UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/599,424	01/16/2015	Christopher D. Soli	P23397US3/77770000376103	3136

150004 7590 12/07/2022

DENTONS US LLP - Apple
4655 Executive Dr
Suite 700
San Diego, CA 92121

EXAMINER	
LAM, ELIZA ANNE	

ART UNIT	PAPER NUMBER
3686	

NOTIFICATION DATE	DELIVERY MODE
12/07/2022	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):

dentons_PAIR@firsttofile.com
patent.docket@dentons.com
patents.us@dentons.com

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Patent No.: 10270898
Issue Date: 04/23/2019
Appl. No.: 14/599,424
Filed: 01/16/2015

PART (A) RESPONSE FOR CERTIFICATES OF CORRECTION

This is a decision on the Certificate of Correction request filed ____.

The request for issuance of Certificate of Correction for the above-identified correction(s) under the provisions of 37 CFR 1.322 and/or 1.323 is hereby:

(Check one)
☐ Approved ☐ Approved in Part ☐ Denied

Comments: ____

PART (B) PETITION UNDER 37 CFR 1.324 OR 37 CFR 1.48

☑ This is a decision on the petition filed 01 December 2022 to correct inventorship under 37 CFR 1.324.

☐ This is a decision on the request under 37 CFR 1.48, petition filed ____. In view of the fact that the patent has already issued, the request under 37 CFR 1.48 has been treated as a petition to correct inventorship under 37 CFR 1.324.

The petition is hereby: ☑ Granted ☐ Dismissed

Comment: ____

The patented filed is being forwarded to Certificate of Corrections Branch for issuance of a certificate naming only the actual inventor or inventors.

/JASON B DUNHAM/
Supervisory Patent Examiner, Art Unit 3686
Technology Center 3600
Phone: (571)272-8109

Certificates of Correction Branch email: CustomerServiceCoC@uspto.gov CoC Central Phone Number: (703) 756-1814

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7674631

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KEVIN M. LYNCH	11/05/2022
DIVYA NAG	10/30/2022
AROON PAHWA	10/31/2022

RECEIVING PARTY DATA

Name:	APPLE INC.
Street Address:	ONE APPLE PARK WAY
City:	CUPERTINO
State/Country:	CALIFORNIA
Postal Code:	95014

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14599424

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 2142590919
Email: andrew.joseph@dentons.com, patent.docket@dentons.com
Correspondent Name: BENJAMIN BOLIN
Address Line 1: DENTONS US LLP
Address Line 2: 2000 MCKINNEY AVENUE, SUITE 1900
Address Line 4: DALLAS, TEXAS 75201-1858

ATTORNEY DOCKET NUMBER:	P23397US3/77770000376103
NAME OF SUBMITTER:	BENJAMIN BOLIN
SIGNATURE:	/Benjamin Bolin/
DATE SIGNED:	12/02/2022
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 6
source=P23397US3_Assignment#page1.tif
source=P23397US3_Assignment#page2.tif

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source=P23397US3_Assignment#page4.tif
source=P23397US3_Assignment#page5.tif
source=P23397US3_Assignment#page6.tif

ASSIGNMENT

This Assignment is by:

Kevin M. LYNCH
c/o Apple Inc.
One Apple Park Way
Cupertino, California 95014

(referred to in this Assignment as "Assignor"), whose residence or mailing address information is listed above.

This Assignment is to:

Assignee: Apple Inc.
Address: One Apple Park Way, Cupertino, California 95014
A juristic entity duly organized under and pursuant to the laws of: California

(referred to in this Assignment as "Assignee"), which desires to acquire the entire right, title and interest in, to and under said patent application and the inventions covered thereby.

Assignor has invented certain new and useful inventions in:

WELLNESS AGGREGATOR

for which the following application has been filed in the United States of America:

Serial No.: 14/599,424 Filing Date: January 16, 2015

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged,

1. Assignor hereby sells, assigns, transfers and sets over or acknowledges that Assignor has sold, assigned, transferred and set over, to Assignee, its successors, legal representatives and assigns, Assignor's entire right (including the right to claim priority), title and interest in and to the above-mentioned inventions, provisional application and application for letters patent, any and all provisionals, non-provisionals, divisions, continuations, and continuations-in-part claiming priority thereto or the benefit thereof, substitutions of said applications, and any and all letters patent or patents in the United States of America and all foreign countries or jurisdictions which may be granted therefor and thereon, including, without limitation, any modifications to such letters patent or patents such as through reissue, re-examination or other post-grant proceeding, any and all extensions of said letters patent or patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee (including any right to institute actions and to recover for past, present and future infringement), for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which letters patent or patents may be granted, as fully and entirely as the same would have been held and enjoyed by Assignor, had this sale and assignment not been made.

2. Assignor represents, warrants and covenants (a) that, at the time of execution and delivery of this agreement, Assignor is a lawful owner of a right, title and interest in and to said inventions and said non-provisional application and application for letters patent, and that the same are unencumbered and that Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth in this agreement, or (b) that Assignor lawfully owned a right, title and interest in and to said inventions and said non-provisional application and application for letters patent, and that the same were unencumbered and that Assignor sold, assigned, transferred and set over to Assignee and its successors, legal representatives and assigns, the right, title and interest in and to said inventions and said non-provisional application and application for letters patent.

3. Assignor shall promptly sign and execute all papers and documents, take all lawful oaths, and do all acts necessary, required or useful for the procurement, maintenance, enforcement, defense or otherwise to secure title thereto to the Assignee, at the sole cost and expense of Assignee, its successors, legal representatives and assigns, in each case including, without limitation, arising from or relating to (a) said inventions, or said non-provisional application and application for letters patent; (b) any division, continuation, or continuation-in-part claiming priority thereto or the

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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benefit thereof, or any substitution of any such application, or (c) any letters patent or patents for said inventions in any country or jurisdiction, including, without limitation, any modifications to such letters patent or patents such as through any reissue, re-examination or other post-grant proceeding. For purposes of this paragraph, "procurement, maintenance, enforcement, defense" shall include, without limitation, any preparation, prosecution, pre-grant proceeding, and post-grant proceeding, whether before a patent office or other administrative body or judicial body with jurisdiction therefor.

4. Assignor hereby authorizes and requests the Commissioner of Patents in the United States to issue the above mentioned letters patent of the United States to Assignee as the assignee of said inventions and said application for letters patent, and the letters patent to be issued thereon for the sole use of Assignee, its successors, legal representatives and assigns.

In witness whereby, executed by the undersigned on the date opposite the undersigned name.

Date: 05-Nov-2022 Signature: /Kevin Lynch (Nov 5, 2022 07:49 PDT)/

Kevin M. LYNCH

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
6 of 2716

ASSIGNMENT

This Assignment is by:

Divya NAG
c/o Apple Inc.
One Apple Park Way
Cupertino, California 95014

(referred to in this Assignment as "Assignor"), whose residence or mailing address information is listed above.

This Assignment is to:

Assignee: Apple Inc.
Address: One Apple Park Way, Cupertino, California 95014
A juristic entity duly organized under and pursuant to the laws of: California

(referred to in this Assignment as "Assignee"), which desires to acquire the entire right, title and interest in, to and under said patent application and the inventions covered thereby.

Assignor has invented certain new and useful inventions in:

WELLNESS AGGREGATOR

for which the following application has been filed in the United States of America:

Serial No.: 14/599,424 Filing Date: January 16, 2015

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged,

1. Assignor hereby sells, assigns, transfers and sets over or acknowledges that Assignor has sold, assigned, transferred and set over, to Assignee, its successors, legal representatives and assigns, Assignor's entire right (including the right to claim priority), title and interest in and to the above-mentioned inventions, provisional application and application for letters patent, any and all provisionals, non-provisionals, divisions, continuations, and continuations-in-part claiming priority thereto or the benefit thereof, substitutions of said applications, and any and all letters patent or patents in the United States of America and all foreign countries or jurisdictions which may be granted therefor and thereon, including, without limitation, any modifications to such letters patent or patents such as through reissue, re-examination or other post-grant proceeding, any and all extensions of said letters patent or patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee (including any right to institute actions and to recover for past, present and future infringement), for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which letters patent or patents may be granted, as fully and entirely as the same would have been held and enjoyed by Assignor, had this sale and assignment not been made.

2. Assignor represents, warrants and covenants (a) that, at the time of execution and delivery of this agreement, Assignor is a lawful owner of a right, title and interest in and to said inventions and said non-provisional application and application for letters patent, and that the same are unencumbered and that Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth in this agreement, or (b) that Assignor lawfully owned a right, title and interest in and to said inventions and said non-provisional application and application for letters patent, and that the same were unencumbered and that Assignor sold, assigned, transferred and set over to Assignee and its successors, legal representatives and assigns, the right, title and interest in and to said inventions and said non-provisional application and application for letters patent.

3. Assignor shall promptly sign and execute all papers and documents, take all lawful oaths, and do all acts necessary, required or useful for the procurement, maintenance, enforcement, defense or otherwise to secure title thereto to the Assignee, at the sole cost and expense of Assignee, its successors, legal representatives and assigns, in each case including, without limitation, arising from or relating to (a) said inventions, or said non-provisional application and application for letters patent; (b) any division, continuation, or continuation-in-part claiming priority thereto or the

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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benefit thereof, or any substitution of any such application, or (c) any letters patent or patents for said inventions in any country or jurisdiction, including, without limitation, any modifications to such letters patent or patents such as through any reissue, re-examination or other post-grant proceeding. For purposes of this paragraph, "procurement, maintenance, enforcement, defense" shall include, without limitation, any preparation, prosecution, pre-grant proceeding, and post-grant proceeding, whether before a patent office or other administrative body or judicial body with jurisdiction therefor.

4. Assignor hereby authorizes and requests the Commissioner of Patents in the United States to issue the above mentioned letters patent of the United States to Assignee as the assignee of said inventions and said application for letters patent, and the letters patent to be issued thereon for the sole use of Assignee, its successors, legal representatives and assigns.

In witness whereby, executed by the undersigned on the date opposite the undersigned name.

Date: 30-Oct-2022

Signature: /Divya Nag/
Divya NAG

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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ASSIGNMENT

This Assignment is by:

Aroon PAHWA
c/o Apple Inc.
One Apple Park Way
Cupertino, California 95014

(referred to in this Assignment as "Assignor"), whose residence or mailing address information is listed above.

This Assignment is to:

Assignee: Apple Inc.
Address: One Apple Park Way, Cupertino, California 95014
A juristic entity duly organized under and pursuant to the laws of: California

(referred to in this Assignment as "Assignee"), which desires to acquire the entire right, title and interest in, to and under said patent application and the inventions covered thereby.

Assignor has invented certain new and useful inventions in:

WELLNESS AGGREGATOR

for which the following application has been filed in the United States of America:

Serial No.: 14/599,424 Filing Date: January 16, 2015

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged,

1. Assignor hereby sells, assigns, transfers and sets over or acknowledges that Assignor has sold, assigned, transferred and set over, to Assignee, its successors, legal representatives and assigns, Assignor's entire right (including the right to claim priority), title and interest in and to the above-mentioned inventions, provisional application and application for letters patent, any and all provisionals, non-provisionals, divisions, continuations, and continuations-in-part claiming priority thereto or the benefit thereof, substitutions of said applications, and any and all letters patent or patents in the United States of America and all foreign countries or jurisdictions which may be granted therefor and thereon, including, without limitation, any modifications to such letters patent or patents such as through reissue, re-examination or other post-grant proceeding, any and all extensions of said letters patent or patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee (including any right to institute actions and to recover for past, present and future infringement), for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which letters patent or patents may be granted, as fully and entirely as the same would have been held and enjoyed by Assignor, had this sale and assignment not been made.

2. Assignor represents, warrants and covenants (a) that, at the time of execution and delivery of this agreement, Assignor is a lawful owner of a right, title and interest in and to said inventions and said non-provisional application and application for letters patent, and that the same are unencumbered and that Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth in this agreement, or (b) that Assignor lawfully owned a right, title and interest in and to said inventions and said non-provisional application and application for letters patent, and that the same were unencumbered and that Assignor sold, assigned, transferred and set over to Assignee and its successors, legal representatives and assigns, the right, title and interest in and to said inventions and said non-provisional application and application for letters patent.

3. Assignor shall promptly sign and execute all papers and documents, take all lawful oaths, and do all acts necessary, required or useful for the procurement, maintenance, enforcement, defense or otherwise to secure title thereto to the Assignee, at the sole cost and expense of Assignee, its successors, legal representatives and assigns, in each case including, without limitation, arising from or relating to (a) said inventions, or said non-provisional application and application for letters patent; (b) any division, continuation, or continuation-in-part claiming priority thereto or the

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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benefit thereof, or any substitution of any such application, or (c) any letters patent or patents for said inventions in any country or jurisdiction, including, without limitation, any modifications to such letters patent or patents such as through any reissue, re-examination or other post-grant proceeding. For purposes of this paragraph, "procurement, maintenance, enforcement, defense" shall include, without limitation, any preparation, prosecution, pre-grant proceeding, and post-grant proceeding, whether before a patent office or other administrative body or judicial body with jurisdiction therefor.

4. Assignor hereby authorizes and requests the Commissioner of Patents in the United States to issue the above mentioned letters patent of the United States to Assignee as the assignee of said inventions and said application for letters patent, and the letters patent to be issued thereon for the sole use of Assignee, its successors, legal representatives and assigns.

In witness whereby, executed by the undersigned on the date opposite the undersigned name.

Date: 31-Oct-2022

Signature: / Aroon Pahwa /

Aroon PAHWA

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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I hereby certify that this paper is being transmitted via the Office electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: December 1, 2022
Electronic Signature for Andrew Joseph: / Andrew Joseph /

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

REQUEST TO CORRECT INVENTORSHIP UNDER 37 C.F.R. §1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Applicant respectfully requests that the inventorship of the above-captioned patent be corrected to add the following co-inventors: Kevin M. LYNCH, Aroon PAHWA, and Divya NAG.

After correction of the inventorship, the inventorship should be as follows:

Christopher D. SOLI
Lawrence Y. YANG
Dennis S. PARK
Stephen O. LEMAY
Daniel S. KEEN
James H. FOSTER
Zachery KENNEDY
Michael O'REILLY
Guy L. TRIBBLE
Todd K. WHITEHURST
Kevin M. LYNCH
Divya NAG
Aroon PAHWA

122779086

In support of this request Applicant encloses: Statements by each of the above-listed inventors agreeing to the change of inventorship or stating that he or she has no disagreement regarding the requested change; and a Statement by the Assignee agreeing to the change of inventorship. The required fee of $160.00 under 37 CFR 1.20(b) is authorized to be charged to **Deposit Account No. 193140**.

This request is being concurrently filed with a Request for Certificate of Correction Pursuant to 37 C.F.R. § 1.324, to add the omitted inventors to the issued patent.

The U.S. Patent and Trademark Office is respectfully requested to correct the inventorship. In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. **193140** referencing docket no**. P23397US3/77770000376103.**

Dated: December 1, 2022

Respectfully submitted,

Electronic signature: /Brian B. Ho/
Brian B. Ho
Registration No.: 60,199
DENTONS US LLP
1999 Harrison Street
Suite 1300
Oakland, CA 94612
P + 1 (415) 356-4628

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY DANIEL S. KEEN IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Daniel S. KEEN, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: 04-Nov-2022 Signature

Daniel S. KEEN

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY ZACHERY KENNEDY IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Zachery KENNEDY, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent; and

2) I agree with the change of inventorship.

I further 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 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.

Date: 28-Oct-2022 Signature Zachery Kennedy (Oct 28, 2022 19:21 PDT)

Zachery KENNEDY

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY MICHAEL O'REILLY IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Michael O'REILLY, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent; and

2) I agree with the change of inventorship.

I further 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 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.

Date: 31-Oct-2022 Signature Michael O'Reilly

Michael O'REILLY

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY DENNIS S. PARK IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Dennis S. PARK, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: 28-Oct-2022 Signature

Dennis S. PARK

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY LAWRENCE Y. YANG IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Lawrence Y. YANG, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: 28-Oct-2022 Signature

Lawrence Y. YANG

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 | Confirmation No.: 3136

Filed: January 16, 2015 | Art Unit: 3686

For: WELLNESS AGGREGATOR | Examiner: LAM, ELIZA ANNE

STATEMENT BY JAMES H. FOSTER IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, James H. FOSTER, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: 10/11/22 Signature

James H. FOSTER

122595838

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY STEPHEN O. LEMAY IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Stephen O. LEMAY, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: Nov 1, 2022 Signature / Steve Lemay (Nov 1, 2022 12:58 PDT) /

Stephen O. LEMAY

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY CHRISTOPHER D. SOLI IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Christopher D. SOLI, declare as follows:

1) I am named as an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: Oct 31, 2022 Signature / Chris Soli (Oct 31, 2022 20:19 PDT) /

Christopher D. SOLI

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY GUY L. TRIBBLE IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Guy L. TRIBBLE, declare as follows:

1) I am an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: 08-Nov-2022 Signature

Guy L. TRIBBLE

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY TODD K. WHITEHURST IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

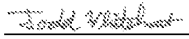
Dear Commissioner:

I, Todd K. WHITEHURST, declare as follows:

1) I am an inventor of an invention claimed in the above-referenced patent;

2) I agree with the change of inventorship.

I further 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 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.

Date: 16-Nov-2022 Signature 

Todd K. WHITEHURST

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY KEVIN M. LYNCH IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Kevin M. LYNCH, declare as follows:

1) I am an inventor of an invention claimed in the above-referenced patent;

2) I was erroneously omitted as an inventor of an invention claimed in the above-referenced patent;

3) I agree with the change of inventorship.

I further 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 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.

Date: 05-Nov-2022 Signature

Kevin M. LYNCH

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY DIVYA NAG IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Divya NAG, declare as follows:

1) I am an inventor of an invention claimed in the above-referenced patent;

2) I was erroneously omitted as an inventor of an invention claimed in the above-referenced patent;

3) I agree with the change of inventorship.

I further 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 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.

Date: 30-Oct-2022 Signature Divya Nag

Divya NAG

122595638

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

STATEMENT BY AROON PAHWA IN SUPPORT OF REQUEST FOR CORRECTION OF INVENTORSHIP PURSUANT TO 37 C.F.R. § 1.324

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

I, Aroon PAHWA, declare as follows:

1) I am an inventor of an invention claimed in the above-referenced patent;

2) I was erroneously omitted as an inventor of an invention claimed in the above-referenced patent;

3) I agree with the change of inventorship.

I further 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 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.

Date: 31-Oct-2022 Signature Aroon Pahwa
Aroon Pahwa (Oct 31, 2022 13:27 PDT)

Aroon PAHWA

122595638

PTO/**AIA/01** (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
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 displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	WELLNESS AGGREGATOR

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/599,424 filed on January 16, 2015.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than **five** (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Kevin M. LYNCH Date (Optional): 05-Nov-2022

Signature: / Kevin M. Lynch (Electronic signature authorized by applicant) /

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form **or must have been previously filed**. Use an additional PTO/A**IA/01** form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

DENTONS US LLP
Docket No.: P23397US3/77770000376103

PTO/**AIA/01** (06-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	WELLNESS AGGREGATOR

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/599,424 filed on January 16, 2015.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than **five** (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Divya NAG Date (Optional): 30-Oct-2022

Signature: / Divya Nag / (Signature is required for those filing on paper)

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form **or must have been previously filed**. Use an additional PTO/A**IA/01** form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

DENTONS US LLP
Docket No.: P23397US3/77770000376103

PTO/**AIA/01** (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	WELLNESS AGGREGATOR

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/599,424 filed on January 16, 2015.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than **five** (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Aroon PAHWA Date (Optional): 31-Oct-2022

Signature: / Aroon Pahwa / (Aroon Pahwa (Oct 31, 2022 13:03 PDT))

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form **or must have been previously filed**. Use an additional PTO/A**IA/01** form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

DENTONS US LLP
Docket No.: P23397US3/77770000376103

Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Brian B. Ho/Andrew Joseph				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
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:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
CERTIFICATE OF CORRECTION	1811	1	160	160
PROCESSING FEE CORRECTING INVENTORSHIP	1816	1	160	160
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**320**

Electronic Acknowledgement Receipt	
EFS ID:	47128805
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Brian B. Ho/Andrew Joseph
Filer Authorized By:	Brian B. Ho
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	01-DEC-2022
Filing Date:	16-JAN-2015
Time Stamp:	19:15:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$320
RAM confirmation Number	E2022B1J15543688
Deposit Account	193140
Authorized User	Andrew Joseph
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 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 Certificate of Correction	P23397US3_Request_COC.pdf	214804 67edf0d95ee99e458102bcf0ddc4bf3ce70a059e	no	3
Warnings:					
Information:					
2	Petition for review by the Office of Petitions	P23397US3_Petition.pdf	3548650 602dfce6fe7875d8e686c752582b7e9434e03948	no	15
Warnings:					
Information:					
3	Oath or Declaration filed	P23397US3_Declarations.pdf	421557 6738515569e257bb671dbcbab6a9ef00e4cd8718	no	3
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	40152 0c7ad1c5bd4776fb73ee21131222754 2b5029490	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	4225163		

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.

I hereby certify that this paper is being transmitted via the Office electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: Decermber 1, 2022
Electronic Signature for Andrew Joseph: / Andrew Joseph /

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Letters Patent of:
Christopher D. Soli et al.

Patent No.: 10,270,898

Issued: April 23, 2019

For: WELLNESS AGGREGATOR

REQUEST FOR CERTIFICATE OF CORRECTION
PURSUANT TO 37 C.F.R. § 1.323

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Upon reviewing the above-identified patent, Patentee noted errors which should be corrected as noted on the accompanying Certificate of Correction. Specifically, co-inventors Kevin M. LYNCH, Aroon PAHWA, and Divya NAG were erroneously omitted as co-inventors for the above-referenced patent. Accordingly, the accompanying Certificate of Correction is being submitted to add the omitted co-inventors to the patent in conjunction with a Request to Correct Inventorship Under 37 C.F.R. §1.324, which is concurrently filed herewith to add inventors Kevin M. LYNCH, Aroon PAHWA, and Divya NAG as co-inventors to the above-referenced patent.

The error was in the application as filed by Applicant; accordingly, the fee required as provided for under 35 U.S.C. § 254 is submitted herewith. Patentee respectfully solicits the granting of the requested Certificate of Correction.

122712344

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 193140, under Order No. P23397US3/77770000376103.

Dated: December 1, 2022

Respectfully submitted,

Electronic signature: /Brian B. Ho/
Brian B. Ho
Registration No.: 60,199
DENTONS US LLP
1999 Harrison Street
Suite 1300
Oakland, CA 94612
P +1 (415) 356-4628

122712344

PTO/SB/44 (09-07)
Approved for use through 01/31/2020. OMB 0651-0033
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 displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 10,270,898

APPLICATION NO.: 14/599,424

ISSUE DATE : 10,270,898

INVENTOR(S) : Christopher D. Soli et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Cover, Column 1 (Inventors), after "Todd K. Whitehurst, Cupertino, CA (US)" insert - - Kevin M. LYNCH, Woodside, CA (US); Divya NAG, San Jose, CA (US); Aroon PAHWA, Palo Alto, CA (US) - -.

MAILING ADDRESS OF SENDER (Please do not use Customer Number below):

Brian B. Ho, Registration No.: 60,199
DENTONS US LLP, 1999 Harrison Street, Suite 1300, Oakland, CA 94612

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 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: Attention Certificate of Corrections Branch, 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

CERTIFICATE OF CORRECTION

PATENT NO. : 10,270,898 B2
APPLICATION NO. : 14/599424
DATED : April 23, 2019
INVENTOR(S) : Christopher D. Soli et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

Column 2, under "Other Publications", delete "Translation)." and insert -- Translation and 4 pages of Official Copy). --.

In the Claims

Claim 46, Column 82, Line 59, delete "claim 25," and insert -- claim 24, --.

Claim 47, Column 82, Line 61, delete "claim 25," and insert -- claim 24, --.

Signed and Sealed this
Tenth Day of September, 2019



Andrei Iancu
Director of the United States Patent and Trademark Office

I hereby certify that this paper is being transmitted via the Office electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: August 6, 2019
Electronic Signature for Morgan Adams: /Morgan Adams/

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Letters Patent of:
Christopher D. SOLI et al.

Patent No.: 10,270,898

Issued: April 23, 2019

For: WELLNESS AGGREGATOR

REQUEST FOR CERTIFICATE OF CORRECTION PURSUANT TO 37 C.F.R. § 1.323

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Upon reviewing the above-identified patent, Patentee noted errors which should be corrected as noted on the accompanying Certificate of Correction. The errors were not in the application as filed by Applicant; accordingly, no fee is required as provided for under 35 U.S.C. § 254. Patentee respectfully solicits the granting of the requested Certificate of Correction.

111042197

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our **Deposit Account No. 193140**, under **Docket No. P23397US3/77770000376103**.

Dated: August 6, 2019

Respectfully submitted,

Electronic signature: /Boris Pesin/
Boris Pesin
Registration No.: 74,541
DENTONS US LLP
1900 K Street, NW
Washington, DC 20006-1102
(703) 336-8749

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.	:	10,270,898
APPLICATION NO.	:	14/599,424
ISSUE DATE	:	April 23, 2019
INVENTOR(S)	:	Christopher D. SOLI et al.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Cover Page, Page 1, Column 2, under “Other Publications”, delete “Translation).” and insert - - Translation and 4 pages of Official Copy). - -.

