the invention further comprises a user interface for receiving input from a user for indicating when the subject is performing the standardized activity. This allows a very economical implementation of the activity monitor.

Another aspect of the invention further comprises a user interface for receiving input from a user related to the position of the sensor on the subject. This allows a very economical implementation of the activity monitor.

Another aspect of the invention further comprises
- means for establishing that the subject is performing a predetermined activity,

- storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,
- means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and
- 5 - means for providing feedback in dependence on the similarity measure.

If the sensor position and the type of activity are known, the actual body movements can be compared to movements that are "optimal" for that particular activity. This translates in a measure of efficiency and proficiency in the selected activity. For example, inexperienced runners have a larger vertical acceleration component than
10 experienced runners. Optimal movement patterns can be looked up in a database with key (desired activity, body part), and a pattern-matching technique can be used to determine how the actual pattern compares to the optimal pattern. Moreover, suggestions to change movement patterns of the specific body part can be given, such as for example, "when
15 striking a ball with a racket, try to move in a continuous circular motion, and do not stop the motion after impact, to maximize acceleration of the ball upon impact". Alternatively, movements associated with health problems such as a baseball-arm, can be detected and feedback can be provided about the undesired movements.

According to another aspect of the invention, the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the
20 subject is performing at least one of a predetermined number of predetermined activities. This allows the activity monitor to distinguish between a pluralities of activities of the subject, so that feedback can be provided in relation to the established activity.

According to another aspect of the invention, it further comprises a further sensor arranged to be attached to the subject for obtaining a further measured value
25 representing a further physical or physiological quantity of the subject, and wherein the means for deriving the derived value is arranged for deriving the derived value also in dependence on the further measured value. Advantageously, a plurality of sensors are attached to different positions on the subject and the means for deriving the derived value is arranged for combining the respective obtained measured values in order to increase the
30 accuracy of the derived value. Advantageously, the sensors communicate with each other or with a central unit, for example by means of a wireless or wired connection, for coordinated processing of the obtained measured values.

The system for determining the calorie balance of a subject according to the invention is characterized in comprising the activity monitor set forth, means for monitoring

food consumption, and means for deriving the calorie balance using the derived energy expenditure. This system can provide accurate calorie balance because the activity parameter is determined with a high degree of accuracy.

The method according to the invention is characterized in that

- 5 - the method further comprises the step of determining the position of the sensor on the subject, and
- the step of deriving the derived value is performed also in dependence on the position of the sensor on the subject.

10 **BRIEF DESCRIPTION OF THE DRAWINGS**

These and other aspects of the method of the invention will be further elucidated and described with reference to the drawing, in which:

Figures 1 A,B,C,D show sketches of a device with attachment means that can be attached to several positions on a subject.

15 Figure 2 shows an activity monitor with user interface.

Figure 3 shows an activity monitor comprising a device with a sensor connected to a separate unit by means of a wireless link.

Figure 4 shows a diagram of an embodiment of the method according to the invention.

20 Figures 5 A,B show diagrams of embodiments of the measurement method according to the invention including the compensation method according to the invention.

Figure 6 shows a diagram of an embodiment of the method according to the invention including the method according to the invention to determine the position of the sensor on the subject.

25 Figure 7 shows a diagram of an embodiment of the method according to the invention including the compensation initialization method according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

30 Figure 1A shows an activity monitor 1 comprising a sensor 6 (shown in dotted lines), a display 10, and strap attachment means 5. The activity monitor 1 further comprises a microprocessor (not shown) for computing and displaying an activity parameter. The sensor 6 can comprise a single-axial or multi-axial accelerometer, a temperature sensor, an electrical sensor for measuring electrical body signals such as the ECG signal, a heart rate sensor, a pedometer, a global or local positioning system, or any other type of sensor. Such sensors are

known to the skilled artisan. Figure 1B shows the activity monitor 1, fixed to a short strap 2 with a buckle 4, and Figure 1C shows the activity monitor 1 fixed to a long strap 3. The short strap 2 is suitable for attaching the activity monitor to a wrist or ankle, while the long strap 3 is suitable for attaching the activity monitor to a waist or chest. Figure 1D shows a side view of the activity monitor illustrating a clip 9 fixed to the back of the activity monitor, enabling the possibility to attach the activity monitor to clothing. The activity monitor with accessories as shown can be attached to one of a plurality of positions on a subject. The display 10 can be a touch-screen display for having a subject provide input to the activity monitor.

