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[Continued on next page]

(54) Title: CLOSED LOOP ATHLETE TRAINING SYSTEM

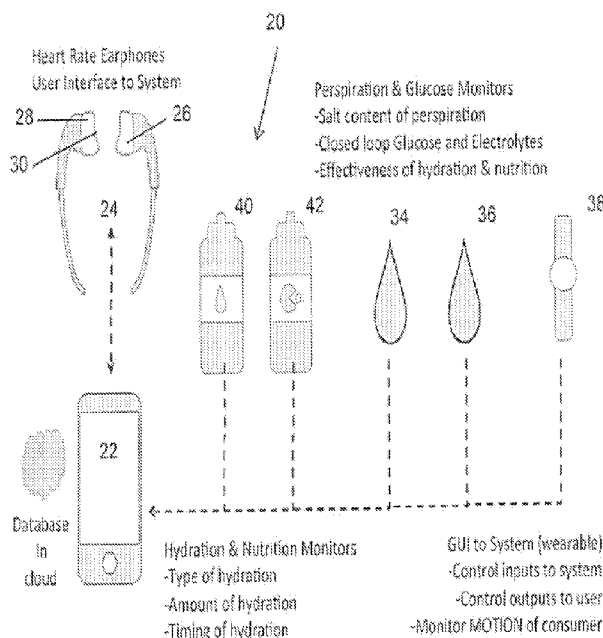


Fig 1

(57) Abstract: An athletic training system includes a personal electronic device having a processor, a memory, and a GPS sensor. The processor runs an application that calculates at least one of distance traveled, elevation change, and speed, of the user carrying the personal electronic device, and based upon location information obtained from the GPS sensor provides a training-related message to the user based upon at least one of the calculated distance traveled, elevation change, and speed.

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UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

11 December 2014

Published:

— *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2014/030637

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

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

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

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

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

See last page.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-10

Remark on Protest

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

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2014/030637

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61B 5/16 (2014.01)

USPC - 600/301

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)

IPC(8) - A61B 5/16 (2014.01)

USPC - 434/247; 600/301

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

CPC - A61B 5/0205, 5/0002, 5/16 (2014.09)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Orbit, Google Patents, Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---	US 2012/0078396 A1 (CASE et al) 29 March 2012 (29.03.2012) entire document	1-4,6 ---
Y	US 2012/0226112 A1 (LEBOEUF et al) 06 September 2012 (06.09.2012) entire document	5,7-10
Y	US 2012/0226112 A1 (LEBOEUF et al) 06 September 2012 (06.09.2012) entire document	5,7-10
Y	WO 2008/030484 A2 (RILEY et al) 13 March 2008 (13.03.2008) entire document	8,9
A	US 2010/0273610 A1 (JOHNSON) 28 October 2010 (28.10.2010) entire document	1-10
A	US 2012/0116550 A1 (HOFFMAN et al) 10 May 2012 (10.05.2012) entire document	1-10

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

30 September 2014

Date of mailing of the international search report

14 OCT 2014

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2014/030637

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1-10, drawn to an athletic training system for selecting songs and providing training messages based on at least one of calculated distance traveled, elevation change, and speed.

Group II, claim 11, drawn to an athletic training system including a calendar application that allows the user to schedule athletic training activities, the processor adjusting the times of athletic training activities based upon estimated sleep times of the user based upon usage of the cellular and data communication system.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the special technical feature of the Group I invention: a GPS sensor; an application that calculates at least one of distance traveled, elevation change, and speed, of the user carrying the personal electronic device based upon location information obtained from the GPS sensor, selects one or more songs stored in the memory to play to the user, and provides a training-related message to the user based upon at least one of the calculated distance traveled, elevation change, and speed as claimed therein is not present in the invention of Group II. The special technical feature of the Group II invention: a cellular and data communication system and a calendar application that allows the user to schedule athletic training activities, the processor adjusting the times of athletic training activities based upon estimated sleep times of the user based upon usage of the cellular and data communication system as claimed therein is not present in the invention of Group I.

Groups I and II lack unity of invention because even though the inventions of these groups require the technical feature of an athletic training system comprising: a personal electronic device comprising a processor and memory, this technical feature is not a special technical feature as it does not make a contribution over the prior art. Specifically, US 2012/0078396 A1 (CASE et al) 29 March 2012 (29.03.2012) teaches an athletic training system (athletic performance monitoring systems and methods, [abstract]) comprising: a personal electronic device (portable/wearable display 110, [0043]; fig.1) comprising a processor (microprocessor provided with the system optionally in the portable portion of the system, in the personal computer, etc., [0061]), and a memory (Data collected by one or more of the various monitors, e.g., 102, 104, 106, and 108, during the course of an athletic performance may be transmitted to the portable display device 110 either during and/or after the performance and, if desired, portable portions of the system 100 may include memory that stores data associated with the athletic performance, [0046]).

Since none of the special technical features of the Group I or II inventions are found in more than one of the inventions, unity of invention is lacking.