In the Claims, Claim 46, Column 82, Line 59, delete “claim 25,” and insert - - claim 24,- -.

In the Claims, Claim 47, Column 82, Line 61, delete “claim 25,” and insert - - claim 24,- -.

MAILING ADDRESS OF SENDER (Please do not use customer number below):
Boris Pesin (Reg. No. 74,541)
DENTONS US LLP
1900 K Street, NW
Washington, DC 20006
703-336-8749
111042192

Electronic Acknowledgement Receipt	
EFS ID:	36801675
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Boris M. Pesin/Morgan Adams
Filer Authorized By:	Boris M. Pesin
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	06-AUG-2019
Filing Date:	16-JAN-2015
Time Stamp:	18:30:57
Application Type:	Utility under 35 USC 111(a)

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	Request for Certificate of Correction	P23397US3_ReqCOC.pdf	113897 038e38cfa66fa78b2871cb6faa43b2f926d87366	no	2
Warnings:					

Information:					
2	Request for Certificate of Correction	P23397US3_COC.pdf	78756 a251138089e989c85e0f66dac93525ebfe4d3078	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	192653		

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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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/599,424	04/23/2019	10270898	P23397US3/77770000376103	3136

150004 7590 04/03/2019

DENTONS US LLP - Apple
4655 Executive Dr
Suite 700
San Diego, CA 92121

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 1037 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):

Christopher D. Soli, Mountain View, CA;
Apple Inc., Cupertino, CA;
Lawrence Y. Yang, San Francisco, CA;
Dennis S. Park, San Francisco, CA;
Stephen O. Lemay, Palo Alto, CA;
Daniel S. Keen, San Jose, CA;
James H. Foster, Palo Alto, CA;
Zachery Kennedy, San Jose, CA;
Michael O'reilly, San Jose, CA;
Guy L. Tribble, Hillsborough, CA;
Todd K. Whitehurst, Cupertino, CA;

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.

Doc Code: MFEE.C.AD
Document Description: Maintenance Fee Address Change

PTO/SB/47-EFS

FEE ADDRESS INDICATION FORM			
Application Number	14599424	Art Unit	3686
Filing Date	16-Jan-2015	Examiner Name	ELIZA LAM
First Name Inventor	Christopher Soli	Attorney Doc. Number	P23397US3/77770000376103

INSTRUCTIONS: In order for the fee address identified on this form to be effective, the issue fee must have been paid for the application listed on this form. Only an address represented by a customer number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application. For more information on customer numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

Please recognize as the Fee Address under the provisions of 37 CFR 1.363 the address associated with:

Customer Number:	000197 CPA GLOBAL LIMITED 2318 Mill Road 12th Floor ALEXANDRIA VA 22314 UNITED STATES 7037392234

Signature :

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application.

Signature	/Randy Omid/	**Date**	03-07-2019
Name	Randy Omid	**Registration Number**	67439

Electronic Patent Application Fee Transmittal

Application Number:	14599424
Filing Date:	16-Jan-2015
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Filer:	Randy Omid/Morgan Adams
Attorney Docket Number:	P23397US3/77770000376103

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1000**

Electronic Acknowledgement Receipt	
EFS ID:	35358215
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Randy Omid/Morgan Adams
Filer Authorized By:	Randy Omid
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	07-MAR-2019
Filing Date:	16-JAN-2015
Time Stamp:	17:45:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1000
RAM confirmation Number	030819INTEFSW17451900
Deposit Account	193140
Authorized User	Morgan Adams
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 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	Issue Fee Payment (PTO-85B)	Web85b.pdf	45976 2c9e5fc3d4cef94a2eac57c1883a07c074474fe3	no	2
Warnings:					
Information:					
2	Maintenance Fee Address Change	web85feeaddress.pdf	32613 46b9f21de8e557bc79afb6f542fc483abb0702c1	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	31904 b266c2bffcd74bc1ed3bb97671a94761e941985c	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	110493		

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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.

Doc Code: IFEE PTOL/85B-EFS

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
14599424	16-Jan-2015	Christopher Soli	P23397US3/777700003761	3136

TITLE OF INVENTION :

WELLNESS AGGREGATOR

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Regular Undiscounted	Utility under 35 USC 111(a)	3686	003000	ELIZA LAM

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$1000	$0	$1000	13-Mar-2019	$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
150004 DENTONS US LLP - Apple 4655 Executive Dr Suite 700 San Diego CA 92121 UNITED STATES 3128767925 dentons_PAIR@firsttofile.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☒ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

○ Applicant asserting small entity status. See 37 CFR 1.27.
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.

◉ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
49 of 2716

Doc Code: IFEE PTOL/85B-EFS

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee	☐ I authorize USPTO to apply my previously paid issue fee to the current fees due
☐ Publication Fee	☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____
☐ Advance Order - # of copies _____	☒ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency or credit any overpayment, to Deposit Account Number 193140 . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. DENTONS US LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

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.

Name	City	State	Country	Category
Apple Inc.	Cupertino	CALIFORNIA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Randy Omid/	**Date**	03-07-2019
Name	Randy Omid	**Registration Number**	67439

WEB IFEE 1.0

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
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 displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	WELLNESS AGGREGATOR

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/599,424 filed on January 16, 2015.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Zachery Kennerly Date (Optional): 3/7/19

Signature:

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

Electronic Acknowledgement Receipt

EFS ID:	35358154
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Randy Omid/Morgan Adams
Filer Authorized By:	Randy Omid
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	07-MAR-2019
Filing Date:	16-JAN-2015
Time Stamp:	17:38:07
Application Type:	Utility under 35 USC 111(a)

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	Oath or Declaration filed	P23397US3_Dec.pdf	149306 1f44ded248d3540f031683c2dd5ef835295e8f2f	no	1
Warnings:					

Information:	
Total Files Size (in bytes):	149306

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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

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New International Application Filed with the USPTO as a Receiving Office

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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.
14/599,424	01/16/2015	Christopher D. Soli	P23397US3/77770000376103	3136

150004 7590 02/21/2019

DENTONS US LLP - Apple
4655 Executive Dr
Suite 700
San Diego, CA 92121

EXAMINER
LAM, ELIZA ANNE

ART UNIT	PAPER NUMBER
3686	

NOTIFICATION DATE	DELIVERY MODE
02/21/2019	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):

patents.us@dentons.com
dentons_PAIR@firsttofile.com

Response to Rule 312 Communication	Application No. 14/599,424	Applicant(s)
	Examiner	Art Unit

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

1. ☒ The amendment filed on *07 February 2019* under 37 CFR 1.312 has been considered, and has been:

a) ☒ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

/ A. Marty Willis /

A. Marty Willis

Publishing Division

Office of Data Management

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
55 of 2716

I hereby certify that this paper is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4).

Dated: February 7, 2019
Electronic Signature for Morgan Adams: /Morgan Adams/

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. Soli et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

INTRODUCTORY COMMENTS

This paper is submitted in response to the Notice to File Corrected Application Papers mailed on January 10, 2019, for which the response is due on March 10, 2019. Accordingly, this response is timely filed.

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Drawings begin on page 3 of this paper.

Remarks begin on page 4 of this paper.

110010510

AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0001] as follows:

[0001] This application claims priority to U.S. Provisional Serial No. 62/006,032, filed on May 30, 2014, entitled "WELLNESS AGGREGATOR," which is hereby incorporated by reference in its entirety for all purposes. This application relates to the following co-pending provisional application: U.S. Patent Application Serial No. 62/006,031, entitled "MANAGING USER INFORMATION," filed May 30, 2014, which is hereby incorporated by reference in its entirety. This application also relates to the following co-pending non-provisional application: U.S. Patent Application Serial No. [[____]] 14/599,425, entitled "WELLNESS AGGREGATOR," filed January 16, 2015, which is hereby incorporated by reference in its entirety

Please amend paragraph [00308] as follows:

[00308] In some examples, the plurality of approved sources can include an electronic device or a software application. For example, an approved electronic device, such as a watch, a mobile phone, or the like, can provide wellness or non-wellness data to user device 510 to be stored in wellness database 511. Similarly, an approved software application on or otherwise associated with user device 510 can provide wellness or non-wellness data to user device [[511]]510 to be stored in wellness database 511. In some examples, the approved software application can be a software application associated with an electronic device and is capable of communicating with the electronic device.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
57 of 2716

Electronic Acknowledgement Receipt

EFS ID:	35091891
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Boris M. Pesin/Morgan Adams
Filer Authorized By:	Boris M. Pesin
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	07-FEB-2019
Filing Date:	16-JAN-2015
Time Stamp:	17:36:07
Application Type:	Utility under 35 USC 111(a)

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	Drawings-only black and white line drawings	P23397US3_ReplacementFIG.pdf	140572 5c74b8f63d7abdf5b24529450799 5b9dc2ed9f7a	no	1

Warnings:

Information:					
2	Miscellaneous Incoming Letter	P23397US3_CopyOfNotice.pdf	120020 acfb181b42f8cd73fe3d4a4223aacb850b442e98	no	3
Warnings:					
Information:					
3		P23397US3_RespCorrPapers.pdf	123264 b33654efd9a708170a6a3132de6523802dcb767c	yes	4

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment after Notice of Allowance (Rule 312)	1	1
	Specification	2	2
	Drawings-only black and white line drawings	3	3
	Applicant Arguments/Remarks Made in an Amendment	4	4

Warnings:	
Information:	
Total Files Size (in bytes):	383856

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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.

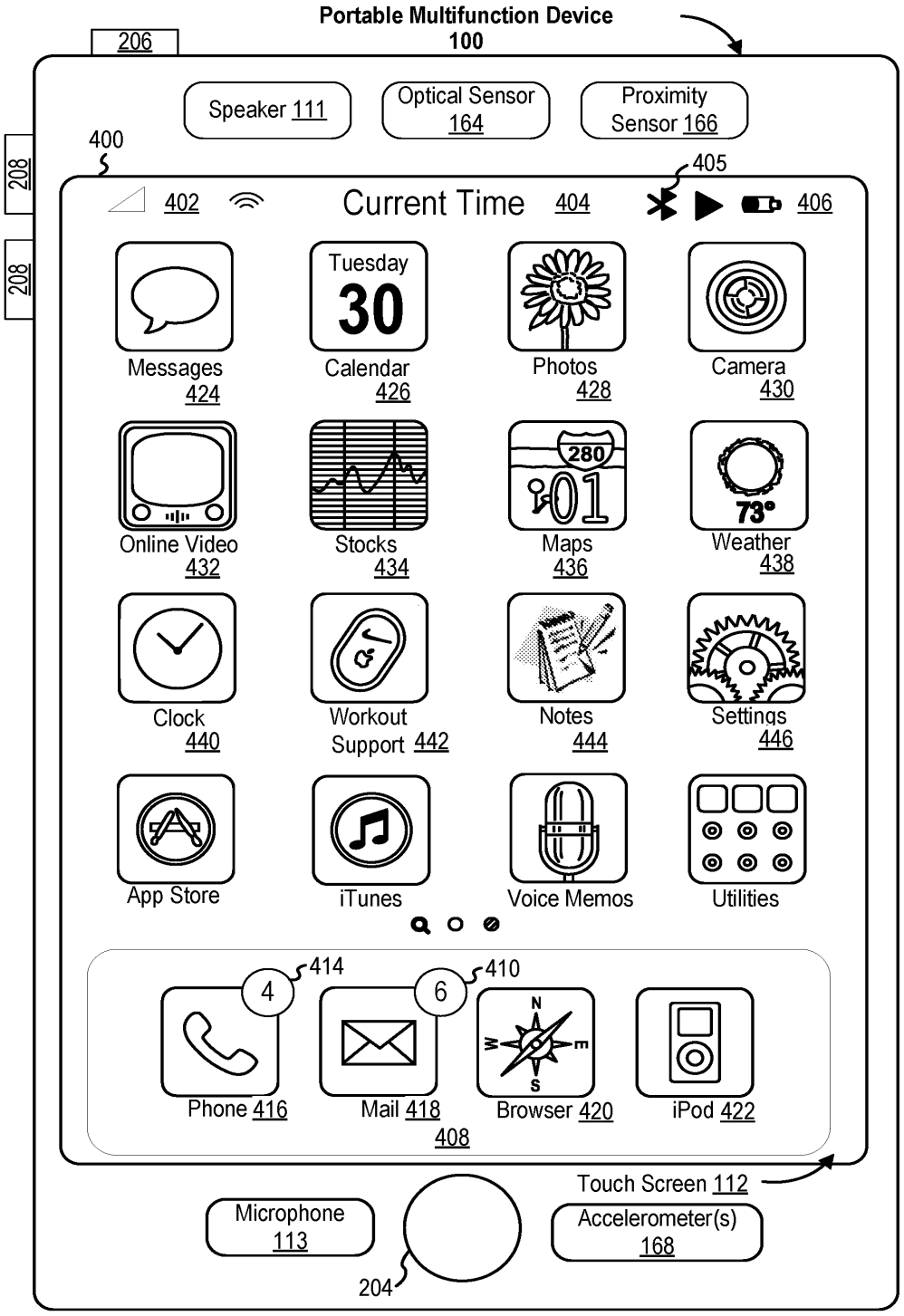

Portable Multifunction Device
100
206
Speaker 111
Optical Sensor 164
Proximity Sensor 166
400
208
208
405
402
Current Time 404
406
Messages 424
Tuesday 30
Calendar 426
Photos 428
Camera 430
Online Video 432
Stocks 434
280
Maps 436
73°
Weather 438
Clock 440
Workout Support 442
Notes 444
Settings 446
App Store
iTunes
Voice Memos
Utilities
414
410
4
6
N
W
E
S
Phone 416
Mail 418
Browser 420
iPod 422
408
Touch Screen 112
Microphone 113
Accelerometer(s) 168
204

FIG. 4A

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 14599424
Applicant : Soli
Filing Date : 01/16/2015
Date Mailed : 01/10/2019

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED.

See attachment(s).

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Quang Nguyen/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 14599424 **Drawings filed: 01/16/2015**

IDENTIFICATION OF DRAWING DEFICIENCIES

- [ ] There is a hole or the image thereof within the illustration. FIG(s)
- [ ] The illustration is penetrated or traversed by a solid or broken line that is not intended to be part of the drawing, such as a dark line caused by a flaw in the copying process. FIG(s)
- [ ] An ink stamp or the image thereof obscures part of the illustration. FIG(s)
- [ ] The drawing is marred by black smudges, obliterations, or fax/copier marks (for example, speckles or dots in a substantial portion of the drawing). FIG(s)
- [ ] Figure numbers are duplicated or missing. FIG(s)
- [ ] Drawing sheet or figure is missing. FIG(s)
- [ ] Numbers, letters, or reference characters in the drawing have been crossed out or are illegibly handwritten. FIG(s)
- [X] The character of the lines, numbers, and letters is poor. FIG(s) 4A
- [ ] The drawing's background shows that the original drawing was made on graph paper or other paper with a pattern or decoration. FIG(s)
- [ ] The FIG. number label is placed in a location that causes the drawing to be read upside down. FIG(s)
- [ ] Data, a reference number, or part of the drawing is truncated or missing, or a lead line has no reference number. FIG(s)
- [ ] The drawing and/or the FIG. label contain(s) foreign language. FIG(s)
- [ ] This utility application contains a photograph of a view that is capable of being illustrated as a line drawing. FIG(s)
- [ ] A petition under 37 CFR 1.84(a)(2) to accept color drawings has been granted, but the brief description of the drawings in the specification does not contain (or has not been amended to contain) the paragraph required by 37 CFR 1.84(a)(2)(iii).
- [ ] This reissue application contains added and/or amended drawings that are not labeled as "New" or "Amended" or "Canceled" as required by 37 CFR 1.173(b)(3). FIG(s)
- [ ] This Design reissue application contains a drawing that is labeled as "Canceled" but is not surrounded by brackets, or a drawing that is surrounded by brackets but is not labeled as "Canceled." See 37 CFR 1.173(b)(3). FIG(s)
- [ ] OTHER:
- [ ] COMMENTS:

Application No. 14599424

IDENTIFICATION OF APPLICATION DEFICIENCIES IN APPLICATION FILED ON OR AFTER SEPTEMBER 16, 2012

☐ Applicant must provide legible text for the following item(s).

- ☐ Specification filed , page(s) .
- ☐ Claims filed , claim(s) .
- ☐ Other: .

☒ Applicant must provide missing information on the following page(s) of the specification by amending the specification to add the missing text. No new matter may be added.
Page/line no(s). Page 1, paragraph [0001]

☐ The specification refers to one or more applications by attorney docket number and does not show the U.S. application number(s). Applicant must supply the U.S. application number in place of each attorney docket number.
Page/line no(s).

☐ Applicant must provide an Abstract of the Disclosure.

☐ The Application Data Sheet (ADS dated) does not supply the inventor's city and/or does not supply the inventor's U.S. state and/or does not supply the inventor's country. Applicant must submit a signed, in accordance with 37 CFR 1.76(e) and 1.33(b), application data sheet that corrects this deficiency. To be in compliance with 37 CFR 1.76, the corrected application data sheet must identify the information being changed by using underlining for additions and strikethroughs or brackets for deletions.

☐ Other:

AMENDMENTS TO THE DRAWINGS

A Replacement Drawing Sheet is attached for FIG. 4A. This Replacement Sheet is merely a higher resolution of the original FIG. 4A to improve the lines, numbers, and letters. Thus, the Replacement Sheet includes no new matter and complies with 37 CFR 1.84 and 1.121(d).

REPLACEMENT SHEET ATTACHED

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
64 of 2716

REMARKS

In response to the Notice to File Corrected Application Papers mailed on January 10, 2019 ("Notice"), paragraph [0001] is amended to include the missing text. Paragraph [00308] is also amended to correct an obvious typographical error. Accordingly, the identified informalities of specification are addressed without adding new matter.

In addition, Applicant respectfully requests amendment of FIG. 4A (sheet 5/51) of the original figures, which is identified in the top margin as "Replacement Sheet" in accordance with MPEP 714(II)(B). The replacement drawing of FIG. 4A is merely a higher resolution of the original FIG. 4A to improve the lines, numbers, and letters. Thus, the Replacement Sheet includes no new matter and complies with 37 CFR 1.84 and 1.121(d).

In view of the above remarks, Applicant respectfully requests entry of this amendment. Applicant believes this amendment addresses the deficiencies identified in the Notice. However, if for any reason this response does not fully address the deficiencies noted, the Office may contact the undersigned.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. **193140** referencing docket no. **P23397US3/77770000376103**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: February 7, 2019

Respectfully submitted,

Electronic signature: /Boris Pesin/
Boris Pesin
Registration No.: 74,541
Dentons US LLP
1900 K Street, NW
Washington, DC 20006-1102
(703) 336-8749

ATTACHMENTS

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
65 of 2716

DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 14599424 Document Date: 02/07/2019

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via eDAN using the Supplemental Content tab, or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: August 26, 2013

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/599,424	01/16/2015	Christopher D. Soli	P23397US3/77770000376103	3136

150004 7590 01/10/2019

DENTONS US LLP - Apple
4655 Executive Dr
Suite 700
San Diego, CA 92121

EXAMINER	
LAM, ELIZA ANNE	

ART UNIT	PAPER NUMBER
3686	

NOTIFICATION DATE	DELIVERY MODE
01/10/2019	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):

patents.us@dentons.com
dentons_PAIR@firsttofile.com

PTOL-90A (Rev. 04/07)

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
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Application No. : 14599424
Applicant : Soli
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See attachment(s).

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Quang Nguyen/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 14599424 **Drawings filed: 01/16/2015**

IDENTIFICATION OF DRAWING DEFICIENCIES

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- [ ] This utility application contains a photograph of a view that is capable of being illustrated as a line drawing. FIG(s)
- [ ] A petition under 37 CFR 1.84(a)(2) to accept color drawings has been granted, but the brief description of the drawings in the specification does not contain (or has not been amended to contain) the paragraph required by 37 CFR 1.84(a)(2)(iii).
- [ ] This reissue application contains added and/or amended drawings that are not labeled as "New" or "Amended" or "Canceled" as required by 37 CFR 1.173(b)(3). FIG(s)
- [ ] This Design reissue application contains a drawing that is labeled as "Canceled" but is not surrounded by brackets, or a drawing that is surrounded by brackets but is not labeled as "Canceled." See 37 CFR 1.173(b)(3). FIG(s)
- [ ] OTHER:
- [ ] COMMENTS:

Application No. 14599424

IDENTIFICATION OF APPLICATION DEFICIENCIES IN APPLICATION FILED ON OR AFTER SEPTEMBER 16, 2012

☐ Applicant must provide legible text for the following item(s).

- ☐ Specification filed , page(s) .
- ☐ Claims filed , claim(s) .
- ☐ Other: .

☒ Applicant must provide missing information on the following page(s) of the specification by amending the specification to add the missing text. No new matter may be added.
Page/line no(s). Page 1, paragraph [0001]

☐ The specification refers to one or more applications by attorney docket number and does not show the U.S. application number(s). Applicant must supply the U.S. application number in place of each attorney docket number.
Page/line no(s).

☐ Applicant must provide an Abstract of the Disclosure.

☐ The Application Data Sheet (ADS dated) does not supply the inventor's city and/or does not supply the inventor's U.S. state and/or does not supply the inventor's country. Applicant must submit a signed, in accordance with 37 CFR 1.76(e) and 1.33(b), application data sheet that corrects this deficiency. To be in compliance with 37 CFR 1.76, the corrected application data sheet must identify the information being changed by using underlining for additions and strikethroughs or brackets for deletions.

☐ Other:

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

150004 7590 12/13/2018

DENTONS US LLP - Apple
4655 Executive Dr
Suite 700
San Diego, CA 92121

EXAMINER
LAM, ELIZA ANNE

ART UNIT	PAPER NUMBER
3686	

DATE MAILED: 12/13/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/599,424	01/16/2015	Christopher D. Soli	P23397US3/77770000376103	3136

TITLE OF INVENTION: WELLNESS AGGREGATOR

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	03/13/2019

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: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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)

150004 7590 12/13/2018

DENTONS US LLP - Apple
4655 Executive Dr
Suite 700
San Diego, CA 92121

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.

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/599,424	01/16/2015	Christopher D. Soli	P23397US3/77770000376103	3136

TITLE OF INVENTION: WELLNESS AGGREGATOR

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	03/13/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
LAM, ELIZA ANNE	3686	705-003000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 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,
(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.