Figure 2 shows an activity monitor 20 with at least one button 21,22, a display 23, and a sensor 24. The button can be used for receiving input from a user. Preferably, more buttons are provided to make it easier for the subject to provide different kinds of input to the activity monitor.

Figure 3 shows an activity monitor comprising a device 30 with a sensor 33. The device 30 does not have any buttons or display. The device 30 has means to communicate with a separate unit 31, preferably using a wireless link 32 such as WIFI or Bluetooth. The separate unit 31 is used to control the device 30. The separate unit 31, for example a personal computer or a personal digital assistant, comprises a microprocessor (not shown) for processing the information gathered by the device 30 by means of sensor 33. The separate unit 31 further comprises means to receive user input and to communicate the processed information to a user.

Figure 4 shows an embodiment of the method according to the invention for activity monitoring applicable to the case that the sensor 6 is attached to a reference position. In step 100, the sensor 6 delivers a measurement value at the reference position. Preferably, the sensor 6 is a tri-axial accelerometer, and the measurement value is a triple containing acceleration information in X, Y, and Z-direction. In step 101, the activity monitor computes the corresponding activity parameter, for example energy expenditure. For a tri-axial accelerometer attached to the back of the waist, a method to compute the corresponding energy expenditure is disclosed in "Daily physical activity, energy expenditure and physical fitness; assessment and implications" by Guy Plasqui, Ph.D. thesis, Maastricht University, 2004, referred to hereinafter as "Plasqui". The back of the waist is near the center of the body and a tri-axial accelerometer attached thereto provides a good estimation of overall movements.

Figure 5A shows an example embodiment of the method according to the invention for activity monitoring applicable to the case that the sensor 6 is attached to a

position on the subject that is not a reference position. In step 105, the sensor 6 delivers a measurement value measured at the position it is attached to. After that, in step 106, the measurement value is compensated for the difference of the value at the position the sensor 6 is attached to and the corresponding value at the reference position. After that, in step 108, the activity parameter, in this case energy expenditure, is computed using the method to compute the corresponding energy expenditure disclosed in Plasqui. The compensation method of step 106, in a very simple version, in this embodiment can be expressed as:

$$x_{\text{corrected}} = a + bx_{\text{raw}} ,$$

where x_{raw} represents the measured value at the position the sensor 6 is attached to, $x_{\text{corrected}}$ is the corrected measured value, and a and b are compensation constants that have been stored in a compensation database 107 as part of an initialization procedure. In a multivariate system, where the measurement value comprises a tuple, for example the X, Y, and Z-components measured by a tri-axial accelerometer, the compensation method can be expressed as:

$$x_{\text{corrected},i} = a_i + b_{i,1}x_{\text{raw},1} + b_{i,2}x_{\text{raw},2} + \dots + b_{i,N}x_{\text{raw},N} ,$$

where $x_{\text{raw},1}, x_{\text{raw},2}, \dots, x_{\text{raw},N}$ represent the N components of the measurement value tuple;

$x_{\text{corrected},i}$ represents the i -th component of the corrected measurement value tuple

$(x_{\text{corrected},1}, x_{\text{corrected},2}, \dots, x_{\text{corrected},N})$, and a_i and $b_{i,j}$, for $i, j = 1, 2, \dots, N$, are compensation

constants that have been stored in a compensation database 107 as part of an initialization

procedure. This example of a compensation method is particularly easy to implement. Other, potentially more flexible compensation methods are easily conceivable. Such methods include higher order polynomials, generalized linear models, other statistical methods, artificial neural networks, and fuzzy logic methods.

Figure 5B shows an alternative embodiment of the method according to the invention for activity monitoring applicable to the case that the sensor 6 is attached to a position on the subject that is not a reference position. In step 110, the sensor 6 delivers a measurement value measured at the position it is attached to. After that, in step 111, the activity parameter, in this case energy expenditure, is computed using the method to compute the corresponding energy expenditure disclosed in Plasqui. Finally, in step 112 the computed energy expenditure is compensated for the difference of the energy expenditure as computed from the value measured at the position the sensor 6 is attached to and the “real” energy expenditure, that would have been obtained if the sensor had been attached to the reference

position. The compensation method, which is similar to the compensation method appearing in the embodiment according to Figure 5A, makes use of the information stored in the compensation database 113.