1_____
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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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. _____

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
72 of 2716

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/599,424	01/16/2015	Christopher D. Soli	P23397US3/77770000376103	3136

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EXAMINER	
LAM, ELIZA ANNE	

ART UNIT	PAPER NUMBER
3686	

DATE MAILED: 12/13/2018

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 30 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.** 14/599,424	**Applicant(s)** Soli et al.	
	Examiner ELIZA A LAM	**Art Unit** 3686	**AIA Status** Yes

-- 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 Amendment 10/23/2018.
   ☐ 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 See Continuation Sheet . 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/pph/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 areply 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)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 1/15/2018, 8/23/2016.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/ELIZA A LAM/
Primary Examiner, Art Unit 3686

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
75 of 2716

Continuation of 3. The allowed claim(s) is/are: 1,4-12,15-18 and 20-71

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	Art Unit
	ELIZA A LAM	3686

CPC - Searched*		
Symbol	**Date**	**Examiner**
G06Q50/22	01/06/2018	EL
(G06F19/3418 or G16H40/20 or G16H10/60 or G06Q50/22 or G06Q50/24)		
(H04M1/72541 or G06F19/00 or H04W4/90 or G16H40/63 or G06F19/3481 or G06F19/3418 or H04W4/14 or H04M1/72538 or G16H10/60 or H04W88/02)	11/21/2018	EL

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**
705	2	01/06/2018	EL

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
Searched EAST and Google Patents	01/06/2018	EL
Updated Search	11/13/2018	EL
Updated Search	11/21/2018	EL
Dialog Search	11/21/2018	EL

/ELIZA A LAM/ Primary Examiner, Art Unit 3686	

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	Art Unit
	ELIZA A LAM	3686

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	(H04M1/72541 or G06F19/00 or H04W4/90 or G16H40/63 or G06F19/3481 or G06F19/3418 or H04W4/14 or H04M1/72538 or G16H10/60 or H04W88/02)	11/13/2018	EL

/ELIZA A LAM/ Primary Examiner, Art Unit 3686	

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	**Art Unit**
	ELIZA A LAM	3686

CPC						
Symbol					**Type**	**Version**
H04M	/	1	/	72541	F	2013-01-01
H04W	/	4	/	14	I	2013-01-01
H04M	/	1	/	72538	I	2013-01-01
H04W	/	4	/	90	I	2018-02-01
G06F	/	19	/	3418	I	2013-01-01
G06F	/	19	/	3481	I	2013-01-01
G16H	/	40	/	63	I	2018-01-01
G06F	/	19	/	00	I	2013-01-01
H04W	/	88	/	02	A	2013-01-01
G16H	/	10	/	60	A	2018-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	66	
/ELIZA A LAM/ Primary Examiner, Art Unit 3686	25 November 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	34

U.S. Patent and Trademark Office — Part of Paper No.: 20181031

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	**Art Unit**
	ELIZA A LAM	3686

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H04M	/	1	/	725
G06F	/	19	/	00
H04W	/	4	/	90
G16H	/	40	/	63
G06F	/	19	/	00
H04W	/	4	/	14
H04W	/	88	/	02

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	66	
/ELIZA A LAM/ Primary Examiner, Art Unit 3686	25 November 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	34

U.S. Patent and Trademark Office — Part of Paper No.: 20181031

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	**Art Unit**
	ELIZA A LAM	3686

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	12	19	24	28	33	37	42	46	51	55	60	64	69
2	4	11	15	20	25	29	34	38	43	47	52	56	61	65	70
3	5	12	16	21	26	30	35	39	44	48	53	57	62	66	71
4	6	13	17	22	27	31	36	40	45	49	54	58	63		
5	7	14	18	23	28	32	37	41	46	50	55	59	64		
6	8	15	20	24	29	33	38	42	47	51	56	60	65		
7	9	16	21	25	30	34	39	43	48	52	57	61	66		
8	10	17	22	26	31	35	40	44	49	53	58	62	67		
9	11	18	23	27	32	36	41	45	50	54	59	63	68		

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	66	
/ELIZA A LAM/ Primary Examiner, Art Unit 3686	25 November 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	34

U.S. Patent and Trademark Office — Part of Paper No.: 20181031

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	Art Unit
	ELIZA A LAM	3686

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant					☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE								
Final	Original	01/06/2018	06/22/2018	11/21/2018						
1	1	✓	✓	=						
	2	✓	✓	-						
	3	✓	✓	-						
2	4	✓	✓	=						
3	5	✓	✓	=						
4	6	✓	✓	=						
5	7	✓	✓	=						
6	8	✓	✓	=						
7	9	✓	✓	=						
8	10	✓	✓	=						
9	11	✓	✓	=						
10	12	✓	✓	=						
	13	✓	✓	-						
	14	✓	✓	-						
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16	21	✓	✓	=						
17	22	✓	✓	=						
18	23	✓	✓	=						
19	24	✓	✓	=						
20	25	✓	✓	=						
21	26	✓	✓	=						
22	27	✓	✓	=						
23	28	✓	✓	=						
24	29	✓	✓	=						
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35	40			=						
36	41			=						
37	42			=						

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	Art Unit
	ELIZA A LAM	3686

CLAIM		DATE								
Final	Original	01/06/2018	06/22/2018	11/21/2018						
38	43			=						
39	44			=						
40	45			=						
41	46			=						
42	47			=						
43	48			=						
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56	61			=						
57	62			=						
58	63			=						
59	64			=						
60	65			=						
61	66			=						
62	67			=						
63	68			=						
64	69			=						
65	70			=						
66	71			=						

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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.	20110010195	A1	2011-01-13	Cohn, Steven Charles	

FOREIGN PATENT DOCUMENTS

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]
	1.	2012-533117	JP	A	2012-12-20	Cohn, Steven Charles	Corresponds to US 20110010195 (A1)	
	2.	2015-531916	JP	A	2015-11-05	Yofimeter LLC	Corresponds to WO 2014/022711 (A1)	
	3.	2014/022711	WO	A1	2014-02-06	Yofimeter LLC		

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Japanese Patent Application No. 2016-569945, mailed on November 10, 2017, 8 pages (4 pages of English Translation and 4 pages of Official Copy).	☒

EXAMINER SIGNATURE

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.A.L/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
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	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

*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.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.A.L/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

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	/Randy Omid/	Date (YYYY-MM-DD)	2018-01-19
Name/Print	Randy Omid	Registration Number	67,439

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.**

EFS Web 2.1.17
106070968

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.A.L/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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.	20100331145	A1	2010-12-30	Lakovic et al.	

FOREIGN PATENT DOCUMENTS

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]
	1.	2012-230503	JP	A	2012-11-22	Nippon Telegr & Teleph Corp.	English Abstract Submitted	

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Danish Patent Application No. PA201670656, mailed on May 30, 2018, 5 pages.	
	2.	Office Action received for Japanese Patent Application No. 2016-557650, mailed on April 13, 2018, 9 pages (5 pages of English Translation and 4 pages of Official Copy).	☒
	3.	Summons to Attend Oral Proceedings received for European Patent Application No.15771747.1, mailed on May 25, 2018, 17 pages.	

EFS Web 2.1.17
107633382

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.A.L/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

EXAMINER SIGNATURE			
Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

*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.

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☐ 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	/Randy Omid/	Date (YYYY-MM-DD)	2018-06-13
Name/Print	Randy Omid	Registration Number	67,439

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U.S. PATENTS

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U.S. PATENT APPLICATION PUBLICATIONS

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FOREIGN PATENT DOCUMENTS

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]
	1.	101061484	CN	A	2007-10-24	IBM	English Abstract Submitted	
	2.	103154954	CN	A	2013-06-12	Nike International Ltd.	English Abstract Submitted	

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Chinese Patent Application No. 201580028677.9, mailed on May 25, 2018, 14 pages (4 pages of English Translation and 10 pages of Official copy).	☒

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-08-08
Name/Print	Randy Omid	Registration Number	67,439

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	1.	2008-272301	JP	A	2008-11-13	Olympus Medical Systems Corp	English Abstract Submitted	

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Japanese Patent Application No. 2016-569945, mailed on September 10, 2018, 11 pages (6 pages of English Translation and 5 pages of Official Copy).	☒

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-10-23
Name/Print	Randy Omid	Registration Number	67,439

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U.S. PATENTS

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.	7970827	B1	2011-06-28	Cumberbatch et al.	

U.S. PATENT APPLICATION PUBLICATIONS

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.	20100202368	A1	2010-08-12	Hans, Martin	
	2.	20120209829	A1	2012-08-16	Thomas et al.	

FOREIGN PATENT DOCUMENTS

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	1.	1443427	CN	A	2003-09-17	Nokia Corp.	English Abstract Submitted	
	2.	1997050	CN	A	2007-07-11	ZTE Corp.	English Abstract Submitted	
	3.	103297610	CN	A	2013-09-11	Samsung Electronics Co. Ltd.	English Abstract Submitted	
	4.	103581456	CN	A	2014-02-12	Yihui Technology Suzhou Co. Ltd.	English Abstract Submitted	

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Australian Patent Application No. 2015267240, mailed on March 21, 2018, 5 pages.	

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	2.	Office Action received for Chinese Patent Application No. 201510284850.3, mailed on November 28, 2017, 15 pages (5 pages of English Translation and 10 pages of Official Copy).	☒

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Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-04-10
Name/Print	Randy Omid	Registration Number	67,439

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Application Number	14599424
Filing Date	2015-01-16
First Named Inventor	Christopher D. SOLI
Art Unit	3626
Examiner Name	R. W. Morgan
Attorney Docket Number	106842130031 (P23397US3)

U.S. PATENTS

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	1.	20170053542	A1	2017-02-23	Wilson et al.	

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	1.	Advisory Action received for U.S. Patent Application No. 14/839,922, mailed on March 24, 2017, 4 pages.	
	2.	Intention to Grant received for Danish Patent Application No. PA201570668, mailed on March 27, 2017, 2 pages.	
	3.	International Preliminary Report on Patentability received for PCT Patent Application No. PCT/US2015/047282, mailed on March 16, 2017, 26 pages.	
	4.	International Search Report and Written Opinion received for PCT Patent Application No. PCT/US2016/037686, mailed on September 09, 2016, 19 pages.	

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dn-191171

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Doc description: Information Disclosure Statement (IDS) Field

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

Application Number	14599424
Filing Date	2015-01-16
First Named Inventor	Christopher D. SOLI
Art Unit	3626
Examiner Name	R. W. Morgan
Attorney Docket Number	106842130031 (P23397US3)

CERTIFICATION STATEMENT

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

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OR

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☐ See attached certification statement.

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☒ A certification statement is not submitted herewith.

SIGNATURE

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Signature	/Jordan Lofdahl/	Date (YYYY-MM-DD)	2017-05-10
Name/Print	Jordan Lofdahl	Registration Number	59,163

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U.S. PATENTS

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U.S. PATENT APPLICATION PUBLICATIONS

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.	20110261079	A1	2011-10-27	Ingrassia et al.	
	2.	20130106684	A1	2013-05-02	Weast et al.	
	3.	20160089569	A1	2016-03-31	Blahnik, Jay	

FOREIGN PATENT DOCUMENTS

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]
	1.	2025368	EP	A2	2009-02-18	Adidas International Marketing B.V.		

NON-PATENT LITERATURE DOCUMENTS

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	1.	Office Action received for Danish Patent Application No. PA201570666, mailed on June 27, 2016, 4 pages.	
	2.	International Preliminary Report on Patentability received for PCT Patent Application No. PCT/US2013/073195, mailed on June 07, 2016, 9 pages.	
	3.	Office Action received for Danish Patent Application No. PA201570668, mailed on April 08, 2016, 8 pages.	
	4.	International Search Report and Written Opinion received for PCT Patent Application No. PCT/US2015/047282, mailed on May 09, 2016, 33 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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☒ A certification statement is not submitted herewith.

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Signature	/Diek Van Nort/	Date (YYYY-MM-DD)	2016-08-31
Name/Print	Diek Van Nort	Registration Number	60,777

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Application Number	14/599,424
Filing Date	2015-01-16
First Named Inventor	Christopher D. SOLI
Art Unit	3686
Examiner Name	E. A. Lam
Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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NON-PATENT LITERATURE DOCUMENTS

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	1.	Office Action received for Chinese Patent Application No. 201510284850.3, mailed on July 09, 2018, 11 pages (2 pages of English Translation and 9 pages of Official copy).	☒
	2.	Summons to Attend Oral Proceedings received for European Patent Application No. 15730890.9, mailed on September 10, 2018, 11 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-09-20
Name/Print	Randy Omid	Registration Number	67,439

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	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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	1.	Notice of Allowance received for U.S. Patent Application No. 14/839,922, mailed on January 26, 2018, 2 pages.	
	2.	Office Action received for Danish Patent Application No. PA201770191, mailed on January 25, 2018, 3 pages.	
	3.	Summons to attend oral proceedings received for European Patent Application No. 13811085.3, mailed on January 26, 2018, 14 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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Name/Print	Randy Omid	Registration Number	67,439

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	1.	2010-122901	JP	A	2010-06-03	Omron Healthcare Co. Ltd.	English Abstract Submitted	
	2.	2011-198184	JP	A	2011-10-06	JVC Kenwood Corp.	English Abstract Submitted	
	3.	2013/109762	WO	A1	2013-07-25	Nike International Ltd.		
	4.	2013/109777	WO	A1	2013-07-25	Nike International Ltd.		

NON-PATENT LITERATURE DOCUMENTS

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	1.	Office Action received for European Patent Application No. 15730890.9, mailed on August 03, 2017, 4 pages.	

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	Attorney Docket Number	77770000-376103 (P23397US3)

	2.	Office Action received for Japanese Patent Application No. 2016-557650, mailed on August 10, 2017, 10 pages (5 pages of English Translation and 5 pages of Official Copy).	☒

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Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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☐ 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

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2017-10-17
Name/Print	Randy Omid	Registration Number	67,439

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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. Soli
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	106842130031 (P23397US3)

U.S. PATENTS

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

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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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Notice of Allowance received for U.S. Patent Application No. 14/839,922, mailed on July 06, 2017, 8 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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dn-194457

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Name/Print	Randy Omid	Registration Number	67,439

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Examiner Name	E. A. Lam
Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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.	6603477	B1	2003-08-05	Tittle, Douglas L.	
	2.	9557881	B1	2017-01-31	Jain et al.	

U.S. PATENT APPLICATION PUBLICATIONS

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.	20100305965	A1	2010-12-02	Benjamin et al.	
	2.	20130054150	A1	2013-02-28	Sacks et al.	
	3.	20130217979	A1	2013-08-22	Blackadar et al.	
	4.	20150205930	A1	2015-07-23	Shaanan et al.	
	5.	20150334546	A1	2015-11-19	Diamond, Steven	
	6.	20150374310	A1	2015-12-31	Lee, Yong Jin	
	7.	20160256741	A1	2016-09-08	Holma et al.	

FOREIGN PATENT DOCUMENTS

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	1.	10-2013-0135282	KR	A	2013-12-10	Yota Devices IPR Ltd.	English Abstract Submitted	
	2.	2014/207294	WO	A1	2014-12-31	Polar Electro OY		

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Non-Final Office Action received for U.S. Patent Application No. 14/599,425, mailed on January 11, 2018, 42 pages.	

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	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

	2.	Non-Final Office Action received for U.S. Patent Application No. 14/732,773, mailed on January 19, 2018, 45 pages.	
	3.	Notice of Allowance received for U.S. Patent Application No. 14/839,916, mailed on January 10, 2018, 19 pages.	
	4.	Office Action received for Korean Patent Application No. 10-2016-7014577, mailed on December 26, 2017, 14 pages (6 pages of English Translation and 8 pages of Official Copy).	☒
	5.	"Utilization of Galaxy S4- S Health, ChatOn and Samsung Hub", Available at: http://seeit.kr/1263, June 12, 2013, 25 pages (Official Copy only) (see attached 37 CFR § 1.98(a) (3)).	
	6.	JENBSJOURNEY, "Wondering About a Fitbit?",Available at: https://jenbsjourney.blogspot.kr/2013/08/wondering-about-fitbit.html, August 6, 2013, 12 pages.	

EXAMINER SIGNATURE			
Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-02-02
Name/Print	Randy Omid	Registration Number	67,439

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Application Number	14/599,424
Filing Date	2015-01-16
First Named Inventor	Christopher D. SOLI
Art Unit	3686
Examiner Name	E. A. Lam
Attorney Docket Number	106842130031 (P23397US3)

U.S.PATENTS

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.	20110246509	A1	2011-10-06	Migita et al.	
	2.	20130197679	A1	2013-08-01	Balakrishnan et al.	
	3.	20140218369	A1	2014-08-07	Yuen et al.	

U.S.PATENT APPLICATION PUBLICATIONS

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

FOREIGN PATENT DOCUMENTS

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]
	1.	6-187118	JP	A	1994-07-08	Mitsubishi Electric Corp.	English Abstract Submitted	
	2.	2001-76078	JP	A	2001-03-23	Kumagai Yasuo	English Abstract Submitted	
	3.	2003-337863	JP	A	2003-11-28	Advanced IT KK	English Abstract Submitted	
	4.	2004-102609	JP	A	2004-04-02	Toshiba Corp.	English Abstract Submitted	
	5.	2006-230679	JP	A	2006-09-07	Toshiba Corp.	English Abstract Submitted	
	6.	2008-183339	JP	A	2008-08-14	Carecom Co. Ltd.	English Abstract Submitted	
	7.	2011-125633	JP	A	2011-06-30	Fukuda Denshi KK	English Abstract Submitted	
	8.	2011-192126	JP	A	2011-09-29	Denso IT Laboratory Inc.	English Abstract Submitted	
	9.	2012/078079	WO	A2	2012-06-14	Yota Devices IPR Ltd.		

NON-PATENT LITERATURE DOCUMENTS

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	1.	Final Office Action received for U.S. Patent Application No. 14/599,425, mailed on May 19, 2017, 24 pages.	
	2.	Notice of Allowance received for Korean Patent Application No. 10-2016-7033638, issued on May 31, 2017, 5 pages (2 pages of English Translation and 3 pages of Official Copy).	☒
	3.	Notice of Allowance received for Taiwanese Patent Application No. 104128685, mailed on May 3, 2017, 3 pages (Official Copy Only) (see attached 37 CFR § 1.98(a)(3)).	
	4.	Office Action received for Japanese Patent Application No. 2016535045, mailed on May 12, 2017, 10 pages (5 pages of English Translation and 5 pages of Official Copy).	☒
	5.	Office Action received for Danish Patent Application No. PA201670656, mailed on June 14, 2017, 3 pages.	
	6.	Search Report and Opinion received for Danish Patent Application No. PA201770191, mailed on June 30, 2017, 9 pages.	

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Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	(medical or health) with code and (map or match) and score and synonyms and (reduce or limit) and amount with manipulation	USPAT	OR	OFF	2018/11/21 14:27
L2	1	(medical or health) with code and (map or match) and score and synonyms and (reduce or limit) and amount with manipulation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/21 14:27

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	0	(medical or health) with code and (map or match) and score and synonyms and (reduce or limit) and amount with manipulation	USPAT	OR	OFF	2018/11/21 14:28
L4	1	(medical or health) with code and (map or match) and score and synonyms and (reduce or limit) and amount with manipulation	US-PGPUB; USPAT	OR	OFF	2018/11/21 14:29
L5	92	(medical or health) with code and (map or match) and score and synonyms and (reduce or limit) and (G06F19/36 or G16H10/60 or G06F19/328 or G06F17/273 or G06F17/2705 or G06F17/2795).cpc.	US-PGPUB; USPAT	OR	OFF	2018/11/21 14:32
L6	26	(medical or health) with icd and (map or match) and score and synonyms and (reduce or limit) and (G06F19/36 or G16H10/60 or G06F19/328 or G06F17/273 or G06F17/2705 or G06F17/2795).cpc.	US-PGPUB; USPAT	OR	OFF	2018/11/21 14:33
L7	2	(identify or identifies) with sources with (device or application) and (graph or graphical) and category and (data with sharing with option) and ((approved or approve) with sources) and ((approved or approve) with destination)	US-PGPUB; USPAT	OR	ON	2018/11/21 14:37
L8	2	(identify or identifies) with sources with (device or application) and (graph or graphical) and category and (data with sharing with option) and ((approved or approve) with sources) and ((approved or approve) with destination) and (H04M1/72541 or G06F19/00 or H04W4/90 or G16H40/63 or G06F19/3481 or G06F19/3418 or H04W4/14 or H04M1/72538 or G16H10/60 or H04W88/02).cpc.	US-PGPUB; USPAT	OR	ON	2018/11/21 14:39

11/21/2018 2:39:32 PM

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
122 of 2716

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

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	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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U.S. PATENT APPLICATION PUBLICATIONS

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FOREIGN PATENT DOCUMENTS

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	1.	1935339	EP	A1	2008-06-25	Polar Electro Oy		

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Extended European Search Report received for European Patent Application No. 18154145.9, mailed on March 02, 2018, 8 pages.	
	2.	International Preliminary Report on Patentability received for PCT Application No. PCT/US2016/037686, mailed on March 01, 2018, 12 pages.	
	3.	Notice of Allowance received for Japanese Patent Application No. 2016-535045, mailed on March 02, 2018, 5 pages (2 pages of English Translation and 3 pages of Official Copy).	☒
	4.	Office Action received for Australian Patent Application No. 2018200428, mailed on March 07, 2018, 4 pages.	

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-03-22
Name/Print	Randy Omid	Registration Number	67,439

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	Attorney Docket Number	106842130031 (P23397US3)

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	2.	2005/070289	WO	A1	2005-08-04	Koninklijke Philips Electronics N. V.		

NON-PATENT LITERATURE DOCUMENTS

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	1.	Non Final Office Action received for U.S. Patent Application No. 14/839,916, mailed on February 04, 2016, 19 pages.	
	2.	Non Final Office Action received for U.S. Patent Application No. 14/839,922, mailed on February 25, 2016, 20 pages.	
	3.	Notice of Allowance received for Chinese Patent Application No. 201520358505.5, mailed on January 13, 2016, 3 pages (2 pages of English Translation and 1 page of Official Copy).	☒
	4.	Office Action received for Danish Patent Application No. PA201570666, mailed on February 02, 2016, 9 pages.	
	5.	International Search Report received for PCT Patent Application No. PCT/US2013/073195, mailed on June 23, 2014, 3 pages.	
	6.	Invitation to Pay Additional Fees received for PCT Patent Application No. PCT/US2015047282, mailed on December 22, 2015, 7 pages.	

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EXAMINER SIGNATURE			
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Signature	/Jordan Lofdahl/	Date (YYYY-MM-DD)	2016-04-05
Name/Print	Jordan M. Lofdahl	Registration Number	59,163

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	1.	8543081	B2	2013-09-24	Scott et al.	

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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.	20130290013	A1	2013-10-31	Forrester, Andrew	
	2.	20130295872	A1	2013-11-07	Guday et al.	
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24. NUDGING PATIENT DECISION-MAKING ... 6

25. Neural information retrieval: at the end of the early years ... 6

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Search Strategy

Databases: AdisInsight: Drugs, AdisInsight: Safety Reports, AdisInsight: Trials, Adis Pharmacoeconomics & Outcomes News, Allied & Complementary Medicine™, Analytical Abstracts, Aqualine, Aquatic Science & Fisheries Abstracts (ASFA), BIOSIS Previews®, CAB ABSTRACTS, Chemical Engineering & Biotechnology Abstracts, EconLit, Ei Compendex®, Embase®, Foodline®: MARKET, Foodline®: PRODUCT, Foodline®: SCIENCE, FSTA®, Gale Group Health Periodicals Database, Gale Group PharmaBiomed Business Journals, Gale Group PROMT®, GeoRef, Global Health, Inspec®, KOSMET: Cosmetic Science, MEDLINE®, Meteorological & Geoastrophysical Abstracts, Northern Light Life Sciences Conference Abstracts, NTIS: National Technical Information Service, Oceanic Abstracts, Polymer Library, ProQuest Technology Research Professional, SciSearch®: a Cited Reference Science Database, ToxFile®

Set#	Searched for	Results
S3	(medical code) AND (map or match) AND score AND synonyms AND (reduce or limit) AND (amount of manipulation)	25°
S2	(medical code) AND (map or match) AND score AND synonyms AND (reduce or limit) AND (amount of manipulation)	25°
S1	(medical code) AND icd-9 AND (map or match) AND score AND synonyms AND (reduce or limit) AND (amount of manipulation)	0°

° Duplicates are removed from the search and from the result count.