5 Figure 6 shows a diagram of an embodiment of a method to determine the position on the subject the sensor 6 is attached to and to compute the activity parameter, regardless of where the sensor was attached. In step 115, the measured value or a sequence of measured values are obtained from the sensor 6. Next, the position on the body is determined in step 116, using information from a feature database 117. To determine the position of the sensor 6 on the body, the signal from the sensor is analyzed for features that are position-
10 dependent. Also, the subject is instructed to perform predefined standardized activities, such as walking, sitting, and standing, preferably for about 20 seconds each. Alternatively, the user can provide input to the activity monitor to indicate when he or she performs a standardized activity, and possibly, which standardized activity he or she performs. Combinations of the values during the standardized activities or the absolute measured values are used to
15 determine the position of the sensor 6 on the subject. Thereto, a number of predefined rules are used. These rules can be in the form of "if...then" rules. An example of such a rule is: "if the measured value during walking is in the range of A to B times higher than during sitting, the sensor 6 is positioned on the lower arm", where A and B are constants stored in the feature database 117. Another example of such a rule is: "if the measured value during
20 walking is in the range of C to D , the sensor 6 is positioned on the leg", where C and D are constants stored in the feature database 117. The rules can also be implemented in terms of fuzzy logic rules. Other ways to provide a set of rules, including for example neural network methods and logic programming, are obvious to the skilled artisan. In a preferred embodiment, the position of the sensor 6 on the subject is determined by means of pattern
25 recognition. The pattern recognition can be performed for example by correlating a signal obtained from the sensor with a signal stored in the feature database 117. The pattern recognition can be performed in the time domain, the frequency domain, or another domain, preferably a time-frequency domain such as a wavelet domain. Pattern recognition can be performed in many ways known to the skilled artisan. For example, techniques used in
30 speech recognition can be applied.

After the position of the sensor 6 on the subject has been determined in step 116, and the position is not a reference position (step 118, branch 122), in step 119 the measured value is compensated for the difference between the value at the position the sensor is attached to and the corresponding value at a reference position, making use of the

information in a compensation database 120, in a way similar to the embodiment according to Figure 5A. Finally, in step 121 the activity parameter is computed from the, possibly compensated, measured value, in a way similar to the embodiment according to Figure 5.

5 In another embodiment, the measured value is first converted to an activity parameter, and the activity parameter is used to determine the position of the sensor 6 on the subject in a way similar to what is described above. In that case, after the position has been determined, the computed activity parameter is compensated for the difference between the computed activity parameter and the corresponding activity parameter computed from a value measured at a reference position, making use of information stored in a compensation
10 database, in a way similar to the embodiment according to Figure 5B. It is also possible to use other quantities, relating to measured values obtained from the sensor 6, in the step to determine the position 116 and/or in the step to compensate for the difference 119.

Figure 7 shows a diagram of an embodiment of an initialization procedure for the compensation database. In this embodiment, a sequence of steps is performed iteratively.
15 As a first step 130, i and j are both initialized to 1. Each iteration starts with step 131 comprising an instruction to the subject to perform predefined activity i . The instruction can comprise a spoken instruction to walk, sit, or stand, or it can for example comprise showing the activity on a display for a predefined duration. Then, in step 132 the subject performs the predefined activity i , while the sensor 6 attached to position j on the subject measures a
20 physical value, in this case tri-axial acceleration, in step 133. Next, in step 134 the essential features are extracted from the measured value signal and stored in a feature database 135. These essential features may comprise decision rules or constants that are part of decision rules, similar to the constants A , B , C , and D appearing in the description of the embodiment according to Figure 6. Similarly, essential signal patterns can be stored in the time domain,
25 frequency domain, time-frequency domain, or any other domain or combination of domains. Simultaneously, if position j is not a reference position (step 136, branch 145), in step 137 compensation parameters describing the difference between the measured value at the position of the sensor 6 on the subject and the corresponding value at a reference position are determined and stored in a compensation database 138. These compensation parameters can
30 comprise constants appearing in the compensation method, similar to the constants a , b , a_i , and $b_{i,j}$ occurring in the description of the embodiment according to Figure 5A.