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AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Document 1 of 25

B. METEOROLOGY

Author: Rigby, Malcolm
Publication info: Meteorological and Geoastrophysical Abstracts 28.9: 1689-1860. Boston: American Meteorological Society. (Sep 1977)
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Databases: Oceanic Abstracts, Aquatic Science & Fisheries Abstracts (ASFA), Meteorological & Geoastrophysical Abstracts

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Author: Swets, John A
Publication info: Science 240.n4857: p1285(9). American Association for the Advancement of Science. (Jun 3, 1988)
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Databases: Gale Group Health Periodicals Database (1983 - current)

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Author: Richard A.E. North; Duguid, Jim P; Sheard, Michael A
Publication info: British Food Journal 98.2/3: 4-109. Emerald Group Publishing Limited. (1996)
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Author: White, Howard D
Publication info: Journal of the American Society for Information Science and Technology 52.2: 87-108. Wiley Periodicals Inc. (Jan 15, 2001)
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Author: Wildemuth, Barbara M
Publication info: Journal of the American Society for Information Science and Technology 55.3: 246-258. Wiley Periodicals Inc. (Feb 1, 2004)
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Author: Nixon, Lyndon J B; Simperl, Elena; Krummenacher, Reto; Martin-Recuerda, Francisco
Publication info: The Knowledge Engineering Review 23.2: 181-212. Cambridge University Press. (Jun 2008)
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Author: Hersh, William; Voorhees, Ellen
Publication info: Information Retrieval 12.1: 1-15. Springer Science & Business Media. (Feb 2009)
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Author: Saravanan, M; Ravindran, B; Raman, S
Publication info: Artificial Intelligence and Law 17.2: 101-124. Springer Science & Business Media. (Jun 2009)
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Author: Spasic, Irena; Simeonidis, Evangelos; Messiha, Hanan L; Paton, Norman W; Kell, Douglas B
Publication info: Bioinformatics 25.11: 1404-11. Oxford Publishing Limited(England). (Jun 1, 2009)
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Author: Pavlopoulos, Georgios A; Soldatos, Theodoros G; Barbosa-Silva, Adriano; Schneider, Reinhard
Publication info: Biodata Mining 3 : 1. BioMed Central. (2010)
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Author: Gundersen, Sveinung; Kalas, Matús; Abul, Osman; Frigessi, Arnoldo; Hovig, Eivind; Sandve, Geir Kjetil
Publication info: BMC Bioinformatics 12 : 494. BioMed Central. (2011)
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Author: Mohammad, Fahim; Flight, Robert M; Harrison, Benjamin J; Petruska, Jeffrey C; Rouchka, Eric C
Publication info: BMC Bioinformatics 13 : 229. BioMed Central. (2012)
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Author: Erill, Ivan
Publication info: International Journal of Evolution Equations 7.3/4: 247-274. Nova Science Publishers, Inc. (2012)
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Author: Camacho, Jorge; Medina, Luis; Cruza, Jorge F; Moreno, José M; Fritsch, Carlos
Publication info: Archives of Acoustics 37.3: 253. De Gruyter Open Sp. z o.o. (Nov 2012)
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Author: Leitch, Megan E; Casman, Elizabeth; Lowry, Gregory V
Publication info: Journal of Nanoparticle Research 14.12: 1-23. Springer Science & Business Media. (Dec 2012)
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Author: Stoltzfus, Arlin; Lapp, Hilmar; Matasci, Naim; Deus, Helena; Sidlauskas, Brian; Zmasek, Christian M; Vaidya, Gaurav; Pontelli, Enrico; Cranston, Karen; Vos, Rutger; Webb, Campbell O; Harmon, Luke J; Pirrung, Megan; O'Meara, Brian; Pennell, Matthew W; Mirarab, Siavash; Rosenberg, Michael S; Balhoff, James P; Bik, Holly M; Heath, Tracy A; Midford, Peter E; Brown, Joseph W; McTavish, Emily Jane; Sukumaran, Jeet; Westneat, Mark; Alfaro, Michael E; Steele, Aaron; Jordan, Greg
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IPR2023-01434, U.S. Patent No. 10,270,898
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Author: Zang, Liang-jun; Cao, Cong; Cao, Ya-nan; Wu, Yu-ming; Cao, Cun-gen
Publication info: Journal of Computer Science and Technology 28.4: 689-719. Springer Science & Business Media. (Jul 2013)
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Author: Agarwal, Pankaj; Owzar, Kouros
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Author: Mahmoud, Anas; Niu, Nan
Publication info: Requirements Engineering 19.3: 309-329. Springer Science & Business Media. (Sep 2014)
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Author: Fauzi, Fariza; Belkhatir, Mohammed
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Author: Mahmoud, Anas; Niu, Nan
Publication info: Requirements Engineering 20.3: 281-300. Springer Science & Business Media. (Sep 2015)
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AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Author: Wildgaard, Lorna Elizabeth; Lund, Haakon

Publication info: Library Hi Tech 34.4: 669-684. Emerald Group Publishing Limited. (2016)

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Author: Epstein, Wendy Netter

Publication info: Washington Law Review 92.3: 1255(61). Washington Law Review Association. (Oct 2017)

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Databases: Gale Group Health Periodicals Database (1983 - current)

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Neural information retrieval: at the end of the early years

Author: Onal, Kezban Dilek 1 ; Zhang, Ye 2 ; Ismail Sengor Altingovde 3 ; Rahman, Md Mustafizur 2 ; Karagoz, Pinar 3 ; Braylan, Alex 2 ; Dang, Brandon 2 ; Heng-Lu, Chang 2 ; Kim, Henna 2 ; McNamara, Quinten 2 ; Angert, Aaron 4 ; Banner, Edward 5 ; Khetan, Vivek 2 ; McDonnell, Tyler 2 ; An Thanh Nguyen 2 ; Xu, Dan 2 ; Wallace, Byron C 5 ; de Rijke, Maarten 6 ; Lease, Matthew 2 1 Middle East Technical University, Ankara, Turkey; University of Amsterdam, Amsterdam, The Netherlands 2 University of Texas at Austin, Austin, TX, USA 3 Middle East Technical University, Ankara, Turkey 4 IBM, New York, NY, USA 5 College of Computer and Information Science, Northeastern University, Boston, MA, USA 6 University of Amsterdam, Amsterdam, The Netherlands

Publication info: Information Retrieval 21.2-3: 111-182. Springer Science & Business Media. (Jun 2018)

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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	14599424
Filing Date	2015-01-16
First Named Inventor	Christopher D. Soli
Art Unit	3626
Examiner Name	Not Yet Assigned
Attorney Docket Number	106842130031 (P23397US3)

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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	6266098	B1	2001-07-24	Cove et al.	
	2	6323846	B1	2001-11-27	Westerman et al.	
	3	6570557	B1	2003-05-27	Westerman et al.	
	4	6661438	B1	2003-12-09	Shiraishi et al.	
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	6	6677932	B1	2004-01-13	Westerman, Wayne Carl	
	7	7081905	B1	2006-07-25	Raghunath, Mandayam T.	
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.A.L/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14599424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. Soli
	Art Unit	3626
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	106842130031 (P23397US3)

	9	7614008	B2	2009-11-03	Ording, Bas	
	10	7633076	B2	2009-12-15	Huppi et al.	
	11	7653883	B2	2010-01-26	Hotelling et al.	
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	13	7663607	B2	2010-02-16	Hotelling et al.	
	14	7844914	B2	2010-11-30	Andre et al.	
	15	7957762	B2	2011-06-07	Herz et al.	
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	Art Unit	3626
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	106842130031 (P23397US3)

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	22	8666361	B2	2014-03-04	Chu et al.	
	23	6809724	B1	2004-10-26	Shiraishi et al.	

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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
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	2	20050187873	A1	2005-08-25	Labrou et al.	
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	Examiner Name	Not Yet Assigned
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IPR2023-01434, U.S. Patent No. 10,270,898
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	Examiner Name	Not Yet Assigned
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	Examiner Name	Not Yet Assigned
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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	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	1052566	EP	A1	2000-11-15	Alcatel		☐
	2	2551784	EP	A1	2013-01-30	Roche Diagnostics GmbH		☐
	3	2006/037545	WO	A2	2006-04-13	Nokia Corporation		☐
	4	2013/169849	WO	A2	2013-11-14	Yknots Industries LLC		☐
	5	2014/105276	WO	A1	2014-07-03	Yknots Industries LLC		☐

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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	Non Final Office Action received for U.S. Patent Application No. 14/503,072, mailed on January 26, 2015, 12 pages.	☐
	2	Non Final Office Action received for U.S. Patent Application No. 14/503,296, mailed on January 30, 2015, 16 pages.	☐
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	Examiner Name	Not Yet Assigned
	Attorney Docket Number	106842130031 (P23397US3)

	4	Non-Final Office Action received for U.S. Patent Application No. 14/503,381, mailed on May 13, 2015, 13 pages.	☐
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	6	KAMIJO, NOBORU, "Next Generation Mobile System - WatchPad1.5", Available at "http://researcher.ibm.com/researcher/view_group_subpage.php?id=5617", retrieved on July 4, 2015, 2 pages.	☐
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	8	NDTV, "Sony SmartWatch 2 Launched in India for Rs. 14,990", available at "http://gadgets.ndtv.com/others/news/sony-smartwatch-2-launched-in-india-for-rs-14990-420319", September 18, 2013, 4 pages.	☐
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	13	International Search Report and Written Opinion received for PCT Patent Application No. PCT/US2015/019321, mailed on June 3, 2015, 11 pages.	☐
	14	APPLE, "iPhone User's Guide", 2007, 137 pages.	☐

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	Examiner Name	Not Yet Assigned
	Attorney Docket Number	106842130031 (P23397US3)

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EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

*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.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Christopher D. Soli
	Art Unit	3626
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	106842130031 (P23397US3)

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	/Brian B. Ho/	Date (YYYY-MM-DD)	2015-06-22
Name/Print	Brian B. Ho	Registration Number	60,199

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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.

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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.

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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

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

Application Number	14599424
Filing Date	2015-01-16
First Named Inventor	Christopher D. SOLI
Art Unit	3626
Examiner Name	R. W. Morgan
Attorney Docket Number	106842130031 (P23397US3)

U.S. PATENTS

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.	5788655	A	1998-08-04	Yoshimura et al.	

U.S. PATENT APPLICATION PUBLICATIONS

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.	20020118121	A1	2002-08-29	Lehrman et al.	
	2.	20110003665	A1	2011-01-06	Burton et al.	
	3.	20110230986	A1	2011-09-22	Lafortune et al.	
	4.	20130188322	A1	2013-07-25	Lowe, Steve	
	5.	20140081666	A1	2014-03-20	Teller et al.	
	6.	20140245161	A1	2014-08-28	Yuen et al.	
	7.	20140257537	A1	2014-09-11	Stroupe et al.	
	8.	20140282153	A1	2014-09-18	Christiansen et al.	
	9.	20140344723	A1	2014-11-20	Malik et al.	
	10.	20150106025	A1	2015-04-16	Keller et al.	
	11.	20150130830	A1	2015-05-14	Nagasaki et al.	

FOREIGN PATENT DOCUMENTS

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	1.	201210368	TW	A	2012-03-01	HTC Corporation	English Abstract Submitted	
	2.	201240499	TW	A	2012-10-01	HTC Corporation	English Abstract Submitted	

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Final Office Action received for U.S. Patent Application No. 14/839,922, mailed on December 14, 2016, 22 pages.	
	2.	International Preliminary Report on Patentability Received for PCT Patent Application No. PCT/US2015/032474, mailed on December 15, 2016, 7 pages.	
	3.	Non-Final Office Action received for U.S. Patent Application No. 14/599,425, mailed on October 26, 2016, 22 pages.	

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	Examiner Name	R. W. Morgan
	Attorney Docket Number	106842130031 (P23397US3)

	4.	Non-Final Office Action received for U.S. Patent Application No. 14/839,922, mailed on August 17, 2016, 25 pages.	
	5.	Notice of Allowance received for Danish Patent Application No. PA201570666, mailed on September 15, 2016, 1 page.	
	6.	Notice of Allowance received for U.S. Patent Application No. 14/839,916, mailed on August 31, 2016, 11 pages.	
	7.	Office Action received for Australian Patent Application No. 2015312215, mailed on October 13, 2016, 3 pages.	
	8.	Office Action Received for Danish Patent Application No. PA201670656, mailed on November 03, 2016, 8 pages.	
	9.	Office Action received for Danish Patent Application No. PA201570668, mailed on September 09, 2016, 3 pages.	
	10.	Office Action received for Korean Patent Application No. 10-2016-7033638, mailed on January 31, 2017, 6 pages (2 pages of English Translation and 4 pages of Official Copy).	☒
	11.	Office Action received for Taiwanese Patent Application No. 104117509, mailed on August 22, 2016, 6 pages (3 pages of English Translation and 3 pages of Official Copy).	☒
	12.	Office Action received for Taiwanese Patent Application No. 104128685, mailed on January 04, 2017, 40 pages (15 pages of English Translation and 25 pages of Official Copy).	☒

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	Art Unit	3626
	Examiner Name	R. W. Morgan
	Attorney Docket Number	106842130031 (P23397US3)

	13.	Written Opinion received for PCT Patent Application No. PCT/US2013/073195, mailed on June 23, 2014, 8 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

*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.

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☐ 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	/Jordan Lofdahl/	Date (YYYY-MM-DD)	2017-03-10
Name/Print	Jordan Lofdahl	Registration Number	59,163

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Notice of Acceptance received for Australian Patent Application No. 2015267240, mailed on April 10, 2018, 3 pages.	
	2.	Office Action received for European Patent Application No. 13811085.3, mailed on April 20, 2018, 15 pages	
	3.	Office Action received for European Patent Application No. 18154145.9, mailed on April 03, 2018, 6 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

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☐ 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	/Randy Omid/	Date (YYYY-MM-DD)	2018-05-23
Name/Print	Randy Omid	Registration Number	67,439

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	77770000-376103 (P23397US3)

U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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.	20170281057	A1	2017-10-05	Blahnik et al.	

FOREIGN PATENT DOCUMENTS

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	2.	Notice of Allowance received for U.S. Patent Application No. 14/839,922, mailed on November 02, 2017, 8 pages.	
	3.	Office Action received for European Patent Application No.15771747.1, mailed on October 31, 2017, 7 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

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	Examiner Name	R. W. Morgan
	Attorney Docket Number	106842130031 (P23397US3)

U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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.	20060155578	A1	2006-07-13	Eisenberger et al.	

FOREIGN PATENT DOCUMENTS

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]

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Non-Final Office Action received for U.S. Patent Application No. 14/839,916, mailed on May 01, 2017, 18 pages.	
	2.	Notice of Allowance received for Taiwanese Patent Application No. 104117509, mailed on March 31, 2017, 3 pages (Official Copy Only) (see attached 37 CFR § 1.98(a) (3)).	
	3.	Office Action received for Australian Patent Application No. 2015267240, mailed on April 10, 2017, 5 pages.	

EXAMINER SIGNATURE

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.A.L/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. 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	14599424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3626
	Examiner Name	R. W. Morgan
	Attorney Docket Number	106842130031 (P23397US3)

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

*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.

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Doc code: IDS
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Filing Date	2015-01-16
First Named Inventor	Christopher D. SOLI
Art Unit	3626
Examiner Name	R. W. Morgan
Attorney Docket Number	106842130031 (P23397US3)

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	/Jordan Lofdahl/	Date (YYYY-MM-DD)	2017-05-11
Name/Print	Jordan Lofdahl	Registration Number	59,163

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.**

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Notice of Allowance received for Danish Patent Application No. PA201570668, mailed on October 30, 2017, 2 pages.	

EXAMINER SIGNATURE

Examiner Signature	/ELIZA A LAM/	Date Considered	11/25/2018

*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.

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	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

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EFS Web 2.1.17
105768704\V-1

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	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

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☐ See attached certification statement.

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☒ 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	/Randy Omid/	Date (YYYY-MM-DD)	2017-11-30
Name/Print	Randy Omid	Registration Number	67,439

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.**

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105768704\V-1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.A.L/

Bibliographic Data

Application No: 14/599,424

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /ELIZA LAM/ (Examiner's Signature) | (Initials)

Title: WELLNESS AGGREGATOR

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
01/16/2015	705	3686	P23397US3/77770000376103
RULE			

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CONTINUING DATA

This application has PRO of 62006032 05/30/2014

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

01/30/2015

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San Diego, CA 92121
UNITED STATES

FILING FEE RECEIVED

$2,860

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Christopher D. SOLI
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	Examiner Name	E. A. Lam
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U.S. PATENTS

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	1.	2008-272301	JP	A	2008-11-13	Olympus Medical Systems Corp	English Abstract Submitted	

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Japanese Patent Application No. 2016-569945, mailed on September 10, 2018, 11 pages (6 pages of English Translation and 5 pages of Official Copy).	☒

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Examiner Signature		Date Considered	

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-10-23
Name/Print	Randy Omid	Registration Number	67,439

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Espacenet

Bibliographic data: JP2008272301 (A) — 2008-11-13

MEDICAL SYSTEM AND MEDICAL INSTRUMENT CONTROL DEVICE

Inventor(s): YAMAKI MASAHIDE; ITO MASARU ± (YAMAKI MASAHIDE, ; ITO MASARU)

Applicant(s): OLYMPUS MEDICAL SYSTEMS CORP ± (OLYMPUS MEDICAL SYSTEMS CORP)

Classification: **- international:** ***A61B19/00; G06Q50/22; G06Q50/24***
- cooperative:

Application number: JP20070121151 20070501 Global Dossier

Priority number(s): JP20070121151 20070501

Also published as: JP4472723 (B2)

Abstract of JP2008272301 (A)

PROBLEM TO BE SOLVED: To provide a medical system and a medical instrument control device sharing patient information conformed to a type of usage actually desired by a user or facilities. ;SOLUTION: This medical system 1 provided with a plurality of medical instruments having input means for inputting the patient information, and a system controller 4 connected thereto via communication wires 10a or the like, sets an input means, or an input destination for actually receiving the input of the patient information, or a medical instrument, and sets a transfer destination medical instrument sharing the patient information. This system is configured to receive the patient information only from the set input means and transfer the patient information to the set transfer destination medical instrument, so as to easily respond to the type of usage desired by the user and the like. ;COPYRIGHT: (C)2009,JPO&INPIT

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
175 of 2716

(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2008-272301
(P2008-272301A)
(43)公開日　平成20年11月13日(2008.11.13)

(51)Int.Cl.		F I			テーマコード（参考）
A61B 19/00	(2006.01)	A61B	19/00	502	
G06Q 50/00	(2006.01)	G06F	17/60	126K	

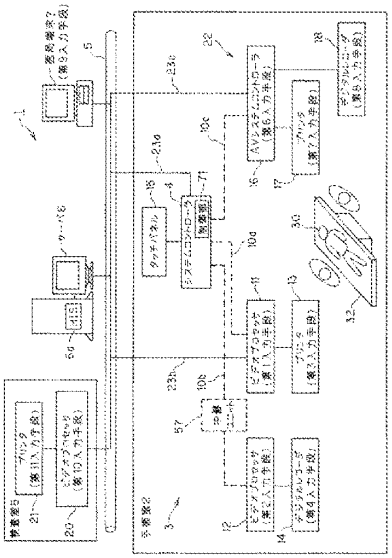
審査請求 未請求　請求項の数 6　OL　（全 21 頁）

(21)出願番号　特願2007-121151 (P2007-121151)
(22)出願日　平成19年5月1日 (2007.5.1)

(71)出願人　304050923
オリンパスメディカルシステムズ株式会社
東京都渋谷区幡ヶ谷２丁目４３番２号
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東京都渋谷区幡ヶ谷２丁目４３番２号　オリンパスメディカルシステムズ株式会社内
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東京都渋谷区幡ヶ谷２丁目４３番２号　オリンパスメディカルシステムズ株式会社内

(54)【発明の名称】医療システム及び医療機器制御装置

(57)【要約】
【課題】ユーザ若しくは施設において実際に望まれる使用形態に適合した患者情報の共有化を行うことができる医療システム及び医療機器制御装置を提供する。
【解決手段】患者情報を入力可能とする入力手段を備えた複数の医療機器と、これらが通信線１０ａ等を介して接続されたシステムコントローラ４を備えた医療システム１において、実際に患者情報の入力を受け付ける入力先となる入力手段若しくは医療機器の設定と、その患者情報を共有する転送先の医療機器の設定とが行われる。設定された入力手段のみから患者情報を受け付け、その患者情報を設定された転送先の医療機器に転送する構成にして、ユーザ等が望む使用形態に対処し易くしている。
【選択図】図１



AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
176 of 2716

【特許請求の範囲】
【請求項1】
医療行為を行うための複数の医療機器と、前記複数の医療機器を制御する医療機器制御装置とを有する医療システムであって、
前記各医療機器は、それぞれ
患者情報を入力する入力手段と、
前記入力手段により入力された患者情報を前記医療機器制御装置に送信する送信手段を備え、
前記医療機器制御装置は、
前記送信手段により送信された患者情報を受信する受信手段と、
前記受信した患者情報を記憶する記憶手段と、
前記入力手段のうち、患者情報の入力先として登録された入力先手段として設定する入力先設定手段と、
前記複数の医療機器のうち、前記入力先手段からの患者情報を共有するために、該患者情報を転送する転送先の医療機器を設定する転送先設定手段と、
少なくとも前記入力先手段及び前記転送先の医療機器の情報を含み、前記入力先手段からの患者情報を転送する転送ルートに係るルート情報と、前記入力先手段から入力された患者情報とを記憶する記憶手段と、
前記ルート情報に基づき、前記入力先手段から入力される患者情報を、前記転送先の医療機器へ転送する転送手段と、
を備えることを特徴とする医療システム。
【請求項2】
前記入力手段による患者情報の入力を検知する検知手段と、
前記検知手段により検知された入力手段が、前記入力先設定手段により設定された入力先手段であるかどうかを判定する判定手段と、
前記判定手段により前記入力手段が前記入力先手段でないと判定した場合には、前記転送手段による前記患者情報の転送の動作を中止することを特徴とする請求項１に記載の医療システム。
【請求項3】
前記入力先手段による患者情報の入力を検知する検知手段と、
前記検知手段により検知された際に、医療行為が行われている最中か否かを判定する判定手段と、
前記判定手段により医療行為が行われている最中と判定された場合には、前記入力先手段による患者情報の更新を拒否し、医療行為が行われていないと判定された場合には、前記入力先手段による患者情報が該入力先手段による入力前の患者情報と異なる場合に、患者情報を更新して前記記憶手段に記憶することを特徴とする請求項１又は２に記載の医療システム。
【請求項4】
さらに、複数の入力先手段からの患者情報の入力に対して、優先順位を設定することを特徴とする請求項１から３のいずれかの請求項に記載の医療システム。
【請求項5】
医療行為を行うための複数の医療機器を制御すると共に、患者情報の入力を行う複数の入力手段を直接、若しくは前記医療機器を介して制御する医療機器制御装置であって、
前記複数の入力手段のうちから、患者情報の入力先として登録された入力先手段を設定する入力先設定手段と、
前記複数の医療機器のうちから、前記入力先手段からの患者情報を共有するため、該患者情報を転送する転送先の医療機器を設定する転送先設定手段と、
少なくとも前記入力先手段及び前記転送先の医療機器の情報を含み、前記入力先手段から入力された前記患者情報を転送する転送ルートに係るルート情報と、前記入力先手段か

ら入力された患者情報とを記憶する記憶手段と、
　前記入力先手段から入力される患者情報に対する判定結果に応じて、該患者情報を前記転送先の医療機器に転送するか否かの制御動作を行う転送制御手段と、
　を備えたことを特徴とする医療機器制御装置。
【請求項6】
　前記転送制御手段は、前記入力先手段から入力された患者情報が、前記記憶手段に記憶されている患者情報と異なる場合には、前記入力先手段から入力された患者情報を前記転送先の医療機器に転送する動作を行うことを特徴とする請求項５に記載の医療機器制御装置。
【発明の詳細な説明】
【技術分野】
【0001】
　本発明は、複数の医療機器を用いて患者情報の共有化を行う医療システム及び医療機器制御装置に関する。
【背景技術】
【0002】
　一般に、複数の医療機器を備えた医療システムにおいては、患者情報を入力する手段が設けられている。
　例えば、従来例としての特開２００１－３５０５６３号公報には、患者情報等の所定の項目のデータを入力する手間を軽減可能な入力装置、入出力装置及び入出力方法が開示されている。
　この従来例においては、患者情報等のデータを入力する入力操作キーを備えたキーボード装置により、入力されたデータを記憶して、第１の医療機器としての超音波診断装置本体に出力する。また、このキーボード装置は、第１の医療機器から第２の医療機器としてのビデオプロセッサにデータの転送を指示し、この指示により、データの転送処理を実行することを可能にしている。
【0003】
　このような構成として、患者情報等のデータを入力する手間を軽減できるようにしている。
　また、それぞれ患者情報を入力する入力手段を備えた複数の医療機器と、これらを集中制御する集中制御装置とを備えた従来の医療システムにおいては、医療機器から入力された患者情報を集中制御装置が受け取り、受け取った患者情報を他の医療機器へ転送することにより、すべての医療機器に対して共有化をはかっていた。
　この際に、患者情報が入力された医療機器から、集中制御装置までは通信回路等を介して、データの受け渡しが行われる。
【特許文献1】特開２００１－３５０５６３号公報
【発明の開示】
【発明が解決しようとする課題】
【0004】
　上記のように患者情報が入力された医療機器から、集中制御装置までは通信回路等を介して、データの受け渡しが行われるために、ユーザが意図した通りに患者情報の共有化が反映されるとは限らなかった。
　また、従来例においては、医療システムを使用するユーザや、医療システムが形成されている病院等の施設において、実際に使用しようと望む使用形態で患者情報を共有化して利用することが簡単にできない欠点があった。
【0005】
（発明の目的）
　本発明は上述した点に鑑みてなされたもので、ユーザ若しくは施設において実際に望まれる使用形態に適合した患者情報の共有化を行うことができる医療システム及び医療機器制御装置を提供することを目的とする。
【課題を解決するための手段】

【0006】
本発明の医療システムは、医療行為を行うための複数の医療機器と、前記複数の医療機器を制御する医療機器制御装置とを有する医療システムであって、
前記各医療機器は、それぞれ
患者情報を入力する入力手段と、
前記入力手段により入力された患者情報を前記医療機器制御装置に送信する送信手段を備え、
前記医療機器制御装置は、
前記送信手段により送信された患者情報を受信する受信手段と、
前記受信した患者情報を記憶する記憶手段と、
前記入力手段のうち、患者情報の入力先として登録された入力先手段として設定する入力先設定手段と、
前記複数の医療機器のうち、前記入力先手段からの患者情報を共有するために、該患者情報を転送する転送先の医療機器を設定する転送先設定手段と、
少なくとも前記入力先手段及び前記転送先の医療機器の情報を含み、前記入力先手段からの患者情報を転送する転送ルートに係るルート情報と、前記入力先手段から入力された患者情報とを記憶する記憶手段と、
前記ルート情報に基づき、前記入力先手段から入力される患者情報を、前記転送先の医療機器へ転送する転送手段と、
を備えることを特徴とする。
【0007】
本発明の医療機器制御装置は、医療行為を行うための複数の医療機器を制御すると共に、患者情報の入力を行う複数の入力手段を直接、若しくは前記医療機器を介して制御するものであって、
前記複数の入力手段のうちから、患者情報の入力先として登録された入力先手段を設定する入力先設定手段と、
前記複数の医療機器のうちから、前記入力先手段からの患者情報を共有するため、該患者情報を転送する転送先の医療機器を設定する転送先設定手段と、
少なくとも前記入力先手段及び前記転送先の医療機器の情報を含み、前記入力先手段から入力された前記患者情報を転送する転送ルートに係るルート情報と、前記入力先手段から入力された患者情報とを記憶する記憶手段と、
前記入力先手段から入力される患者情報に対する判定結果に応じて、該患者情報を前記転送先の医療機器に転送するか否かの制御動作を行う転送制御手段と、
を備えたことを特徴とする。
【発明の効果】
【0008】
本発明によれば、ユーザ若しくは施設において実際に望まれる使用形態に適合した患者情報の共有化を行うことができる。
【発明を実施するための最良の形態】
【0009】
以下、図面を参照して本発明の実施例を説明する。
【実施例】
【0010】
図１ないし図１２は本発明の実施例１に係り、図１は本発明の実施例１の医療システムの全体構成を示し、図２は図１における代表的な入力手段の具体例を示し、図３は図１の手術室内に配置された医療機器の詳細な構成例を示し、図４はビデオプロセッサの主要な構成例、図５はシステムコントローラの主要な構成例、図６はＡＶコントロールシステムの主要な構成例を示す。
図７は患者情報の詳細なデータ例を示し、図８はシステムコントローラに接続された入力先候補となる入力手段を備えた医療機器及び転送先候補となる医療機器とを示し、図９