To conclude an iteration, i is increased in step 139, and if i is smaller than or equal to the number of predefined activities (step 140, branch 147), the iteration steps are

repeated; otherwise, j is increased in step 141, and if j is smaller than or equal to the predefined number of positions (step 142, branch 148), i is set to 1 in step 143 and the iteration steps are repeated. If j is greater than the predefined number of positions (step 142, branch 149), the initialization procedure is finished.

5 In general, this sequence could be parallelized further, for example by using a plurality of sensors 6 to measure the value at a plurality of positions on the subject simultaneously. In this embodiment, the steps of extracting compensation parameters and extracting essential signal features are performed in parallel. However, they can also be performed sequentially. In an alternative embodiment, the activity parameter is computed
10 after the sensor 6 has delivered the signal in step 133, and before extracting essential features in step 134 and determining compensation parameters in step 137. It is also possible to compute at least one derived quantity from the values measured by the sensor 6, and perform the steps of extracting essential features and determining compensation parameters based on the derived quantity.

15 In another embodiment, the initialization of the compensation database and the feature database are performed on the basis of a population of subjects. All subjects are asked to perform the standardized activities, the measured values are obtained from the sensor 6 at multiple positions on the subject, and after the data of all subjects has been collected and stored in an intermediate database, the compensation database and the feature database are
20 filled with values that are representative for the population. This embodiment has the advantage that the activity monitor needs to be initialized only once, possibly by the manufacturer, and after that an unlimited number of activity monitors can be produced using the same database values.

 It will be appreciated that the invention also extends to computer programs,
25 particularly computer programs on or in a carrier, adapted for putting the invention into practice. The program may be in the form of source code, object code, a code intermediate source and object code such as partially compiled form, or in any other form suitable for use in the implementation of the method according to the invention. The carrier may be any entity or device capable of carrying the program. For example, the carrier may include a
30 storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk. Further the carrier may be a transmissible carrier such as an electrical or optical signal, which may be conveyed via electrical or optical cable or by radio or other means. When the program is embodied in such a signal, the carrier may be constituted by such cable or other device or means. Alternatively,

the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for performing, or for use in the performance of, the relevant method.

It should be noted that the above-mentioned embodiments illustrate rather than limit the invention, and that those skilled in the art will be able to design many alternative
5 embodiments without departing from the scope of the appended claims. In the claims, any reference signs placed between parentheses shall not be construed as limiting the claim. Use of the verb "comprise" and its conjugations does not exclude the presence of elements or steps other than those stated in a claim. The article "a" or "an" preceding an element does not
10 exclude the presence of a plurality of such elements. The invention may be implemented by means of hardware comprising several distinct elements, and by means of a suitably programmed computer. In the device claim enumerating several means, several of these means may be embodied by one and the same item of hardware. The mere fact that certain measures are recited in mutually different dependent claims does not indicate that a combination of these measures cannot be used to advantage.

CLAIMS:

1. A measuring system (1) comprising
 - a sensor (6) arranged to be attached to one of a plurality of positions on a subject for obtaining a measured value representing a physical or a physiological quantity of the subject, and
 - 5 - means for establishing the position of the sensor on the subject, and
 - means for deriving a derived value relating to the subject from the measured value also in dependence on the position of the sensor on the subject.

2. The measuring system according to claim 1, wherein the plurality of positions
10 includes at least two of the following: a wrist, a lower arm, an upper arm, a lower leg, an upper leg, a waist, a chest, a neck, a head.

3. The measuring system according to claim 1, wherein the derived value
15 comprises an activity parameter of the subject.

4. The measuring system according to claim 3, wherein the activity parameter
comprises energy expenditure.

5. The measuring system according to claim 1, wherein the activity parameter
20 represents a degree of activity of the body part the sensor is attached to.

6. The measuring system according to claim 1, wherein the measured value
comprises at least one of temperature, ECG, or acceleration, in particular tri-axial
acceleration.

- 25 7. The measuring system according to claim 1, further comprising means for selecting a subset of a predefined set of further physical and/or physiological quantities of the subject in dependence on the position of the sensor on the subject, and the sensor is arranged for generating a further measured value for each quantity in the selected subset.

8. The measuring system according to claim 1, further comprising
- means for converting the measured value to an estimated measured value
related to a reference position on the subject, and

5 - means for deriving the derived value from the estimated measured value.

9. The measuring system according to claim 1, wherein the means for
determining the position of the sensor on the subject is arranged for performing the
determining in dependence on the measured value.

10

10. The measuring system according to claim 9, further comprising means for
obtaining from the sensor a plurality of measured values measured during a time interval, and
wherein the means for determining the position of the sensor on the subject is arranged for
performing the determining in dependence on the measured values measured during the time
interval.

15

11. The measuring system according to claim 9 or 10, wherein the means for
determining the position of the sensor on the subject is arranged for performing the
determining on the basis of a predefined set of rules related to the measured value or
measured values measured during the time interval, respectively.

20

12. The measuring system according to claim 10, wherein the means for
determining the position of the sensor on the subject comprises means for performing a
pattern recognition of a signal derived from the measured values measured during the time
interval.

25

13. The measuring system according to claim 9 or 10, further comprising means
for determining that the user is performing a standardized activity, and wherein the means for
determining the position of the sensor on the subject is arranged for using at least one
measured value obtained from the sensor, the measured value relating to a time the user is
performing the standardized activity.

30

14. The measuring system according to claim 13, wherein the means for determining that the user is performing a standardized activity is arranged for performing the determining in dependence on at least one measured value.

5 15. The measuring system according to claim 13, further comprising a user interface for receiving input from a user for indicating when the subject is performing the standardized activity.

10 16. The measuring system according to claim 1, further comprising a user interface for receiving input from a user related to the position of the sensor on the subject.

17. The measuring system according to claim 1, further comprising
- means for establishing that the subject is performing a predetermined activity,

15 - storage means for storing at least one pattern related to performing the predetermined activity in a predetermined manner,

- means for determining a similarity measure relating to a signal representing the derived value and the stored pattern, and
means for providing feedback in dependence on the similarity measure.

20

18. The measuring system according to claim 17, wherein the means for establishing that the subject is performing the predetermined activity is arranged for establishing that the subject is performing at least one of a predetermined number of predetermined activities.

25

19. A measuring system according to claim 1, further comprising a further sensor arranged to be attached to the subject for obtaining a further measured value representing a further physical or physiological quantity of the subject, and wherein the means for deriving the derived value is arranged for deriving the derived value also in dependence on the further
30 measured value.

20. A system for determining the calorie balance of a subject, the system comprising the measuring system according to claim 4, means for monitoring food

consumption, and means for deriving the calorie balance using the derived energy expenditure.

21. A method for estimating a derived value relating to a subject, comprising

5 - obtaining at least one measured value from a sensor (6) attached to the subject, the measured value representing a physical or a physiological quantity of the subject, and

- establishing the position of the sensor on the subject, and

- deriving the derived value from the measured value also in dependence on

10 the position of the sensor on the subject.

ABSTRACT:

A measuring system (1) comprises a sensor (6) arranged to be attached to a subject for obtaining a measured value representing a physical or a physiological quantity of the subject. The measuring system further comprises means for deriving a derived value relating to the subject from the measured value. The sensor is arranged to be attached to one of a plurality of positions on the subject. The measuring system further comprises means for establishing the position of the sensor on the subject. The means for deriving the derived value is arranged for deriving the derived value also in dependence on the position of the sensor on the subject.