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は図８の医療機器から患者情報の入力先の医療機器及び転送先の医療機器を設定するルート設定画面を示し、図１０はルート設定を行う動作のフローチャートを示し、図１１は医師名を用いてルート設定を行う動作の一部を示し、図１２は実際に患者情報が入力された場合における医療システムにおける動作のフローチャートを示す。

【0011】

図１に示すように実施例１の医療システム１は、例えば病院に設けられている。なお、図１では概略の構成を示している。

この医療システム１は、手術室２内に設けられた手術室内医療システム３と、この手術室内医療システム３を構成するシステムコントローラ４が接続されたイーサネット（登録商標）等の病院内ＬＡＮ５に接続されたサーバ６と、医局端末７と、検査室８に設けられた医療機器としての例えば検査用ビデオプロセッサ（以下、第３ビデオプロセッサ）２０及びプリンタ２１等から構成される。

図１に示すように手術室２内の手術室内医療システム３には、患者情報等を入力する複数の入力手段（又は入力装置）及び医療行為を行うための複数の医療機器と、複数の医療機器を集中制御するシステムコントローラ４とが設けられている。

また、このシステムコントローラ４は、後述するように患者情報の入力と、その患者情報を共有する医療機器への転送とに係る制御処理を行う医療機器制御装置としての機能を有する。

【0012】

このシステムコントローラ４には、それぞれ通信線１０ａ、１０ｂを介して第１入力手段を備えた例えば手術用ビデオプロセッサ（以下、第１ビデオプロセッサ）１１及び第２入力手段を備えた手術用ビデオプロセッサ（以下、第２ビデオプロセッサと略記）１２とがそれぞれ接続されている。

なお、図３にて説明するように第２入力手段を備えた第２ビデオプロセッサ１２等は、中継ユニット５７（図１では点線で示している）を介してシステムコントローラ４に接続される構成にしても良い。

また、第１ビデオプロセッサ１１及び第２ビデオプロセッサ１２には、それぞれ第３及び第４入力手段を備えた例えばプリンタ１３及びデジタルレコーダ１４がそれぞれ接続されている。

【0013】

なお、図３にて後述するように例えばプリンタ１３を（電気メス装置３６等の他の医療機器のように通信線を介して）直接システムコントローラ４に接続する構成にしても良い。

また、システムコントローラ４には、例えば第５入力手段としての入力機能を備えたタッチパネル（又は操作パネル）１５が接続されている。

また、この手術室２内には、医療行為を行うための医療機器ではないが、医療行為を行う環境、雰囲気を向上するための音響及び映像（ＡＶと略記）システム２２が設けてある。そして、システムコントローラ４には、ＡＶコントロールシステム２２を構成すると共に、第６入力手段を備えたＡＶシステムコントローラ１６が通信線１０ｃを介して接続されている。

【0014】

ＡＶシステムコントローラ１６は、図示しない音響装置及び映像装置を制御する。また、このＡＶシステムコントローラ１６は、第７入力手段を備えた例えばプリンタ１７と、第８入力手段を備えた例えばデジタルレコーダ１８とが接続されている。

システムコントローラ４、第１ビデオプロセッサ１１、ＡＶシステムコントローラ１６は、それぞれ通信線２３ａ、２３ｂ、２３ｃを介して病院内ＬＡＮ５に接続されている。

なお、第９入力手段を備えた医局端末７や第１０入力手段を備えた第３ビデオプロセッサ２０も病院内ＬＡＮ５に接続されている。そして、この病院内ＬＡＮ５に接続されたシステムコントローラ４及び医療機器等は、サーバ６に設けられたデータベースを構成する

病院情報システム（ＨＩＳと略記）６ａを利用可能にしている。なお、ビデオプロセッサ２０に接続されたプリンタ２１は第１１入力手段を備えている。

【0015】

図２は、主要な入力手段の具体例を示す。図２に示すように例えば手術室２内に設けられた例えば第１ビデオプロセッサ１１には、第１入力手段としてのビデオプロセッサ用キーボード（以下、単にキーボード）２４が接続されている。そして、術者や看護師などのユーザは、このキーボード２４から患者情報（若しくは患者データ）等を入力することができる。

また、システムコントローラ４には、タッチパネル１５が接続されており、ユーザはこのタッチパネル１５から患者情報等を入力することができる。図２では、２つの入力手段の場合を説明したが、他の入力手段も例えばキーボード２４と同様の構成である。勿論、入力手段として、キーボード２４に限定されるものでない。

次に図３を参照して、手術室２内に設けられた手術室内医療システム３の構成を説明する。この手術室内には、患者３０が横たわる患者ベッド３２と、第１の内視鏡手術システム３３が配置される。この内視鏡手術システム３３は、第１トロリ３４に複数の医療機器を搭載して形成されている。また、手技によっては第２の内視鏡手術システム３５が使用される。

【0016】

第１トロリ３４には、医療機器として、例えば電気メス装置３６、気腹装置３７、光源装置３８、第１ビデオプロセッサ１１及びプリンタ１３等の機器類と、二酸化炭素等を充填したガスボンベ４１が載置されている。光源装置３８及び第１ビデオプロセッサ１１は、第１の内視鏡４２に接続される。

また、前記第１トロリ３４には、内視鏡画像等を表示する内視鏡モニタ４３、第１の集中表示パネル４４、タッチパネル１５等が載置されている。

また、前記第１の集中表示パネル４４は、手術中のあらゆるデータを選択的に表示させることが可能な表示手段である。

前記タッチパネル１５は、例えば液晶ディスプレイ等の表示部と、この表示部上に一体的に設けられた例えばタッチセンサとを有し、例えば非滅菌域にいる看護師等が主に操作する集中操作装置として使用される。

【0017】

また、患者ベッド３２の近傍には、別置き表示モニタ４６が配されている。この別置き表示モニタ４６は、術中のデータに加えて、ＣＴスキャンデータやバイタルサインや過去の症例情報など、手技に関するあらゆる情報を表示する表示手段である。この別置き表示モニタ４６は、キャスター付きの移動台を有する支持部材４６Ａに固定されており、移動が自在であり、例えば術者が所望とする位置に配備可能になっている。

さらに、第１トロリ３４には、本医療システム１全体の集中制御を行う集中制御装置であると共に、医療機器制御装置としてのシステムコントローラ４が載置されている。このシステムコントローラ４には、第１ビデオプロセッサ１１が通信線１０ａ（図３中では図示せず）により接続されると共に、電気メス装置３６、気腹装置３７、前記光源装置３８等が、図示しない通信線を介して接続されている。

【0018】

一方、手技によって配備される第２の内視鏡手術システム３５は、第２トロリ５０に複数の医療機器を搭載して形成されている。

第２トロリ５０には、被制御機器である光源装置５１、第２ビデオプロセッサ１２、デジタルレコーダ１４、超音波凝固切開装置５９、内視鏡モニタ５５及び録画内容表示用集中表示パネル５６とが載置されている。

光源装置５１及び第２ビデオプロセッサ１２は、第２の内視鏡５４に接続される。内視鏡モニタ５５は、第２ビデオプロセッサ１２からの出力される内視鏡画像等を表示する。また、録画内容表示用集中表示パネル５６は、録画された内容を集中して表示したり、手術中のあらゆるデータを選択的に表示させることが可能になっている。

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ビデオプロセッサ１２及び光源装置５１、超音波凝固切開装置５９、内視鏡モニタ５５及び録画内容表示用集中表示パネル５６等の各医療機器は、図示しないインターフェイスケーブルにより中継ユニット５７に接続されている。

【0019】

また、中継ユニット５７は、中継ケーブル５８によって、第１トロリ３４に搭載されているシステムコントローラ４に接続される。

また、システムコントローラ４に対して入力操作するための有線方式のリモートコントローラ（以下、リモコンと称す）４８と無線方式の無線リモコン４９とが設けられている。有線方式のリモコン４８は、システムコントローラ４にケーブルを介して接続されている。このリモコン４８は、滅菌域にいる術者等が主に操作する。また、無線リモコン４９により術者等が操作することもできる。

また、システムコントローラ４には、マイクセット５２が接続され、術者はマイクセット５２を装着して、音声によりシステムコントローラ４に指示入力などを行うことができるようにしている。

【0020】

また、手術室２の壁面付近には、上述したＡＶコントロールシステム２２を構成するＡＶシステムコントローラ１６は、プリンタ１７、デジタルレコーダ１８が配置されている。

また、手術の様子を撮影する手術室カメラ５３も設けられている。次に主要な医療機器の概略の構成を説明する。図４は第１ビデオプロセッサ１１の概略の構成を示す。

この第１ビデオプロセッサ１１は、この第１ビデオプロセッサ１１を構成する各部を制御する制御部６０、この制御部６０に接続されると共に、例えば第１の内視鏡４２に対する信号処理を行う信号処理部６１、患者情報等の入力を行うキーボード２４と接続されるキーボードインタフェース６２とを有する。

また、この第１ビデオプロセッサ１１は、サーバ６のＨＩＳ６ａ（若しくは病院内ＬＡＮ５）との通信インタフェース６３、システムコントローラ４と通信を行う通信インタフェース６４、及びこのビデオプロセッサ１１に接続されるプリンタ１３（或いはレコーダ）との通信インタフェース６５を有する。

【0021】

そして、制御部６０は、例えばユーザがキーボード２４を用いて患者情報を入力すると、通信インタフェース６４、病院内ＬＡＮ５を介してシステムコントローラ４にその患者情報を送信する。従って、この通信インタフェース６４は、患者情報の送信手段を構成する。また、システムコントローラ４側も、この第１ビデオプロセッサ１１等のように入力手段を備えた医療機器から患者情報を受信する受信手段（図６における通信インターフェース７４等）を有する。

また、後述するように第１ビデオプロセッサ１１が患者情報を共有する共有対象（転送先）の医療機器に設定された場合には、システムコントローラ４から患者情報が通信インタフェース６５を介して転送（送信）されることになる。

また、第１ビデオプロセッサ１１とは異なる他の医療機器、例えば電気メス装置３６は、図４において、信号処理部６１とは異なる電気メスによる処置に関係する機能を有すると共に、この電気メス装置３６ではキーボードインターフェースを有しない構成である。

また、図５に示すようにＡＶシステムコントローラ１６は、このＡＶシステムコントローラ１６を構成する各部を制御する制御部６６、プリンタ１７及びデジタルレコーダ１８との通信インタフェース６７、システムコントローラ４との通信インタフェース６８、第６入力手段としての例えばタッチパネル６９ａと接続されるタッチパネルインタフェース６９を有する。

【0022】

また、図６に示すようにシステムコントローラ４は、このシステムコントローラ４を構成する各部及び医療システム１を構成する複数の医療機器等に対する制御を行う制御部７１、この制御部７１に接続されたフラッシュメモリ、ハードディスク装置等、情報を記憶

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する記憶部７２、第５入力手段のタッチパネル１５と接続するためのタッチパネルインタフェース７３、ビデオプロセッサとの通信インタフェース７４、気腹装置３７等の医療機器との通信インターフェース７５、ＡＶコントロールシステム２２との通信インタフェース７６を有する。

なお、図３の中継ユニット５７と通信を行う（図６中では点線で示す）中継ユニットとの通信インタフェース７７を備える構成にしても良い。

また、本実施例に係る制御部７１は、以下に説明するように医療システム１を構成する複数の医療機器等に設けられた患者情報を入力する複数の入力手段のうちから、（医療システム１として）実際に患者情報の入力を受け付ける入力先となる入力手段を設定したり、この設定された入力手段から入力された患者情報を転送する転送先の医療機器の設定等の制御若しくは管理を行う医療機器制御装置を形成する。また、この制御部７１は、患者情報の入力を検知（若しくは監視）する検知手段の機能を有する。

【0023】

なお、患者情報の入力を受け付ける入力手段としては、医療機器に不随して設けられたものに限定されるものでないが、説明を簡単化するために入力手段は主に医療機器に不随して設けられていることを想定して説明する。

この制御部７１は、複数の入力手段のうちから、実際に患者情報の入力を受け付ける入力先手段としてなる入力手段を設定若しくは登録する入力先設定部７１ａを有する。本実施例では、複数の入力手段のうちから、入力先手段として１つの入力手段を設定若しくは登録により決定する。

そして、入力先設定部７１ａにより設定された設定情報は、記憶部７２に入力先設定情報７２ａとして記憶される。

また、この制御部７１は、設定された入力先手段から入力された患者情報を共有化する共有対象の医療機器、換言すると入力先手段により入力された患者情報を転送（若しくは出力）する転送先の医療機器を設定する転送先医療機器設定部（以下、転送先設定部）７１ｂの機能を有する。この転送先の医療機器は、患者情報を共有することになる共有対象の医療機器となる。

【0024】

この転送先設定部７１ｂの情報も記憶部７２に転送先設定情報７２ｂとして記憶される。

また、制御部７１は、転送先設定部７１ｂとして、例えば複数の医療機器を設定した場合には、制御部７１から患者情報を転送先の医療機器に転送する転送ルートを設定するルート設定部７１ｃの機能を有する。そして、このルート設定部７１ｃによる情報は、記憶部７２にルート設定情報７２ｃとして記憶される。

なお、ルート設定情報７２ｃとして、入力先手段の情報、つまり入力先設定情報７２ａと転送先設定部７１ｂの情報、つまり転送先設定情報７２ｂとを含めた情報としても良い。つまり、ルート設定情報７２ｃとして転送ルートに直接関係するものと、転送を行う必要があるか否かを判定する際に必要となる入力先設定情報７２ａも含めるようにしても良い。

【0025】

つまり、図６において、記憶部７２は、入力先設定情報７２ａ、転送先設定情報７２ｂ、ルート設定情報７２ｃとを示しているが、ルート設定情報７２ｃが入力先設定情報７２ａ及び転送先設定情報７２ｂを含む構成でも良い。また、医療システム１が単純な構成或いはその転送ルートが単純な場合には、ルート設定情報７２ｃとして、入力先設定情報７２ａ及び転送先設定情報７２ｂのみを含めば良い場合もありえる。

上記のようにルート設定情報７２ｃが入力先設定情報７２ａ及び転送先設定情報７２ｂを含む構成にすると、制御部７１は、このルート設定情報７２ｃを参照することにより、入力手段から入力された患者情報が入力先に設定されている入力手段であるか否かの判定や、入力先に設定されていると判定した場合の転送先の医療機器の情報の取得でき、効率的な制御処理を行うことができる。

このため、以下の説明では、ルート設定情報７２ｃは、入力先設定情報７２ａ及び転送先設定情報７２ｂを含むとして説明する。

【0026】

なお、制御部７１は、上記のように入力手段から入力された患者情報が入力先に設定されている入力手段であるか否かの判定を行う判定手段の機能も持つ。また、制御部７１は、医療システム１において設定されている患者情報を記憶部７２に記憶保持する。

また、入力手段や入力先手段から患者情報が入力された場合、記憶部７２にその患者情報を一時的に記憶する。そして、判定結果として更新すべき患者情報である場合には、以前に記憶保持している患者情報を更新したり、更新すべきでないと判定した場合には入力手段から一時的に記憶した患者情報を破棄する。

記憶部７２に記憶するルート設定情報７２ｃとして、例えば入力先に設定された入力手段のコード、（制御部７１から）第１番目に転送する第１転送先の医療機器のコード、第２番目に転送する第２転送先の医療機器のコード、…、最後に転送する最後の転送先の医療機器のコードのように記憶しても良い。

【0027】

なお、転送ルートは、通常は、制御部７１から患者情報が転送される転送先の医療機器となるが、これに限定されるものでない。例えば制御部７１から通信線１０ｂを介して第２ビデオプロセッサ１２に転送する転送ルートと、例えば患者情報の入力先となる第１ビデオプロセッサ１１から（制御部７１を経由しないで）通信線２３ｂによる病院内ＬＡＮ５経由で医局端末７に転送する転送ルートを併用して患者情報を転送するようにしても良い。

この場合のように、設定される入力先や転送先の医療機器に応じて、複数の転送ルートがその医療システム１内に存在する場合には、制御部７１は例えばデフォルトで設定された転送ルートで設定する。或いは、使用形態に応じて、ユーザに対して、複数の転送ルートが存在することを告知し、ユーザが決定するようにしても良い。或いは、以前の転送に要した時間の平均値等を調べて、転送をより短時間で行える転送ルートに自動設定するようにしても良い。

【0028】

また、制御部７１は、医療システム１が動作中の場合、複数の入力手段からの入力を監視し、実際に入力操作が行われた場合、その入力手段が入力先として登録（許可）された入力手段か、つまり入力先設定情報７２ａに該当する入力手段であるかの判定を行う。

そして、入力先設定情報７２ａに該当する入力手段から患者情報が入力された場合には、制御部７１は、ルート設定情報７２ｃを参照して、記憶部７２の患者情報を更新すると共に、共有対象となる転送先の医療機器にその患者情報を転送する。転送された医療機器は、その患者情報を更新する。

つまり、この制御部７１は、ルート設定情報７２ｃに従って、患者情報を転送する転送部若しくは転送制御する転送制御部７１ｄの機能を有する。

図７は、入力手段から入力される患者情報の種類（項目）とその最大文字数（最大情報量）の具体例を示す。患者情報の種類として具体的には、患者ＩＤ、患者氏名、年令、性別、患者生年月日、医師名、コメント等があり、それぞれ最大文字数が決められている。

また、図８は、入力先の入力手段として設定可能な入力先候補の医療機器（の入力手段）例と、転送先の医療機器として設定可能な転送先の医療機器候補例を示す。なお、－は、何も行わない候補例であり、これを選択することもできる。

【0029】

そして、ユーザは、図９に示すように例えばタッチパネル１５の操作画面上に表示される入力先設定画面及び転送先設定画面により、患者情報の入力先の入力手段と転送先の医療機器を選択して設定（登録）することができる。

ユーザはこの操作画面上の入力先設定画面において、入力先に設定しようとする医療機器（の入力手段）を１つタッチにより選択設定する。図９の例では、例えば第１ビデオプロセッサ１１（のキーボード２４）を入力先に選択した例を示している。なお、１つも選

択しないで、入力先を設定しないこともできる。なお、入力先を複数設定する実施例に関しては後述する。

また、ユーザは、転送先設定画面において入力先から入力された患者情報を共有するために転送先の医療機器を選択設定する。この場合には、複数の医療機器を選択設定することができる。

【0030】

図９では複数の医療機器を転送先の医療機器として選択した例を示している。なお、転送先の医療機器として複数の医療機器が設定された場合には、上述したようにさらに転送する順序（つまり転送の優先度）も設定されることになる。また、ユーザは、転送先の医療機器を１つも選択設定しないこともできる。

また、このように選択を行う他に、操作画面上において、入力先と転送先とを例えば医師名により設定することができる特別選択する機能も用意されている。

ユーザは、この特別選択に例えばチェックを入れ（て、その特別選択を選択し）、さらに医師名の欄を選択若しくは入力する。これにより、制御部７１は、予め記憶部７２に登録されたその医師名に対応する情報により、入力先と転送先の医療機器の情報を読み出して、その情報を自動的に表示する。ユーザは、確定操作により、その表示内容で入力先と転送先の医療機器を簡単に設定するができれる。

【0031】

なお、同じ医師名で複数の組み合わせを登録することもでき、その場合には優先度の高い入力先と転送先の医療機器が優先して表示される。そして、別の入力先と転送先の医療機器を選択したい場合には、次候補の選択を行えば良い。また、一部を変更して設定することもできる。

このように本実施例においては、複数の入力手段を備えた医療システム１において、システムコントローラ４の制御部７１は、患者情報を入力する１つの入力手段を設定すると共に、その入力手段から入力された患者情報を転送先として設定された共有対象となる医療機器に転送する。

また、この制御部７１は、複数の入力手段が操作された場合においても、予め入力先として設定された入力手段か否かを監視し、設定された入力先以外の入力手段から患者情報が入力されても受け付けないようにする。この場合には、その入力手段に対して、患者情報の入力手段として設定されたものでない旨の通知をする。

【0032】

このようにして、本実施例は、この医療システム１が病院等において使用される場合、ユーザ或いは施設により実際に使用しようと望む使用形態に応じて患者情報の入力を受け付ける入力手段及び共有化しようとする共有対象の医療機器（転送先の医療機器）等を任意に設定できる構成にして、患者情報を有効利用し易い構成にしている。

次に本実施例の動作を説明する。図１０は、本実施例におけるルート設定の動作のフローチャートを示す。最初のステップＳ１においてユーザは医療システム１を起動する。

すると、次のステップＳ２においてシステムコントローラ４は、通信線１０ａ等と２３ａ等を介して通信可能な医療機器（図１０では簡略的に接続されている医療機器と略記）を確認する。そして、例えば集中表示パネル４４にそれらの医療機器を表示する。但し、本実施例ではＡＶシステムコントローラ１６等の機器も医療機器に含めて制御可能としている。

【0033】

そして、次のステップＳ３においてシステムコントローラ４の制御部７１は、ルート設定のための入力先画面の表示を行い、図８及び図９で説明したようにユーザは入力先とする医療機器（又は入力手段、）を選択を行う。

また、次のステップＳ４においてシステムコントローラ４の制御部７１は、転送先画面の表示を行い、図８及び図９で説明したようにユーザは転送先の医療機器の選択を行う。また、転送先の医療機器が複数の場合には、転送先に転送する順序の設定を行うこともできる。また、必要に応じて転送するルートの選択設定も行うことができる。

このようにしてステップＳ３及びＳ４により選択設定された情報は、ステップＳ５に示すように記憶部７２に登録（記憶）される。そして、このルート設定の処理が終了する。そして、医療システム１は、動作状態になる。

【0034】

なお、図１０において、特別選択の場合を含めた場合には図１１のようになる。つまり、ステップＳ２の次にステップＳ３ａに進む。このステップＳ３ａにおいて、ユーザは入力先を直接、選択する場合と特別選択する場合とを選択することができる。直接選択する場合にはステップＳ３ｂに進む。一方、特別選択する場合には、ステップＳ３ｃに進み、医師名で入力先を選択する。

ステップＳ３ｂ或いはＳ３ｃの次にステップＳ４ａに進む。このステップＳ４ａにおいて、ユーザは転送先を直接、選択する場合と特別選択する場合とを選択することができる。直接選択する場合にはステップＳ４ｂに進む。一方、特別選択する場合には、ステップＳ４ｃに進み、医師名で転送先を選択する。ステップＳ４ｂ或いはＳ４ｃの次にステップＳ５に進む。

医師名で入力先と転送先を選択すると、入力先と転送先を簡単に設定することができる。

【0035】

医療システム１が動作状態になって、患者情報が入力された場合の動作は図１２のフローチャートのようになる。

ステップＳ１１に示すように医療システム１を構成し、システムコントローラ４と通信可能な医療機器の入力手段から、看護師等のユーザが患者情報を入力したとする。この入力された患者情報は、システムコントローラ４の制御部７１に送信される。

ステップＳ１２に示すようにシステムコントローラ４の制御部７１は、送信されたこの患者情報が、現在設定されている患者情報と異なり、更新すべき患者情報か否かを判定（検知）する。現在設定されている患者情報は、例えば記憶部７２に記憶されている。なお、医療システム１が起動した直後のように患者情報が最初に入力される場合には、制御部７１は、更新すべき患者情報と判定する。

【0036】

医療システム１が動作中において、既に患者情報が設定されている状態で、この患者情報が制御部７１に送信された場合には、制御部７１は後者の患者情報が更新すべきかの判定を行う。

なお、制御部７１は、以前の患者情報と同じ患者情報と判定した場合には、例えば何も行わない（処理する必要がなく、処理負担を軽減する）で、図１２の処理を終了する。この場合、設定されている患者情報と同じである旨の表示を行った後、終了しても良い。

ステップＳ１２において、更新すべき患者情報が送信された場合には、ステップＳ１３において制御部７１は、記憶部７２からルート設定に関する情報を読み出す。この場合、少なくとも入力先として設定されている医療機器（の入力手段）の情報としての入力先設定情報７２ａを読み出す。

次のステップＳ１４において制御部７１は、ステップＳ１１の入力手段が、記憶部７２から読み出したルート設定の情報に適合するか否かの判定を行う。具体的には、ステップＳ１１の医療機器の入力手段が、入力先として設定された入力手段であるか否かの判定を行う。

【0037】

そして、ルート設定の情報に適合すると判定した場合には、ステップＳ１５において制御部７１は、そのルート設定の情報を参照して、入力された患者情報をルート設定されている転送先の医療機器に転送する。なお、転送先の医療機器が複数ある場合には、複数の転送先の医療機器にその患者情報がそれぞれ転送される。また、転送の優先度が設定されている場合には、その優先度に沿って患者情報を転送する。また、制御部７１は、記憶部７２に記憶されている患者情報も更新する。

次のステップＳ１６に示すように転送先の医療機器は、以前の患者情報から制御部７１

から転送された患者情報に更新する。この場合、以前の患者情報がまだ入力されていない場合も転送された患者情報に更新される。そして、図１２の処理を終了する。

このようにして、入力先として設定された入力手段から更新すべき患者情報が入力された場合には、ルート設定の情報に従って患者情報が転送先の医療機器に転送され、速やかに更新すべき患者情報に更新される。そして、これらの転送先の医療機器において、更新すべき患者情報を共有することができる。

【0038】

一方、ステップＳ１４においてルート設定の情報に適合しないと判定した場合には、ステップＳ１７に示すように制御部７１はルート設定に適合しない旨の情報を告知する。

【0039】

そして、次のステップＳ１８において制御部７１は、ルート設定に適合しない患者情報により患者情報を更新することを中止（禁止）する。

つまり、入力先として設定された入力手段以外から既に設定されている患者情報と異なる患者情報が入力されても、以前に設定されている患者情報が更新されてしまうことを防止できる。このため、医療システム１における患者情報の更新に対する信頼性を向上することができる。

このように、本実施例の医療システム１によれば、ユーザ若しくはこの医療システム１が設けられた施設における実際に望む使用形態に沿って、患者情報の入力先の医療機器若しくは入力手段を設定できる。また、入力された患者情報を共有しようとする医療機器も、実際に使用しようと望む使用形態に応じて設定することができる。

【0040】

従って、本実施例によれば、実際に使用しようとする使用形態に適合した患者情報の共有化を実現することができる。

また、患者情報の入力先の医療機器若しくは入力手段を１つに限定した設定とする構成とすることにより、入力先として設定されていない入力手段からの患者情報の入力により、既に設定されている患者情報が不用意に変更されてしまうことを有効に防止できる。

また、上記のように患者情報を更新する場合の条件（具体的には、患者情報の入力先として許可された入力手段を１つに制限する設定と、その入力手段から更新すべき患者情報が入力された場合にのみ患者情報を更新するとする条件）を設定することにより、設定された患者情報の信頼性を向上することができる。

また、本実施例に係る制御部７１により、患者情報の入力先等に関する設定制御と、患者情報の共有化のための転送処理等を効率良く行うことができる。

【実施例】

【0041】

次に本発明の実施例２を図１３及び図１４を参照して説明する。本実施例は、図１の医療システム１において、入力先の医療機器（の入力手段）を複数、設定できる構成にしている。また、この構成に対応してシステムコントローラ４の制御部７１は、入力先が複数に設定された場合に対応する制御を行う。

以下に説明するように制御部７１は、入力先を複数とする設定、その設定情報の記憶制御、複数の入力先から患者情報が入力された場合にどの入力先の患者情報を優先するかの優先度の設定等に関する制御を行う。

次にその制御動作を説明する。図１３は本実施例における入力先設定画面及び転送先設定画面を示す。

実施例１における図９においては入力先として１つの入力手段を設定した場合で説明したが、本実施例においてはユーザは、入力先として複数の入力手段を選択設定（登録）することができるようにしている。

【0042】

図１３の例では、例えば医局端末７、第１ビデオプロセッサ１１の２つ（図示しない３つ等の複数でも良い）が、患者情報の入力先の医療機器に設定されている。

また、このように患者情報の入力先として複数の医療機器又は入力手段が設定された場

合において、その優先度（優先順位）を設定できるようにしている。

優先度を設定することにより、患者情報が複数の入力先から殆ど同時に入力されたような場合に、予め設定された優先度に沿って患者情報の入力に対する処理ができる。

また、転送先の医療機器に対しても、優先度を設定できるようにしている（転送先の医療機器に関しては実施例１においても優先度を付けている）。そして、複数の入力先の場合の優先度と、転送の際の優先度の情報は図６に示した記憶部７２に記憶される。ルート設定情報７２ｃ内に優先度の情報を含めるようにしても良い。

【0043】

そして、患者情報が入力された場合には、制御部７１は、記憶部７２に記憶されている情報を参照して更新すべき患者情報であるか否かの判定や、更新すべき患者情報の場合には共有すべき転送先の医療機器にその患者情報を転送する制御処理を行う。

なお、本実施例においては、例えば図１３に示すように複数の入力先を設定し、かつ優先度を設定した場合、制御部７１は、優先度が高い順に入力先を表示するように制御する。転送先に関しても同様である。その他の構成は、例えば実施例１と同様である。

上記のように患者情報の入力先と転送先が設定された状態において、実際に患者情報が入力された場合の動作を図１４のフローチャートを参照して説明する。なお、以下の説明では、簡単化のため、入力先が複数設定されているとして説明する（単数の場合には、実施例１と同じで良いため）。

【0044】

医療システム１の動作状態において、ステップＳ２１において看護師等のユーザは、患者情報を入力する場合には、例えばシステムコントローラ４に接続された入力手段や医療機器に設けられた入力手段から患者情報の入力画面（モード）を選択する。

すると、その選択の情報は、システムコントローラ４の制御部７１に送信される。

そして、次のステップＳ２２において制御部７１は、その特定の医療機器（の入力手段）が患者情報を入力する入力状態になったことの通知を受ける。

また、ユーザは、この入力画面（モード）において、患者情報の入力を行うことができる。なお、この段階においては、入力された患者情報は暫定的に利用される。

次のステップＳ２３において制御部７１は、図１２のステップＳ１２の場合と同様に、入力された患者情報が更新すべき患者情報であるか否かの判定を行う。

【0045】

そして、制御部７１は、更新すべき患者情報でないと判定した場合には、その患者情報が前の患者情報と同じである旨を表示（或いはその医療機器に通知）する等して、この処理を終了する。

一方、更新すべき患者情報であると判定した場合には、次のステップＳ２４において制御部７１は、記憶部７２からルート設定に関する情報を読み出す。この場合、例えば入力先として設定されている情報の他に、入力先として複数の医療機器が設定されている場合には、その優先度の情報等も読み出す。

更に次のステップＳ２５において制御部７１は、入力先に設定されている複数の医療機器（の入力手段）におけるその複数から患者情報が入力されている状態（この状態を入力可能状態という）か否かの判定を行う。

そして、その医療機器（の入力手段）が複数でない、つまり単数と判定した場合には、次のステップＳ２６において制御部７１は、その医療機器に対して入力可能状態である旨のメッセージを通知後、所定時間だけ待つ。

【0046】

この所定時間待った後の次のステップＳ２７において制御部７１は、別の医療機器から患者情報が入力されている入力可能状態が検知されるか否かの判定を行う。この判定により、別の医療機器から患者情報の入力が検知されていない場合には、ステップＳ２８において制御部７１は、先の医療機器からの患者情報の入力を受け付け可能とする状態にする。そして、制御部７１は、その患者情報の入力を受け付け、その患者情報を記憶部７２に更新記憶する。

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さらに制御部７１は、この患者情報を転送先に設定されている転送先の医療機器に、転送の優先度に従って転送する。そして、ステップＳ３１に示すように転送先の医療機器は、この患者情報によって以前の患者情報を更新して、この処理を終了する。

一方、ステップＳ２５の判定において、制御部７１は入力可能に設定された医療機器が既に複数である場合、或いは複数ではないがステップＳ２６による所定時間の経過後に、複数になったと判定した場合にはステップＳ２９に進む。

【0047】

このステップＳ２９において制御部７１は、ステップＳ２４において読み出した入力先として設定された複数の医療機器におけるその優先度の情報に従って、最も優先度が高い医療機器による患者情報の入力を受け付け（許可し）、その他のより優先度の低い医療機器による患者情報の入力を許可しない（禁止する）。

なお、最も優先度が高い医療機器から入力された患者情報がステップＳ２２において入力された患者情報とは異なる場合には、ステップＳ２３のようにその患者情報が更新すべき患者情報か否かの判定を行う。そして、更新すべき患者情報の場合に対してステップＳ２９以降の処理を行う。これに対して、更新すべき患者情報でない場合には、その患者情報を無視して、更新すべき患者情報における最も優先度が高い入力先の患者情報を優先する。

そして、次のステップＳ３０において制御部７１は、優先度の低い医療機器等に対しては、別の医療機器（つまり、より優先度が高い医療機器）において患者情報の入力状態になっている旨を通知する。

【0048】

また、次のステップＳ３１において制御部７１は、更新すべき患者情報を転送先に設定されている転送先の医療機器に、転送の優先度に従って転送する。そして、ステップＳ３２に示すように転送先の医療機器は、この患者情報により以前の患者情報を更新して、この処理を終了する。

このような動作を行う本実施例は、入力先の医療機器として複数の医療機器を設定することができる。また、医療システム１において、複数の医療機器から殆ど同時に患者情報が入力された場合においても、それらの複数の医療機器において、設定された優先度に従って優先すべき医療機器からの患者情報を優先させることができる。

従って、ユーザ或いは施設における実際に使用しようと望む使用形態に応じた設定を行うことにより、その使用形態に適合した状態で患者情報を入力できるようにできると共に、入力された患者情報を所望とする医療機器で共有することができる。

【0049】

また、上述したように本実施例においては、入力先として設定された複数の医療機器（若しくは入力手段）の１つから更新すべき患者情報が入力された場合には、（予め設定された）所定時間の経過を待った後、その患者情報で更新するか否かの判定を行うようにしている。

この処理により、医療システム１を構成し、入力先として設定された複数の医療機器から通信手段を介してシステムコントローラ４に対して患者情報を入力した場合、その入力のタイミングが若干異なる場合においても、優先度が高い医療機器からの患者情報を優先して処理することができる。

このため、本実施例は、通信手段によりシステムコントローラ４と医療機器間とで情報伝達に時間差があるような環境下においてもその時間差（時間遅延量）が異なる場合にも、その影響を軽減することができる。

【0050】

なお、上記の説明は、入力先として設定された医療機器が例えば３以上の複数（ｍとする）の場合には、１つの医療機器から患者情報が入力された場合にのみ、所定時間が経過するのを待つ場合に限定されるものでなく、ｍ－１以下の医療機器から患者情報が入力された場合に対しても適用しても良い。

また、本実施例は、入力先として複数の医療機器又は入力手段を設定できるため、例え

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ば内視鏡を用いて複合的な手術等を行う場合にも、その使用形態に適合した患者情報の入力環境等に容易に設定できる。

例えばある患者において内視鏡検査（内視鏡診断）を行い、その診断結果により、引き続いて例えば腹腔内の手術を行うことが望まれる場合がある。この場合には、例えば図１における検査室８に設置されているビデオプロセッサ２０等の医療機器を手術室２内に移動して、手術室２内により多くの内視鏡及びビデオプロセッサを用意して手術を行う。

【0051】

また、この場合には、以前の患者情報から医師名をさらに追加する等、患者情報を更新して、手術を行うことになる。このため、通常は内視鏡検査に対する患者情報の入力先として例えば医局端末７から患者情報を入力する入力先に設定する他に、手術室２内に配置された例えば第１ビデオプロセッサ１１等からも患者情報を入力可能とするように入力先に設定できるようにしておくと、このような複合的な手術等の際の患者情報の入力が行い易くなる。

このように本実施例によれば、患者情報の入力先の医療機器又は入力手段として複数、設定でき、かつそれらによる患者情報の入力に適切に対応できる。その他、実施例１と同様の効果を有する。

【実施例】

【0052】

次に本発明の実施例３を図１５を参照して説明する。本実施例は、例えば図１の医療システム１において、医療行為の最中、より具体的には手術中若しくは検査中においては患者情報の更新を禁止ないしは制限する機能を設けたものである。

このため、システムコントローラ４の制御部７１は、医療行為の最中、つまり手術中であるか否かを監視する機能を持つ。具体的には、例えば図１に示した手術室２において、図１５に示すようにシステムコントローラ４の制御部７１は、電気メス装置３６及び気腹装置３７が動作状態か否かを監視する。そして、その監視により、制御部７１は手術中若しくは検査中か否かを判定する。

患者情報が入力された場合、制御部７１は、判定結果により患者情報の更新を許可或いは禁止する。なお、電気メス装置３６及び気腹装置３７は、例えば通信線１０ｄ及び１０ｅによりシステムコントローラ４と接続されている。

【0053】

次に本実施例の動作を図１６を参照して説明する。図１６に示す動作は、図１２においてステップＳ１４とステップＳ１５との間にステップＳ４０が設けられている。このステップＳ４０において、制御部７１は手術中若しくは検査中であるかの判定を行う。そして、手術中若しくは検査中であるかと判定された場合には、ステップＳ１８に移り、手術中及び検査中でないと判定された場合には、ステップＳ１５に移る。

図１７は、図１６におけるステップＳ４０の具体的な処理内容を示す。

手術中か若しくは検査中か否かの判定処理が開始すると、ステップＳ４１に示すようにシステムコントローラ４の制御部７１は、電気メス装置３６及び気腹装置３７から、それぞれの医療機器に関するデータ（情報）を、例えばポーリングにより取得する。

次のステップＳ４２において制御部７１は、取得したデータ中における動作状態に関するステータスを調べる（抽出する）。具体的には、電気メス装置３６が電気メス出力中であるか否かのステータスデータや気腹装置３７が気腹（送気）ＯＮであるかのステータスデータを調べる。

【0054】

そして、次のステップＳ４３において制御部７１は、手術中若しくは検査中に関する特定ステータスがＯＮか否かを判定する。その特定ステータスがＯＮと判定した場合には、制御部７１はステップＳ４４において手術中であると判定する。そしてステップＳ１８に移る。

一方、その特定ステータスがＯＮでない判定した場合には、制御部７１はステップＳ４５において手術中でも検査中でもないと判定する。そしてステップＳ１５に移る。

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その他の動作は、実施例１と同様である。

本実施例によれば、手術中又は検査中においては、患者情報が更新されることを禁止することができる。従って、手術中又は検査中においては、患者情報が更新されることにより、手術中又は検査中における患者情報が不用意に変更されてしまうことを防止することができる。その他は、実施例１と同様の効果を有する。なお、実施例１の代わりに実施例２に適用することもでき、その場合には、さらに実施例２の効果を有することになる。

なお、上述した実施例等を部分的に組み合わせる等して構成される実施例等も本発明に属する。

【産業上の利用可能性】

【0055】

患者情報を入力可能とするする複数の医療装置若しくは入力手段を備えた医療システムにおいて、内視鏡検査、内視鏡手術などの医療行為を行う場合、患者情報を実際に入力可能とする医療機器若しくは入力手段を設定すると共に、その患者情報を共有する医療機器の設定を行えるようにしている。

これにより、入力される患者情報の信頼性を向上できると共に、ユーザ或いは施設において実際に使用しようと望む使用形態に適合して患者情報の共有化ができる。

【図面の簡単な説明】

【0056】

【図1】図１は本発明の実施例１の医療システムの全体構成を示す構成図。

【図2】図２は図１における代表的な入力手段の具体例を示す図。

【図3】図３は図１の手術室内に配置された手術室内医療システムの詳細な構成例を示し図。

【図4】図４はビデオプロセッサの主要な構成例を示すブロック図。

【図5】図５はシステムコントローラの主要な構成例を示すブロック図。

【図6】図６はＡＶコントロールシステムの主要な構成例を示すブロック図。

【図7】図７は患者情報の詳細なデータ例を示す図。

【図8】図８はシステムコントローラに接続された入力先候補の医療機器及び転送先候補の医療機器とを示す図。

【図9】図９は図８の医療機器から患者情報の入力先の医療機器及び転送先の医療機器を設定するルート設定画面例を示す図。

【図10】図１０はルート設定を行う動作内容を示すフローチャート。

【図11】図１１は医師名でルート設定を行う動作内容の一部を示すフローチャート。

【図12】図１２は実際に患者情報が入力された場合における医療システムにおける動作内容を示すフローチャート。

【図13】本発明の実施例２における患者情報の入力先医療機器及び患者情報の転送先医療機器を設定するルート設定画面例を示す図。

【図14】図１４は患者情報が入力された場合の動作内容を示すフローチャート。

【図15】図１５は本発明の実施例３における手術室内に配置された手術室内医療システム部分の構成例を示し図。

【図16】図１６は実際に患者情報が入力された場合における医療システムにおける動作内容を示すフローチャート。

【図17】図１７は図１６におけるステップＳ４０の処理内容の詳細を示すフローチャート。

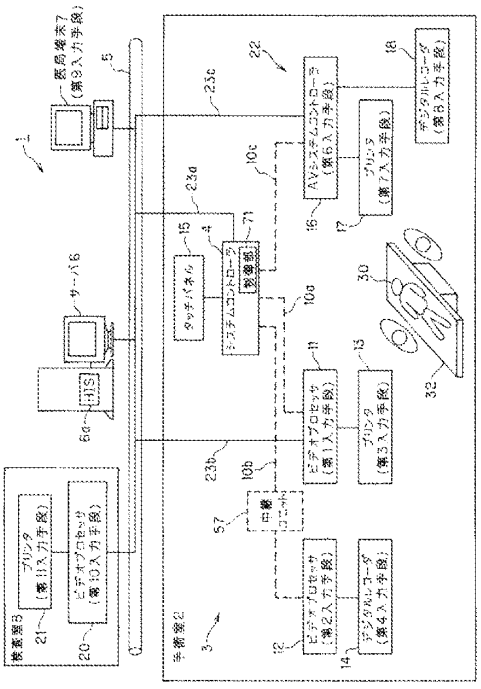
【符号の説明】

【0057】

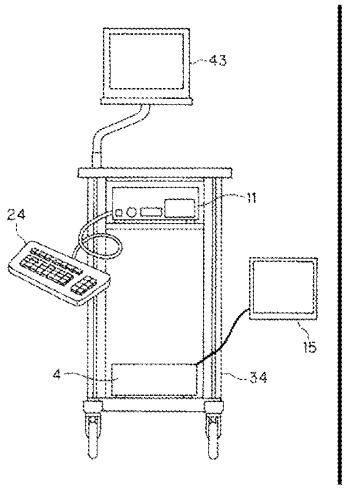
１…医療システム
２…手術室
３…手術室内医療システム
４…システムコントローラ
５…病院内ＬＡＮ

６…サーバ
７…医局端末
８…検査室
１０ａ，２０ｂ，１０ｃ…通信線
１１、１２、２０…ビデオプロセッサ
１５…タッチパネル
１６…電気メス装置
１７…気腹装置
２２…ＡＶシステムコントローラ
２４…キーボード
６０、６６、７１…制御部
７２…記憶部

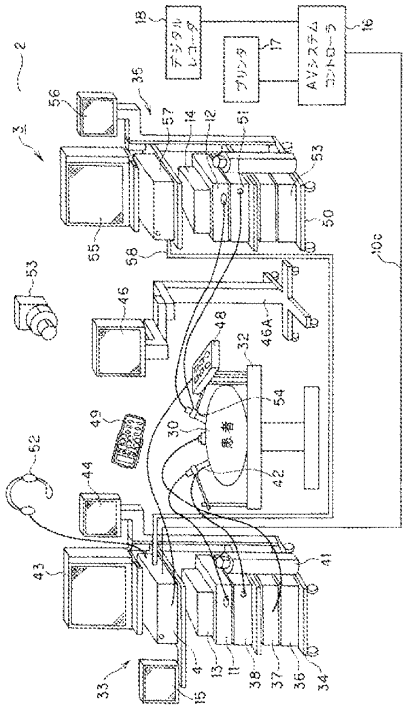
【図1】



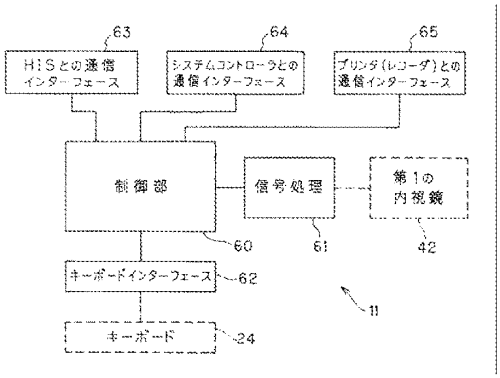
【図2】



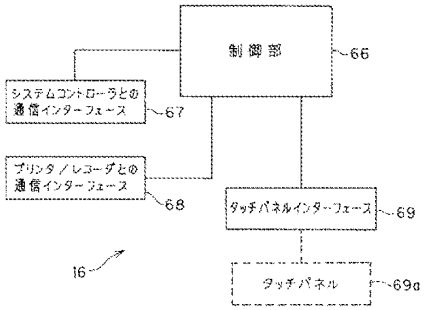
【図3】



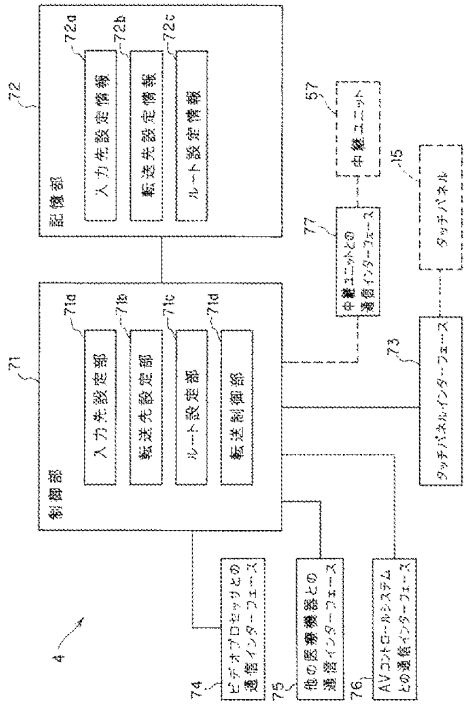
【図4】



【図5】



【図6】



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【図7】

種類	最大文字数
患者ID	15文字
患者氏名	20文字
年齢	3文字
性別	1文字
患者生年月日	年:4文字 月:2文字 日:2文字
医師名	20文字
コメント	37文字

【図8】

入力先候補
第1ビデオプロセッサ(のキーボード)
第2ビデオプロセッサ
⋮
プリンタ(の第11入力手段)
…

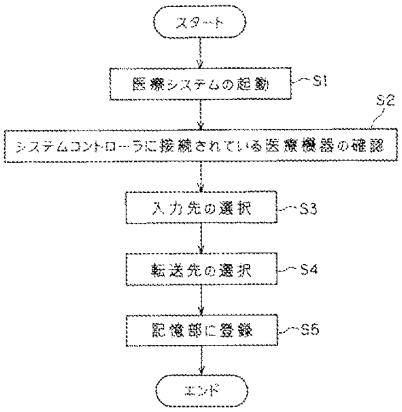
転送先候補
第1ビデオプロセッサ
第2ビデオプロセッサ
⋮
プリンタ
…

【図9】

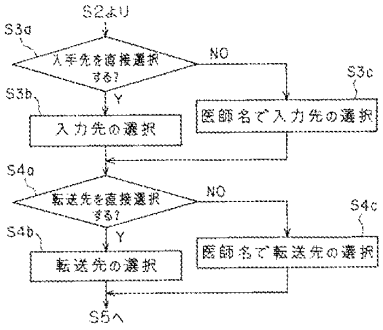
入力先	選択	特別選択
第1ビデオプロセッサ	◉	○
第2ビデオプロセッサ	○	
⋮		
…	○	

転送先	選択	優先度	特別選択
第1ビデオプロセッサ	◉	1	○
第2ビデオプロセッサ	◉	2	
医局端末	◉	3	
⋮		⋮	
…	○		

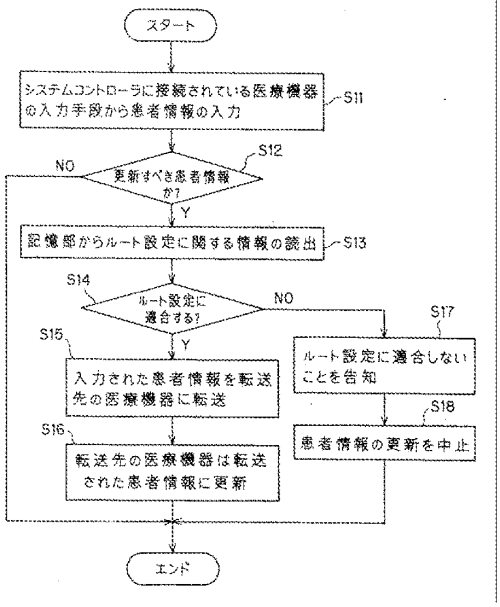
【図10】



【図11】



【図12】

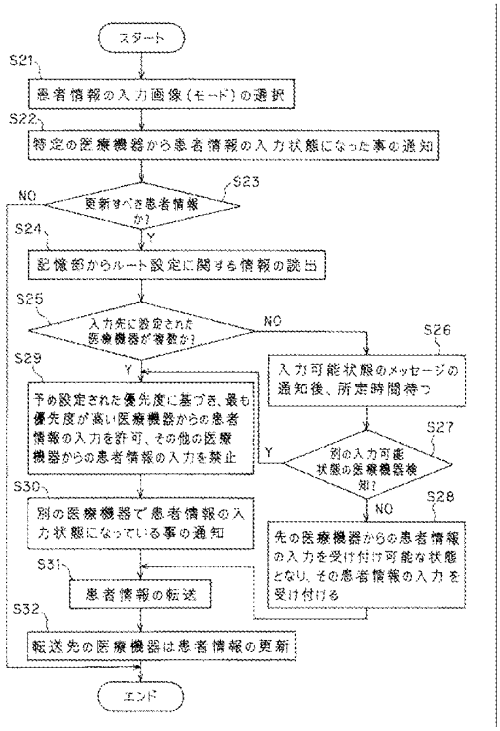


【図13】

入力先	選択	優先度	特別選択
医局端末	◉	1	○
第1ビデオプロセッサ	◉	2	
⋮			
…	○		

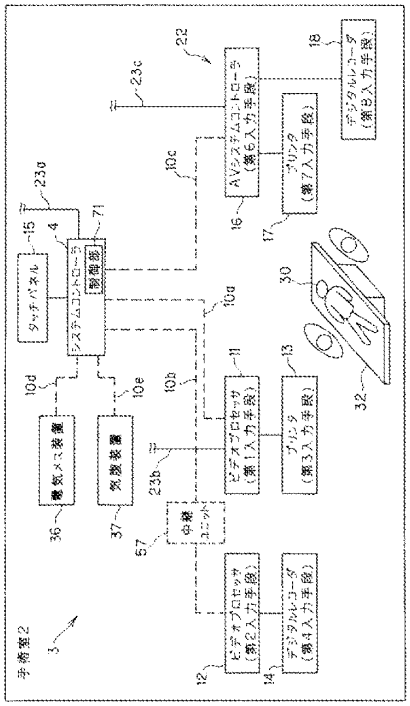
転送先	選択	優先度	特別選択
医局端末	◉	1	○
第1ビデオプロセッサ	◉	2	
第3ビデオプロセッサ	◉	3	
⋮		⋮	
…	○		

【図14】

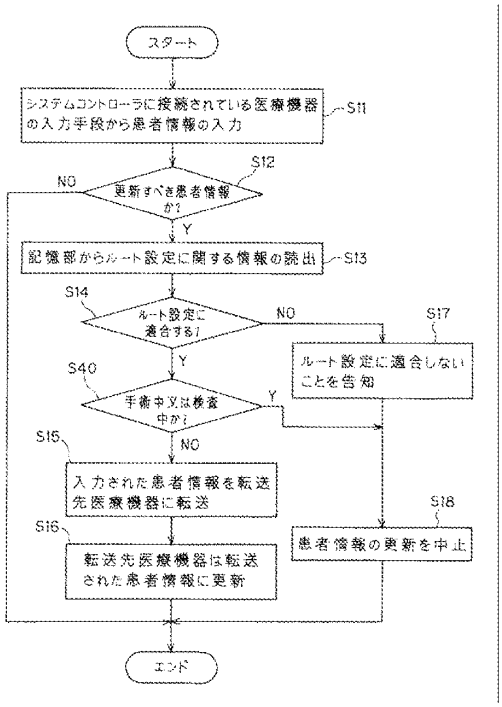


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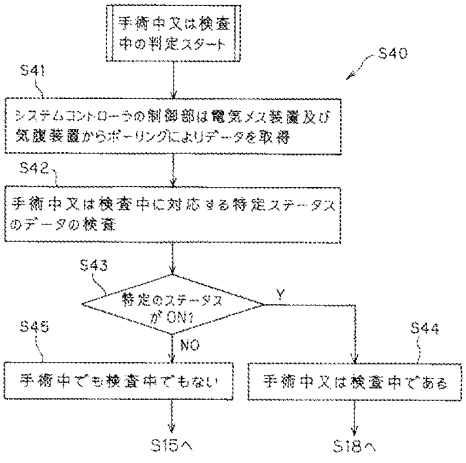
【図15】



【図16】



【図17】



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AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
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($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	34082091
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty
Filer Authorized By:	Peter Jung-Hyon Yim
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	23-OCT-2018
Filing Date:	16-JAN-2015
Time Stamp:	02:08:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$240
RAM confirmation Number	102318INTEFSW02091800
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	P23397US3_IDS.pdf	133921 e1c0305f37a6e787f7d69e30373cd646fde84e48	no	2
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This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	JP_2008272301_A.pdf	9852246 eab4de6ebcf90b57690c02fc9b8bca4601e1d5d7	no	23
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		Total Files Size (in bytes):	16415438		

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.