10 Figure 1A.

PH003603EP1

1/5

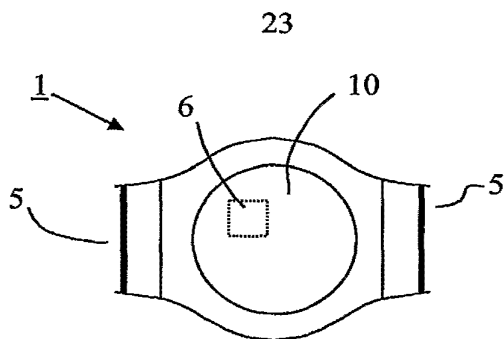


FIG. 1A

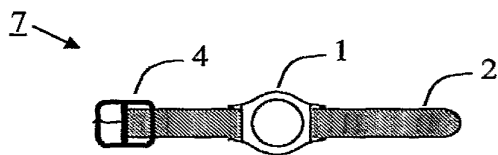


FIG. 1B

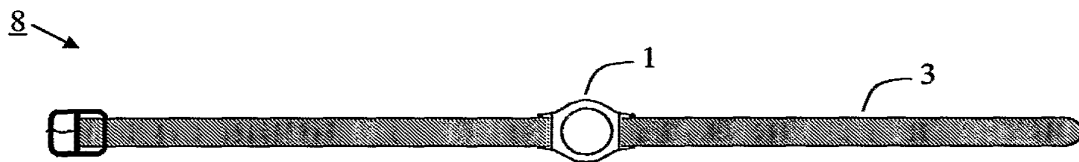


FIG. 1C



FIG. 1D

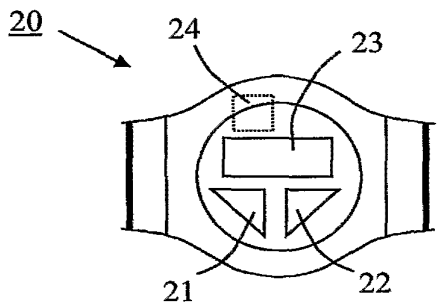


FIG. 2

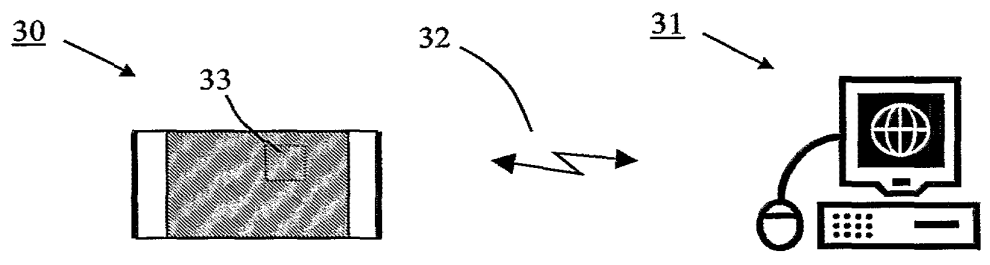


FIG. 3

3/5

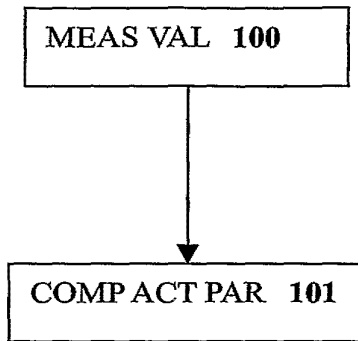


FIG. 4