I hereby certify that this paper is being transmitted via the Office electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: October 23, 2018
Electronic Signature for Morgan Adams: /Morgan Adams/

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. Soli et al.

Application No.: 14/599,424 | Confirmation No.: 3136

Filed: January 16, 2015 | Art Unit: 3686

For: WELLNESS AGGREGATOR | Examiner: LAM, ELIZA ANNE

AMENDMENT IN RESPONSE TO FINAL OFFICE ACTION UNDER 37 C.F.R. 1.116

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

INTRODUCTORY COMMENTS

This is in response to the Final Office Action dated June 28, 2018, for which a response was due on September 28, 2018. Filed herewith is a fee for a one-month extension of time, thereby extending the deadline for response to October 28, 2018. Accordingly, this response is timely filed. Reconsideration and allowance of the pending claims, as amended, in light of the remarks presented herein are respectfully requested.

Amendments to the Claims are reflected in the listing of claims, which begins on page 2 of this paper.

Remarks/Arguments begin on page 16 of this paper.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Electronic Patent Application Fee Transmittal

Application Number:	14599424
Filing Date:	16-Jan-2015
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Filer:	Randy Omid/Morgan Adams
Attorney Docket Number:	P23397US3/77770000376103

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	37	100	3700
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
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Extension - 1 month with $0 paid	1251	1	200	200
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		Total in USD ($)		**3900**

Electronic Acknowledgement Receipt	
EFS ID:	34084243
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Randy Omid/Morgan Adams
Filer Authorized By:	Randy Omid
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	23-OCT-2018
Filing Date:	16-JAN-2015
Time Stamp:	18:59:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$3900
RAM confirmation Number	102418INTEFSW19000300
Deposit Account	193140
Authorized User	Morgan Adams
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 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		P23397US3_FOA_Response.pdf	192257 a69a8e0316ad1806c946f2ff07402eaaa20a474f	yes	20

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	16	20
	Claims	2	15
	Response After Final Action	1	1

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	32263 0b389d3943099647eb442311fbce55613a8e6c69	no	2

Warnings:

Information:

Total Files Size (in bytes):	224520

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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.

REMARKS

I. Status of the Claims

Claims 1, 4-12, 15-18, and 20-27 were pending. As noted above, claims 1, 20, 28, 29 have been amended. Claims 2 and 3 have been canceled. Claims 30-71 have been newly added. Support for these amendments may be found throughout the Specification, for example, at least at paragraph [0401] and [0402]. As such, no new matter has been introduced. Thus, claims 1, 4-12, 15-18, and 20-71 will be pending.

Applicant respectfully requests reconsideration of this application based on the foregoing amendments and the following remarks.

II. Interview Summary

Applicant thanks Examiner Eliza Anne Lam for the courtesy of a telephonic interview on October 5, 2018 with Applicant's representative Randy Omid.

During the interview, the rejections of the pending claims, particularly the 35 U.S.C. § 103 rejections of claim 1 based on U.S. Patent Publication No. 2012/0116550 Al ("Hoffman") in view of U.S. Patent Publication No. 2012/0310674 Al ("Faulkner"), was discussed. The Examiner acknowledged that Hoffman and Faulkner alone or in combination at least fails to teach or suggest "in response to receiving the selection of the selectable data sharing option, display: the plurality of approved sources for the sub-category of wellness data . . . and the plurality of approved destinations for the sub-category of wellness data," as recited in claim 1. The Examiner also indicated that amending the independent claims to include the features of claims 2 and 3 would place the independent claims into condition for allowance. This response is consistent with the interview.

III. Claim Rejection – 35 U.S.C. § 103

Claims 1-12, 15-18, and 20-29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hoffman in view of Faulkner. Applicant respectfully disagrees.

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A. Claim 1

As discussed during the Examiner interview on October 5, 2018, the Examiner acknowledged that claim 1 overcomes the current rejection, including Hoffman and Faulkner alone or in combination. In addition, the Examiner acknowledged that claim 1 would likely be allowable if amended to include the features of claims 2 and 3.

In accordance with the Examiner interview claim 1 has been amended to include the features of claims 2 and 3 and recites, *inter alia*:

> receive information identifying a plurality of approved sources of wellness data, **wherein the plurality of approved sources comprise an electronic device or software application**;
>
> receive information identifying a plurality of approved destinations of wellness data, **wherein the plurality of approved destinations comprise an electronic device or software application** . . .

(Emphasis added.) Thus, as acknowledged by the Examiner, amended claim 1 is allowable over Hoffman and Faulkner alone or in combination.

Accordingly, Applicant respectfully requests that the rejection of amended claim 1 under 35 U.S.C. § 103(a) be withdrawn and that the claim be allowed.

B. Claims 28 and 29

Claims 28 and 29 have been amended to recite features similar to amended claim 1. Therefore, claims 28 and 29 are allowable for at least similar reasons as discussed above with respect to amended claim 1. Accordingly, Applicant respectfully requests that the rejections of claims 28 and 29 under 35 U.S.C. § 103(a) be withdrawn and that the claims be allowed.

C. Claims 2-12, 15-18, and 20-27

Claims 2 and 3 have been canceled. Therefore, the rejections of claims 2 and 3 under 35 U.S.C. § 103(a) are moot and should be withdrawn.

Claim 4-12, 15-18, and 20-27 each depend from amended claim 1, which is allowable Hoffman. Claims 2-12, 15-18, and 20-27 are therefore allowable for at least the reason that they each depend

from an allowable claim. Accordingly, Applicant respectfully requests that the rejections of claims 2-12, 15-18, and 20-27 under 35 U.S.C. § 103(a) be withdrawn and that the claims be allowed.

IV. New Claims 30-71

Claims 30-50 are Method claims that depend from independent method claim 28 and correspond to dependent method claims 4-12, 15-18, and 20-27, respectively. Thus, claims 30-50 are allowable for at least similar reason as discussed above with respect to claims 4-12, 15-18, and 20-27. Claims 51-71 are device claims that depend from independent device claim 28 and correspond to dependent method claims 4-12, 15-18, and 20-27, respectively. Thus, claims 51-71 are allowable for at least similar reason as discussed above with respect to claims 4-12, 15-18, and 20-27.

For clarity and the Examiner's ease of reference, Applicant provides in the table below a mapping of the claims.

CRM claims, which depend from allowable claim 1	**Method claims, which depend from allowable claim 28**	**Device claims, which depend from allowable claim 29**
(Original) Claim 4	**(New)** Claim 30	**(New)** Claim 51
(Previously Presented) Claim 5	**(New)** Claim 31	**(New)** Claim 52
(Original) Claim 6	**(New)** Claim 32	**(New)** Claim 53
(Original) Claim 7	**(New)** Claim 33	**(New)** Claim 54
(Original) Claim 8	**(New)** Claim 34	**(New)** Claim 55
(Original) Claim 9	**(New)** Claim 35	**(New)** Claim 56
(Original) Claim 10	**(New)** Claim 36	**(New)** Claim 57
(Original) Claim 11	**(New)** Claim 37	**(New)** Claim 58
(Original) Claim 12	**(New)** Claim 38	**(New)** Claim 59
(Previously Presented) Claim 15	**(New)** Claim 39	**(New)** Claim 60
(Previously Presented) Claim 16	**(New)** Claim 40	**(New)** Claim 61

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(Previously Presented) Claim 17	**(New)** Claim 41	**(New)** Claim 62
(Original) Claim 18	**(New)** Claim 42	**(New)** Claim 63
(Currently Amended) Claim 20	**(New)** Claim 43	**(New)** Claim 64
(Previously Presented) Claim 21	**(New)** Claim 44	**(New)** Claim 65
(Original) Claim 22	**(New)** Claim 45	**(New)** Claim 66
(Original) Claim 23	**(New)** Claim 46	**(New)** Claim 67
(Original) Claim 24	**(New)** Claim 47	**(New)** Claim 68
(Original) Claim 25	**(New)** Claim 48	**(New)** Claim 69
(Original) Claim 26	**(New)** Claim 49	**(New)** Claim 70
(Original) Claim 27	**(New)** Claim 50	**(New)** Claim 71

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CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 193140** referencing **Docket No. P23397US3/77770000376103**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: October 23, 2018

Respectfully submitted,

Electronic signature: /Randy Omid/
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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application:

1. (Currently Amended) A non-transitory computer-readable storage medium storing one or more programs, the one or more programs comprising instructions, which when executed by an electronic device with a display, cause the device to:

receive information identifying a plurality of approved sources of wellness data, wherein the plurality of approved sources comprise an electronic device or software application;

receive information identifying a plurality of approved destinations of wellness data, wherein the plurality of approved destinations comprise an electronic device or software application;

display a detailed view of a sub-category of wellness data, the detailed view comprising:

a graph representation of the sub-category of wellness data that includes aggregated values of the sub-category of wellness data, wherein the sub-category of wellness data is from the plurality of approved sources for the sub-category of wellness data; and

a selectable data sharing option;

receive user selection of the selectable data sharing option; and

in response to receiving the selection of the selectable data sharing option, display:

the plurality of approved sources for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be received from the plurality of approved sources and stored in a wellness database; and

the plurality of approved destinations for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be accessed from the wellness database by the plurality of approved destinations of wellness data.

2. (Canceled)

3. (Canceled)

4. (Original) The non-transitory computer-readable storage medium of claim 1, wherein the plurality of approved sources are ranked amongst each other.

5. (Previously Presented) The non-transitory computer-readable storage medium of claim 1, further comprising instructions to cause the electronic device to:

identify a first wellness data entry in the wellness database that was received from a first approved source of the plurality of approved sources, the first wellness data entry associated with a first sub-category of wellness data comprising a first timestamp; and

identify a second wellness data entry in the wellness database that was received from a second approved source of the plurality of approved sources, the second wellness data entry comprising the first sub-category of wellness data, and a second timestamp, and wherein the first timestamp is within a threshold length of time from the second timestamp.

6. (Original) The non-transitory computer-readable storage medium of claim 5, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to use the first wellness data entry instead of using the second wellness data entry.

7. (Original) The non-transitory computer-readable storage medium of claim 5, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to prioritize the first wellness data entry over the second wellness data entry.

8. (Original) The non-transitory computer-readable storage medium of claim 7, further comprising instructions to cause the electronic device to: in accordance with a determination that the first wellness data entry is prioritized over the second wellness data entry, use the first wellness data entry instead of using the second wellness data entry.

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9. (Original) The non-transitory computer-readable storage medium of claim 5, wherein the second approved source has been identified by the user as being preferred over the first approved source, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to prioritize the second wellness data entry over the first wellness data entry.

10. (Original) The non-transitory computer-readable storage medium of claim 9, further comprising instructions to cause the electronic device to: in accordance with a determination that the second wellness data entry is prioritized over the first wellness data entry, use the second wellness data entry instead of using the first wellness data entry.

11. (Original) The non-transitory computer-readable storage medium of claim 1, further comprising instructions to cause the electronic device to:

display, on the display, a plurality of categories of wellness data stored in the wellness database.

12. (Original) The non-transitory computer-readable storage medium of claim 11, further comprising instructions to cause the electronic device to:

detect a selection of a category of wellness data from the displayed plurality of categories of wellness data; and

in response to detecting the selection of the category of wellness data, display, on the display, one or more sub-categories of the category of wellness data.

13. (Canceled)

14. (Canceled)

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15. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the detailed view of the sub-category further comprises an input field for entering a wellness data entry, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to:

receive a wellness data entry to be stored in the wellness database that was input into the input field.

16. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the detailed view of the sub-category further comprises a textual description of the sub-category.

17. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the detailed view of the sub-category further comprises an option to view wellness data entries corresponding to the sub-category, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to:

display, on the display, a plurality of wellness data entries corresponding to the sub-category stored in the wellness database.

18. (Original) The non-transitory computer-readable storage medium of claim 17, wherein each of the plurality of wellness data entries comprises a numerical value of the data entry, a timestamp, and an identification of a source of the data entry.

19. (Canceled)

20. (Currently Amended) The non-transitory computer-readable storage medium of claim 12, further comprising instructions to cause the electronic device to:

detect a request to reorder the displayed plurality of approved sources; and

in response to detecting the request to reorder the displayed plurality of approved sources, reorder the displayed plurality of approved sources in accordance with the detected request to reorder the displayed plurality of approved ~~sources~~ sources.

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21. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the data sharing interface further comprises options to add an approved destination to the plurality of approved destinations and to remove an approved destination from the plurality of approved destinations.

22. (Original) The non-transitory computer-readable storage medium of claim 11, further comprising instructions to cause the electronic device to:

receive a search query; and

display, on the display, one or more sub-categories of the plurality of categories that match the search query, wherein the displayed one or more sub-categories that match the search query are color-coded based on their respective categories.

23. (Original) The non-transitory computer-readable storage medium of claim 11, further comprising instructions to cause the electronic device to:

display, on the display, a source interface comprising a list of known sources.

24. (Original) The non-transitory computer-readable storage medium of claim 23, wherein the source interface further comprises a numerical indicator associated a known source of the known sources that represents a number of new types of wellness data that can be provided by the known source.

25. (Original) The non-transitory computer-readable storage medium of claim 23, further comprising instructions to cause the electronic device to:

detect a selection of a known source from the displayed list of known sources; and

in response to detecting the selection of the known source, display, on the display, a list of types of wellness data that the known source can provide.

26. (Original) The non-transitory computer-readable storage medium of claim 25, wherein the list of types of wellness data that the known source can provide comprises a selectable option for each of

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the types of wellness data that the known source can provide to approve or reject the associated type of wellness data.

27. (Original) The non-transitory computer-readable storage medium of claim 26, further comprising instructions to cause the electronic device to:

detect a selection of the selectable option for a type of wellness data that the known source can provide; and

in response to detecting the selection of the selectable option, approve or reject the type of wellness data that the known source can provide in accordance with the detected selection of the selectable option.

28. (Currently Amended) A computer-implemented method comprising:

at an electronic device:

receiving information identifying a plurality of approved sources of wellness data, wherein the plurality of approved sources comprise an electronic device or software application;

receiving information identifying a plurality of approved destinations of wellness data, wherein the plurality of approved destinations comprise an electronic device or software application;

displaying a detailed view of a sub-category of wellness data, the detailed view comprising:

a graph representation of the sub-category of wellness data that includes aggregated values of the sub-category of wellness data, wherein the sub-category of wellness data is from the plurality of approved sources for the sub-category of wellness data; and

a selectable data sharing option;

receiving user selection of the selectable data sharing option; and

in response to receiving the selection of the selectable data sharing option, displaying:

the plurality of approved sources for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be received from the plurality of approved sources and stored in a wellness database; and

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the plurality of approved destinations for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be accessed from the wellness database by the plurality of approved destinations of wellness data.

29. (Currently Amended) An electronic device comprising:

a display;

a memory; and

a processor coupled to the display and the memory, the processor configured to:

receive information identifying a plurality of approved sources of wellness data, wherein the plurality of approved sources comprise an electronic device or software application;

receive information identifying a plurality of approved destinations of wellness data, wherein the plurality of approved destinations comprise an electronic device or software application;

display a detailed view of a sub-category of wellness data, the detailed view comprising:

a graph representation of the sub-category of wellness data that includes aggregated values of the sub-category of wellness data, wherein the sub-category of wellness data is from the plurality of approved sources for the sub-category of wellness data; and

a selectable data sharing option;

receive user selection of the selectable data sharing option; and

in response to receiving the selection of the selectable data sharing option, display:

the plurality of approved sources for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be received from the plurality of approved sources and stored in a wellness database; and

the plurality of approved destinations for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be accessed from the wellness database by the plurality of approved destinations of wellness data.

30. (New) The computer-implemented method of claim 28, wherein the plurality of approved sources are ranked amongst each other.

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31. (New) The computer-implemented method of claim 28, further comprising:

identifying a first wellness data entry in the wellness database that was received from a first approved source of the plurality of approved sources, the first wellness data entry associated with a first sub-category of wellness data comprising a first timestamp; and

identifying a second wellness data entry in the wellness database that was received from a second approved source of the plurality of approved sources, the second wellness data entry comprising the first sub-category of wellness data, and a second timestamp, and wherein the first timestamp is within a threshold length of time from the second timestamp.

32. (New) The computer-implemented method of claim 31, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the computer-implemented method further comprising using the first wellness data entry instead of using the second wellness data entry.

33. (New) The computer-implemented method of claim 31, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the computer-implemented method further comprising prioritizing the first wellness data entry over the second wellness data entry.

34. (New) The computer-implemented method of claim 33, further comprising: in accordance with a determination that the first wellness data entry is prioritized over the second wellness data entry, using the first wellness data entry instead of using the second wellness data entry.

35. (New) The computer-implemented method of claim 31, wherein the second approved source has been identified by the user as being preferred over the first approved source, and wherein the computer-implemented method further comprising prioritizing the second wellness data entry over the first wellness data entry.

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36. (New) The computer-implemented method of claim 35, further comprising: in accordance with a determination that the second wellness data entry is prioritized over the first wellness data entry, using the second wellness data entry instead of using the first wellness data entry.

37. (New) The computer-implemented method of claim 28, further comprising:

displaying, on the display, a plurality of categories of wellness data stored in the wellness database.

38. (New) The computer-implemented method of claim 37, further comprising:

detecting a selection of a category of wellness data from the displayed plurality of categories of wellness data; and

in response to detecting the selection of the category of wellness data, displaying, on the display, one or more sub-categories of the category of wellness data.

39. (New) The computer-implemented method of claim 38, wherein the detailed view of the sub-category further comprises an input field for entering a wellness data entry, and wherein the computer-implemented method further comprising:

receiving a wellness data entry to be stored in the wellness database that was input into the input field.

40. (New) The computer-implemented method of claim 38, wherein the detailed view of the sub-category further comprises a textual description of the sub-category.

41. (New) The computer-implemented method of claim 38, wherein the detailed view of the sub-category further comprises an option to view wellness data entries corresponding to the sub-category, and wherein the computer-implemented method further comprising:

displaying, on the display, a plurality of wellness data entries corresponding to the sub-category stored in the wellness database.

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42. (New) The computer-implemented method of claim 41, wherein each of the plurality of wellness data entries comprises a numerical value of the data entry, a timestamp, and an identification of a source of the data entry.

43. (New) The computer-implemented method of claim 38, further comprising:

detecting a request to reorder the displayed plurality of approved sources; and

in response to detecting the request to reorder the displayed plurality of approved sources, reordering the displayed plurality of approved sources in accordance with the detected request to reorder the displayed plurality of approved sources.

44. (New) The computer-implemented method of claim 38, wherein the data sharing interface further comprises options to add an approved destination to the plurality of approved destinations and to remove an approved destination from the plurality of approved destinations.

45. (New) The computer-implemented method of claim 37, further comprising:

receiving a search query; and

displaying, on the display, one or more sub-categories of the plurality of categories that match the search query, wherein the displayed one or more sub-categories that match the search query are color-coded based on their respective categories.

46. (New) The computer-implemented method of claim 37, further comprising:

displaying, on the display, a source interface comprising a list of known sources.

47. (New) The computer-implemented method of claim 46, wherein the source interface further comprises a numerical indicator associated a known source of the known sources that represents a number of new types of wellness data that can be provided by the known source.

48. (New) The computer-implemented method of claim 46, further comprising:

detecting a selection of a known source from the displayed list of known sources; and

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in response to detecting the selection of the known source, displaying, on the display, a list of types of wellness data that the known source can provide.

49. (New) The computer-implemented method of claim 48, wherein the list of types of wellness data that the known source can provide comprises a selectable option for each of the types of wellness data that the known source can provide to approve or reject the associated type of wellness data.

50. (New) The computer-implemented method of claim 49, further comprising:

detecting a selection of the selectable option for a type of wellness data that the known source can provide; and

in response to detecting the selection of the selectable option, approving or rejecting the type of wellness data that the known source can provide in accordance with the detected selection of the selectable option.

51. (New) The electronic device of claim 29, wherein the plurality of approved sources are ranked amongst each other.

52. (New) The electronic device of claim 29, wherein the processor is further configured to:

identify a first wellness data entry in the wellness database that was received from a first approved source of the plurality of approved sources, the first wellness data entry associated with a first sub-category of wellness data comprising a first timestamp; and

identify a second wellness data entry in the wellness database that was received from a second approved source of the plurality of approved sources, the second wellness data entry comprising the first sub-category of wellness data, and a second timestamp, and wherein the first timestamp is within a threshold length of time from the second timestamp.

53. (New) The electronic device of claim 52, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the processor is further configured to use the first wellness data entry instead of using the second wellness data entry.

54. (New) The electronic device of claim 52, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the processor is further configured to prioritize the first wellness data entry over the second wellness data entry.

55. (New) The electronic device of claim 54, wherein the processor is further configured to: in accordance with a determination that the first wellness data entry is prioritized over the second wellness data entry, use the first wellness data entry instead of using the second wellness data entry.

56. (New) The electronic device of claim 52, wherein the second approved source has been identified by the user as being preferred over the first approved source, and wherein the processor is further configured to prioritize the second wellness data entry over the first wellness data entry.

57. (New) The electronic device of claim 56, wherein the processor is further configured to: in accordance with a determination that the second wellness data entry is prioritized over the first wellness data entry, use the second wellness data entry instead of using the first wellness data entry.

58. (New) The electronic device of claim 29, wherein the processor is further configured to:

display, on the display, a plurality of categories of wellness data stored in the wellness database.

59. (New) The electronic device of claim 58, wherein the processor is further configured to:

detect a selection of a category of wellness data from the displayed plurality of categories of wellness data; and

in response to detecting the selection of the category of wellness data, display, on the display, one or more sub-categories of the category of wellness data.

60. (New) The electronic device of claim 59, wherein the detailed view of the sub-category further comprises an input field for entering a wellness data entry, and wherein the processor is further configured to:

receive a wellness data entry to be stored in the wellness database that was input into the input field.