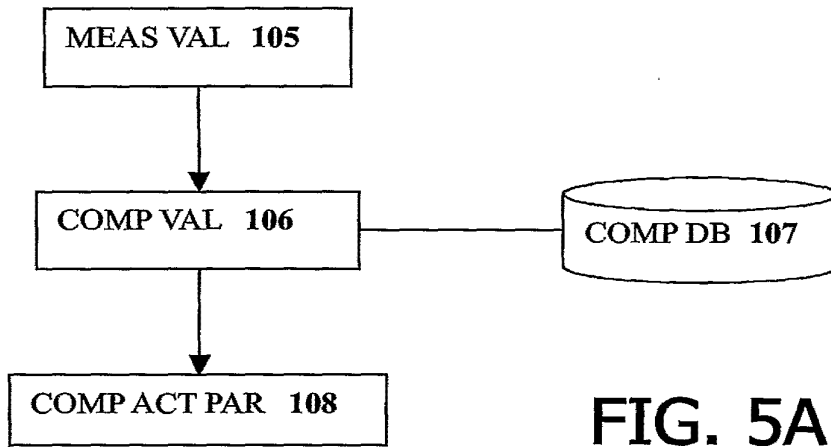


FIG. 5A

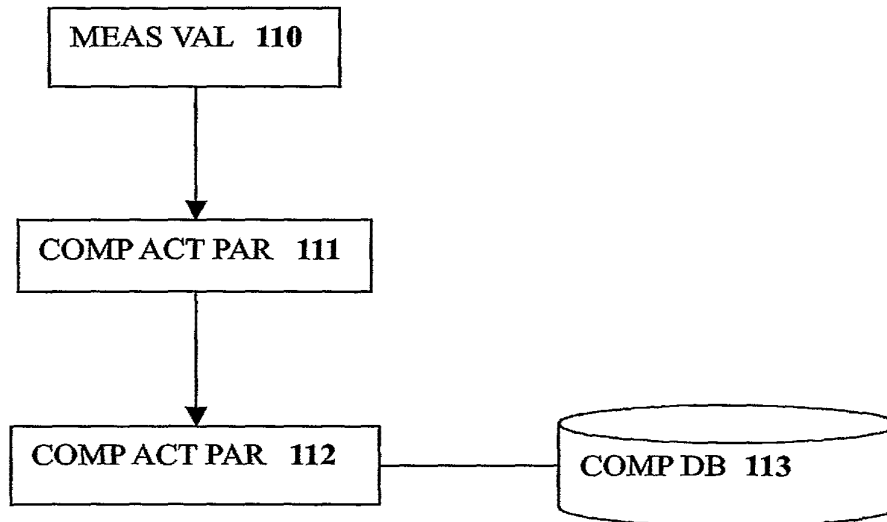


FIG. 5B

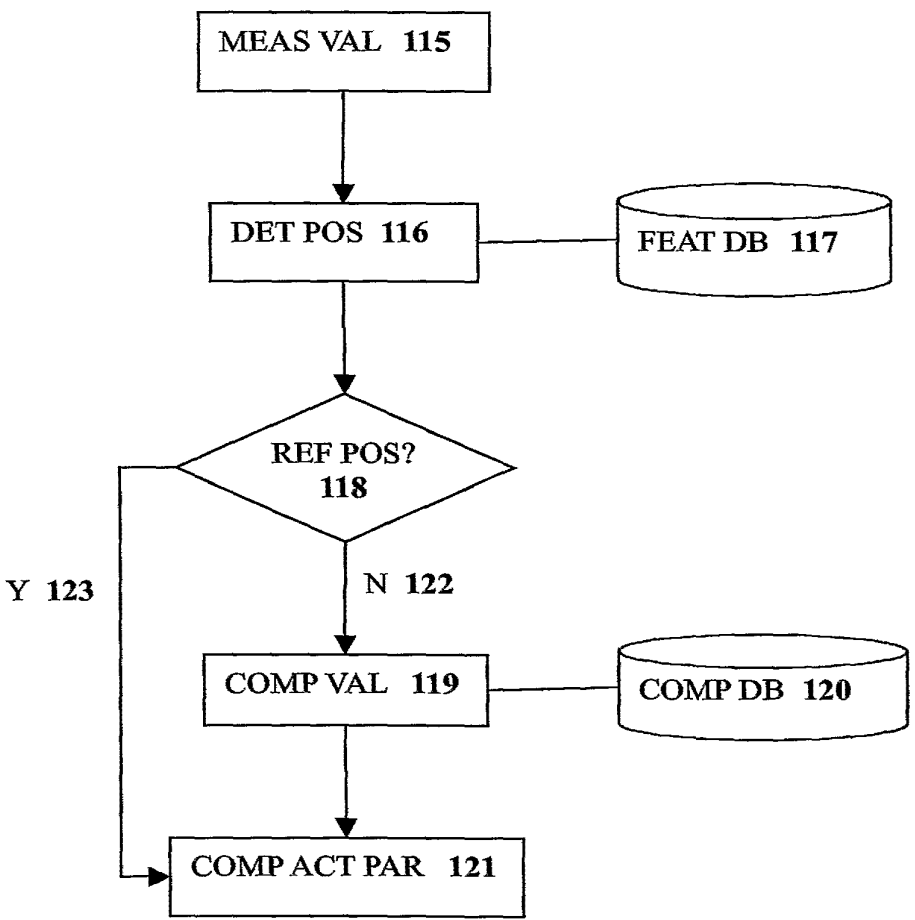


FIG. 6

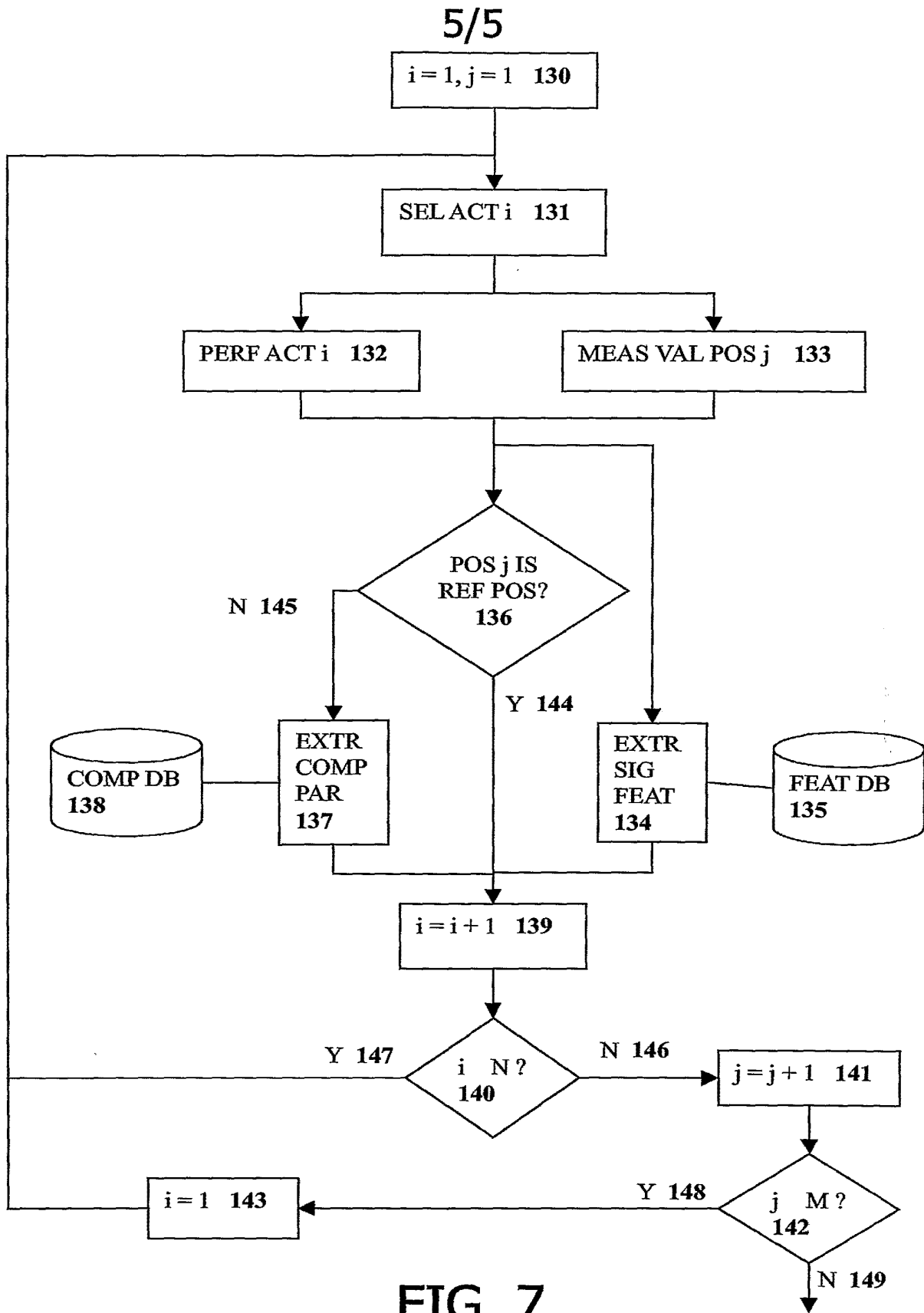


FIG. 7

PCT

Paper Copy (NOT for submission)

VIII-2-1	Declaration: Entitlement to apply for and be granted a patent Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate: Name (LAST, First)	in relation to this international application KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled to apply for and be granted a patent by virtue of the following:
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, GORIS, Annelies
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, BODLAENDER, Maarten, P.