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61. (New) The electronic device of claim 59, wherein the detailed view of the sub-category further comprises a textual description of the sub-category.

62. (New) The electronic device of claim 59, wherein the detailed view of the sub-category further comprises an option to view wellness data entries corresponding to the sub-category, and wherein the processor is further configured to:

display, on the display, a plurality of wellness data entries corresponding to the sub-category stored in the wellness database.

63. (New) The electronic device of claim 62, wherein each of the plurality of wellness data entries comprises a numerical value of the data entry, a timestamp, and an identification of a source of the data entry.

64. (New) The electronic device of claim 59, wherein the processor is further configured to:

detect a request to reorder the displayed plurality of approved sources; and

in response to detecting the request to reorder the displayed plurality of approved sources, reorder the displayed plurality of approved sources in accordance with the detected request to reorder the displayed plurality of approved sources.

65. (New) The electronic device of claim 59, wherein the data sharing interface further comprises options to add an approved destination to the plurality of approved destinations and to remove an approved destination from the plurality of approved destinations.

66. (New) The electronic device of claim 58, wherein the processor is further configured to:

receive a search query; and

display, on the display, one or more sub-categories of the plurality of categories that match the search query, wherein the displayed one or more sub-categories that match the search query are color-coded based on their respective categories.

67. (New) The electronic device of claim 58, wherein the processor is further configured to:

display, on the display, a source interface comprising a list of known sources.

68. (New) The electronic device of claim 67, wherein the source interface further comprises a numerical indicator associated a known source of the known sources that represents a number of new types of wellness data that can be provided by the known source.

69. (New) The electronic device of claim 67, wherein the processor is further configured to:

detect a selection of a known source from the displayed list of known sources; and

in response to detecting the selection of the known source, display, on the display, a list of types of wellness data that the known source can provide.

70. (New) The electronic device of claim 69, wherein the list of types of wellness data that the known source can provide comprises a selectable option for each of the types of wellness data that the known source can provide to approve or reject the associated type of wellness data.

71. (New) The electronic device of claim 70, wherein the processor is further configured to:

detect a selection of the selectable option for a type of wellness data that the known source can provide; and

in response to detecting the selection of the selectable option, approve or reject the type of wellness data that the known source can provide in accordance with the detected selection of the selectable option.

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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/599,424	Filing Date 01/16/2015	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ 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 $ =	
☐ 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).			
☐ 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

AMENDMENT **10/23/2018**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 66	Minus	** 29	= 37	X $100 =	3700
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $460 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	**3700**

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ 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
LORRAINE E. WALDEN

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.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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

FOREIGN PATENT DOCUMENTS

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]

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Chinese Patent Application No. 201510284850.3, mailed on July 09, 2018, 11 pages (2 pages of English Translation and 9 pages of Official copy).	☒
	2.	Summons to Attend Oral Proceedings received for European Patent Application No. 15730890.9, mailed on September 10, 2018, 11 pages.	

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.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

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	/Randy Omid/	Date (YYYY-MM-DD)	2018-09-20
Name/Print	Randy Omid	Registration Number	67,439

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Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
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($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	33774014
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty
Filer Authorized By:	Peter Jung-Hyon Yim
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	20-SEP-2018
Filing Date:	16-JAN-2015
Time Stamp:	05:35:20
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$240
RAM confirmation Number	092018INTEFSW05391000
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	P23397US3_IDS_Sep_20_2018.pdf	574510 410c8bfe47ccb2f5727f40f3e4999ef1e2d631e3	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Non Patent Literature	20151028485O3_CNOA_07_09_2018.pdf	5040546 bd3a7370a4c2c2071286ada6095f2974dc04a32b	no	11
Warnings:					
Information:					
3	Non Patent Literature	157308909_STAOP_09_10_2018.pdf	395054 b20c2d9cb9e4d48aba4481d699b402770bef2ff8	no	11
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31039 e1a85f7d01505474a8b7fde3c8ee3da499c11af3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	6041149		

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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.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

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U.S. PATENTS

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

U.S. PATENT APPLICATION PUBLICATIONS

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

FOREIGN PATENT DOCUMENTS

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]
	1.	101061484	CN	A	2007-10-24	IBM	English Abstract Submitted	
	2.	103154954	CN	A	2013-06-12	Nike International Ltd.	English Abstract Submitted	

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, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Chinese Patent Application No. 201580028677.9, mailed on May 25, 2018, 14 pages (4 pages of English Translation and 10 pages of Official copy).	☒

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-08-08
Name/Print	Randy Omid	Registration Number	67,439

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Espacenet

Bibliographic data: CN101061484 (A) — 2007-10-24

Privacy entitlement protocols for secure data exchange, collection, monitoring and/or alerting

Inventor(s):	THOMAS EISENBERGER GEORGE MCCU [US] + (EISENBERGER GEORGE,MCCULLOCH III EDGAR,RICHARDS THOMAS II)
Applicant(s):	IBM [US] + (IBM)
Classification:	**- international:** ***G06F17/30; G06F19/00; G06Q50/00; H04L29/06*** **- cooperative:** **G06F19/00**; **G06Q10/10**; **G06Q50/22**; **G16H10/60**; **H04L29/06**; **H04L67/104**; G06F19/321; G16H50/80; Y02A90/22; Y02A90/24; Y02A90/26
Application number:	CN2006801228 20060103
Priority number (s):	US20050032391 20050110
Also published as:	EP1836829 (A1) JP2008527520 (A) JP4833226 (B2) TW200704076 (A) TWI371203 (B) more

Abstract of CN101061484 (A)

Methods, systems and related computer products for providing entitlement controlled levels of collaborative exchange of data using a computer network of Subscribers and Publishers, are configured to: (a) define a set of different privacy levels, each privacy level having associated data sharing parameters that control a participating Publisher's ability to send and a participating Subscriber's ability to receive content specific data; and (b) provide an electronic privacy level register that defines the different data sharing parameters for each of the different privacy levels and identifies an associated at least one privacy level for each participating Subscriber and Publisher.

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IPR2023-01434, U.S. Patent No. 10,270,898
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[19] 中华人民共和国国家知识产权局

[12] 发明专利申请公布说明书

[21] 申请号 200680001228.6

[51] Int. Cl.
G06F 19/00 (2006.01)
G06Q 50/00 (2006.01)
G06F 17/30 (2006.01)
H04L 29/06 (2006.01)

[43] 公开日 2007 年 10 月 24 日

[11] 公开号 CN 101061484A

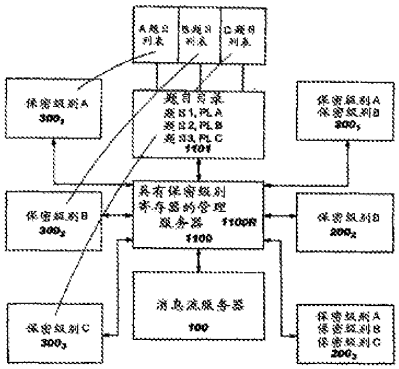
[22] 申请日 2006.1.3
[21] 申请号 200680001228.6
[30] 优先权
[32] 2005.1.10 [33] US [31] 11/032,391
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[87] 国际公布 WO2006/072610 英 2006.7.13
[85] 进入国家阶段日期 2007.5.16
[71] 申请人 国际商业机器公司
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代理人 康建峰
权利要求书 6 页 说明书 36 页 附图 29 页

[54] 发明名称

用于安全数据交换、收集、监控和/或警报的保密权利协议

[57] 摘要

本发明涉及一种使用订阅者和发布者的计算机网络提供协同数据交换的权利控制级别的方法、系统和相关计算机产品，配置以便：(a)定义一组不同的保密级别，每个保密级别具有控制参与发布者发送内容具体数据的能力和参与订阅者接收内容具体数据的能力的相关数据共享参数；以及(b)提供为不同保密级别的每个定义不同的数据共享参数并且为每个参与订阅者和发布者标识相关的至少一个保密级别的电子保密级别寄存器。



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1. 一种使用注册的参与订阅者和发布者的计算机网络提供协同数据交换的控制级别的方法，包括:

定义一组不同的保密级别，每个保密级别具有电子控制参与订阅者从每个参与发布者接收内容具体数据的能力的相关数据共享参数；以及

提供电子保密级别寄存器，其为每个参与订阅者标识从不同保密级别的组中选择的对于每个参与发布者批准的保密级别是什么，从而提供订阅者与发布者之间基于权利的受控电子数据共享协议。

2. 根据权利要求 1 的方法，其中每个发布者具有选自该组不同保密级别的至少一个规定的保密级别，其控制发布者可以将什么数据发布给订阅者。

3. 根据权利要求 1 的方法，其中使用基于网络的计算机网络为协同数据交换提供与用作在参与订阅者与发布者之间控制发布者与订阅者之间数据共享的看门中间媒介的管理服务器网络应用相关联和/或包括在其中的电子保密级别寄存器。

4. 根据权利要求 1 的方法，其中每个发布者包括保持他自己的电子患者数据记录的资料库并且将电子保健数据电子提供到消息流服务器的发布者网关，消息流服务器将来自各个发布者的电子保健数据选择性地仅转发到具有适当保密级别的那些订阅者。

5. 根据权利要求 1 的方法，其中协同数据交换针对患者保健数据，其中发布者包括保健提供者，以及其中保密级别控制什么发布者保健数据可以发送到各个订阅者以及各个订阅者可以向发布者电子请求什么内容。

6. 根据权利要求 1 的方法，还包括提供保健题目的电子题目目录，每个题目具有与该组不同保密级别中的一个相对应的指定保密级别，使得订阅者仅可以请求他们各自保密权利级别的那些题目的数据，以及发布者仅可以发布他们保密权利级别的那些题目的数据。

7. 根据权利要求 6 的方法，还包括如果请求订阅者具有授权订阅

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者访问来自一个或多个发布者的保健数据的保密级别，则自动地将由订阅者发起的所选保健题目的订阅者题目数据请求从管理服务器电子传递到一个或多个发布者。

8. 根据权利要求 6 的方法，其中题目目录是所有不同保密级别的所有可选题目的全局目录。

9. 根据权利要求 8 的方法，其中配置管理服务器以在各自网络入口处仅对各个订阅者显示电子题目目录中与订阅者的保密级别相对应的那些保健题目。

10. 根据权利要求 6 的方法，其中管理服务器网络应用与消息流服务器通信以基于在保密寄存器中为每个订阅者定义的针对发布者的保密级别将从发布者发送的发布者保健数据选择性地仅转发到经授权的订阅者。

11. 根据权利要求 10 的方法，其中保密级别注册包括兼容性相关矩阵，其使得为每个保健数据题目、为每个订阅者以及为每个发布者定义的保密级别相互关联。

12. 根据权利要求 2 的方法，还包括选择性地产生每个发布者的网络入口显示，其仅显示来自具有对各个发布者授权的保密级别的订阅者对于所选保健发布题目的请求。

13. 根据权利要求 1 的方法，其中多个不同保密级别包括仅允许去除患者标识的数据在发布者与订阅者之间共享的第一保密级别以及允许受限的患者数据在发布者与订阅者之间共享的第二保密级别。

14. 根据权利要求 13 的方法，还包括在发布者与订阅者之间关于数据内容没有约束的第三保密级别。

15. 根据权利要求 1 的方法，还包括允许订阅者从电子题目目录中电子选择关注题目并且自动地电子触发与该题目相关的数据发布请求，该数据发布请求然后在计算机网络上发送到具有符合保密级别的参与发布者。

16. 根据权利要求 15 的方法，还包括允许订阅者电子发起具有期望数据约束的新题目数据请求，如果新题目数据具有符合订阅者保密级

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别的保密级别，则该新题目数据请求然后自动地电子存储在题目目录中。

17. 一种包括订阅者和发布者参与方的基于网络的保健协同数据共享系统，与订阅者建立数据共享协议的发布者对于不同保健数据内容具有至少一个规定的保密级别，并且与发布者建立数据共享协议的订阅者具有至少一个规定的保密级别，从由基于网络的系统使用的订阅者和发布者的一组公共规定的保密级别中为订阅者和发布者选择至少一个规定的保密级别。

18. 根据权利要求 17 的系统，其中每个发布者包括至少一个发布者网关，其配置以接收电子患者数据，将患者数据自动地电子格式化成开放标准消息，以及在各个发布者消息数据库中自动地电子存储患者数据消息期望的间隔。

19. 根据权利要求 17 的系统，其中多个不同保密级别包括仅允许去除患者标识的数据使用因特网在发布者与订阅者之间共享的第一保密级别以及允许受限的患者数据使用因特网在发布者与订阅者之间共享的第二保密级别。

20. 根据权利要求 17 的系统，还包括在发布者与订阅者之间关于数据内容没有约束的第三保密级别，该第三保密级别通常与对于保健提供者具有监督职权的政府机构相关联，以及其中配置保密级别以提供因特网上发布者到订阅者之间通信的遵守 HIPPA 保密的数据共享协议。

21. 一种基于网络的安全数据共享系统，用于提供和控制发布者与订阅者参与方之间经由因特网的协同保健数据共享，包括:

消息流服务器，配置以经由因特网与参与方保健发布者网关和订阅者通信；以及

与消息流服务器通信的管理服务器，配置管理服务器以控制参与订阅者与发布者之间的通信，其中每个参与订阅者和发布者具有从一组规定的保密级别中选择的至少一个规定的保密级别，其中管理服务器与规定某种类型患者保健数据的保密级别的电子保密级别寄存器通信，以及其中配置系统以基于各自的规定保密级别控制订阅者与发布者之间的通

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信。

22. 根据权利要求 21 的系统，其中管理服务器和/或消息流服务器与不同保健数据题目的订阅者可选电子题目目录数据库通信，不同保健题目每个具有相关保密级别。

23. 根据权利要求 22 的系统，其中配置系统使得各个订阅者仅可以查看题目目录中他们的保密级别指示他们经授权访问的题目。

24. 根据权利要求 21 的系统，其中管理服务器与各个发布者和订阅者以及消息流服务器通信，以基于订阅选择性地自动将从发布者接收的各个题目的保健发布数据仅电子转发到那些经授权的订阅者，订阅基于与保健数据的题目相关联的保密级别和每个发布者的订阅者保密级别是针对订阅者和题目的。

25. 根据权利要求 21 的系统，其中管理服务器与兼容性相关矩阵通信，如果题目和/或请求订阅者的保密级别不匹配，则配置兼容性相关矩阵以自动地电子阻止对发布者患者保健数据的未经授权的订阅者访问。

26. 一种保健协同数据共享计算机网络系统，包括:

消息流服务器;

具有对电子患者保健记录的访问路径的多个发布者参与方，每个发布者包括与消息流服务器通信的至少一个发布者网关，其中各个发布者网关配置有至少一个规定的保密级别，其电子控制发布者网关与各个订阅者的数据共享协议; 以及

与消息流服务器通信的多个订阅者参与方，每个订阅者具有规定的保密级别，其电子控制他们对来自参与发布者的保健数据的访问;

其中消息流服务器选择性地自动将关于保健题目的保健数据从各个发布者网关电子转发到订阅者，只要订阅者具有授权订阅者访问该题目保健数据的保密级别。

27. 根据权利要求 26 的系统，还包括与为来自每个发布者的每个订阅者的不同类型保健数据定义权利级别的电子用户保密寄存器通信的管理服务器，其中，在操作中，管理服务器选择性地自动将关于保健题

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目的保健数据的电子请求电子转发到各个发布者，只要订阅者具有授权订阅者访问该题目保健数据的保密级别。

28. 根据权利要求 27 的系统，其中配置管理服务器以将来自请求订阅者的保健数据发布请求仅电子发送到没有不批准发布到请求订阅者的那些发布者。

29. 根据权利要求 27 的系统，其中用户保密寄存器包括电子兼容性相关数据库，其使得来自一组定义的保密级别，对于每个发布者以及每个订阅者的不同保健题目的保密级别相互关联，该系统还包括关于每个保密级别使用计算机网络的数据共享规则，配置数据共享规则使得发布者遵守保健保密规则。

30. 根据权利要求 26 的系统，其中配置订阅者能够使用与管理服务器相关联的网络应用查看电子题目目录并且从电子题目目录中选择与各个订阅者的保密级别相关联的保健题目。

31. 一种用于控制使用计算机网络的协同数据共享系统中数据共享的计算机程序产品，该计算机程序产品包括:

具有实现在所述介质中的计算机可读程序代码的计算机可读存储介质，所述计算机可读程序代码包括:

配置以为每个发布者和订阅者规定至少一个保密级别的计算机可读程序代码，该至少一个保密级别选自一组全局规定的保密级别，不同的保密级别与不同的数据记录内容相关联;

配置以基于规定的保密级别定义请求数据的订阅者与拥有数据的发布者的数据共享协议的计算机可读程序代码; 以及

配置以提供订阅者和发布者的参与者注册以及他们的规定保密级别的计算机可读程序代码。

32. 根据权利要求 31 的计算机程序产品，还包括配置以提供可选不同保健题目的订阅者可访问电子题目目录的计算机可读程序代码，可选题目的每个具有与各个订阅者的保密级别兼容的保密级别。

33. 根据权利要求 32 的计算机程序产品，其中数据记录包括患者保健记录，该计算机程序产品还包括配置以产生对于来自不同发布者的

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保健数据内容定义订阅者权利级别的兼容性相关矩阵的计算机可读程序代码。

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用于安全数据交换、收集、监控和/或警报的保密权利协议

相关申请的交叉引用

存在与本申请同时提交的三个共同未决共同转让的相关申请，这三个共同未决的共同转让申请由代理人申请案编号 5577-328、5577-329 和 5577-332 标识，在此引用其内容作为参考，正如在此叙述全文一样。

发明背景

本发明涉及使用计算机网络的数据共享，并且可以特别适用于在内联网和/或公共因特网上的保健临床数据共享。

保健通信系统典型地在机构之间受限并且通常是不标准的，跨越多个保健提供者访问、跟踪、监控和/或警报保健数据是困难的。在美国，存在超过六千家医院、几十万个保健专家以及若干其他团体期望交换临床数据。对于利用集中式数据资料库进行数据共享以便于数据交换存在技术、法律和/或社会障碍，并且即使存在这种资料库，维持当前认识和/或访问中央数据资料库几乎不可能。此外，许多隐私权组织反对从在保健系统中治疗的患者收集患者信息的国家（或跨国或全球）资料库。

在过去，交换保健数据的常规方法包括数据的人工传送例如邮寄，电话通话，项目专用格式和/或点对点接口中的数据带、磁盘或文件的交换，和/或使用数据挖掘技术提供数据共享。也就是，已经配置了一些常规系统以便通过从源中提取数据，转换和规格化数据，然后将转换后的数据装载到中央资料库中用于数据挖掘（“ETL”）来共享各种数据集和提取关于特定事件的信息。不幸地，ETL 会使得这种系统难以使用并且会限制其可扩展性。

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发明内容

根据本发明的一方面，提供一种使用订阅者和发布者的计算机网络提供协同数据交换的权利受控级别的方法。该方法包括:（a）定义一组不同的保密级别，每个保密级别具有控制参与订阅者从每个发布者接收内容具体数据的能力的相关数据共享参数；以及（b）提供电子保密级别注册，其为每个参与订阅者识别对于每个参与发布者从该组不同保密级别中选择的批准的保密级别是什么，从而提供订阅者与发布者之间基于权利的受控电子数据共享协议。

根据本发明的另一方面，提供一种包括订阅者和发布者参与方的基于网络的保健协同数据共享系统。发布者对于不同保健数据内容具有与订阅者建立数据共享协议的至少一个规定的保密级别。订阅者具有与发布者建立数据共享协议的至少一个规定的保密级别。从由系统使用的一组公共规定保密级别中为参与订阅者和发布者选择规定的保密级别。

本发明的另一方面涉及一种基于网络的安全数据共享系统，用于提供和控制发布者与订阅者参与方之间使用因特网的协同保健数据共享。该系统包括:（a）消息流服务器，配置以经由因特网与参与方保健发布者网关和订阅者通信；以及（b）与消息流服务器通信的管理服务器。配置管理服务器以控制参与订阅者与发布者之间的通信。每个参与订阅者和发布者具有从一组规定保密级别中选择的至少一个保密级别。管理服务器与规定某种类型患者保健数据的保密级别的电子保密级别寄存器通信。配置系统以基于他们各自的保密级别控制订阅者与发布者之间的通信。

本发明的另一方面涉及一种保健协同数据共享计算机网络系统，包括:（a）消息流服务器；（b）与消息流服务器通信的具有对电子患者保健记录的访问路径的多个发布者参与方；以及（c）与消息流服务器通信的多个订阅者参与方。每个发布者包括至少一个发布者网关。发布者网关配置有至少一个规定的保密级别，其电子控制它的数据共享协议以接收和中继来自各个订阅者以及到各个订阅者的电子通信。每个订阅者具有规定的保密级别，其控制他们对来自参与发布者的保健数据的访

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问。只有当订阅者具有授权订阅者访问该题目保健数据的保密级别时，消息流服务器才选择性地自动将关于保健题目的保健数据从发布者网关电子转发到订阅者。

其他方面涉及用于控制使用计算机网络的协同数据共享系统中数据共享的计算机程序产品。该计算机程序产品包括具有实现在介质中的计算机可读程序代码的计算机可读存储介质。该计算机可读程序代码包括:（a）配置以为每个发布者和订阅者规定至少一个保密级别的计算机可读程序代码，该至少一个保密级别选自一组全局的规定保密级别，不同的保密级别与不同的数据记录内容相关联;（b）配置以基于规定的保密级别为请求数据的订阅者与拥有数据的发布者规定数据共享协议的计算机可读程序代码；以及（c）配置以提供订阅者和发布者的参与方注册簿以及他们的规定保密级别的计算机可读程序代码。

注意，关于特定类型的实现而描述的实施方案和/或特征可以其他方法实现，例如，其中实施方案描述为方法，那些特征可以实现为计算机程序产品和/或设备或系统。本发明的这些和其他目的和/或方面在下面陈述的说明书中详细解释。

附图说明

图 1A 是根据本发明实施方案用来提供协同数据交换的计算机联网系统的示意说明。

图 1B 是根据本发明实施方案说明示例发布周期的图 1A 中所示系统的示意说明。

图 1C 是根据本发明实施方案说明所选订阅者题目以及在订阅者与多个不同发布者之间的示例发布周期的图 1A 中所示系统的示意说明。

图 1D 是根据本发明实施方案说明数据可以输入到发起源发布者处的发布者网关，并且（不同输出格式的）发布可以发送回到发起发布者内或与其相关联的机构的图 1A 中所示系统的示意说明。

图 2 是可以用来实施本发明某些实施方案的示例操作的流程图。

图 3 是可以用来实施本发明的实施方案的其他示例操作的流程图。

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图 4 是根据本发明实施方案的数据处理系统的框图。

图 5 是根据本发明实施方案的数据处理系统的框图。

图 6 是根据本发明实施方案的协同计算机网络系统的示意说明。

图 7 是根据本发明实施方案的网络集线器组件的示意说明。

图 8 是根据本发明实施方案的联网系统的示例系统体系结构的示意说明。

图 9 是根据本发明实施方案的某些系统的另外特征的示意说明。

图 10 是根据本发明实施方案包括与发布者和订阅者接口的网络集线器的系统的示意说明。

图 11 是根据本发明实施方案的患者记录数据的消息集成系统的示意说明。

图 12 是根据本发明实施方案可以产生的题目事件的数据摘要的图表。

图 13 是根据本发明实施方案包括患者的各种数据记录的样本消息。

图 14 是根据本发明实施方案发布者的示例计算机网络（典型地网络）入口的屏幕打印输出。

图 15 是根据本发明实施方案在计算机网络入口上可访问的示例题目目录列表的屏幕打印输出。

图 16A 和 16B 是根据本发明实施方案来自管理应用/在管理应用上的示例发布者“主页”视图的示例屏幕打印输出。

图 17A-17C 是根据本发明实施方案可以用来与关于关注题目发布的系统交互的发布者屏幕视图的实例。

图 18 是根据本发明实施方案用来识别和产生药物不良事件警报的保健系统的示意说明。

图 19 是根据本发明实施方案用来识别和产生疾病爆发、公众健康风险、环境危害和/或生物恐怖主义事件的警报识别的保健系统的示意说明。

图 20 是根据本发明实施方案的保密级别栅格的示意说明。

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图 21A 和 21B 是根据本发明实施方案订阅者和发布者的计算机网络系统以及具有规定保密级别的题目的实例的框图。

图 22 是根据本发明实施方案可以用来控制订阅者与发布者之间数据共享的兼容性相关矩阵的示意说明。

具体实施方式

现在将参考附随附图在下文更完整地描述本发明的实施例。类似的参考标号遍及全文指示类似的元件。在附图中，为了清楚可以放大某些层、组件或特征，并且虚线说明可选特征或操作，除非另外指定。另外，操作（或步骤）的顺序并不局限于权利要求或附图中提出的次序，除非另外具体指示。在使用术语“附加”、“连接”、“接触”、“耦合”等时可以指直接地或间接地，除非另外陈述。

如这里使用的，术语“和/或”包括相关列出项目中一个或多个的任何和全部组合。

应当理解，虽然术语第一、第二等可以在这里使用以描述各种元件，这些元件不应当由这些术语限制。这些术语仅用来区分一个元件与另一个元件。因此，下面讨论的第一元件可以称作第二元件而不背离本发明的范围。

这里使用的术语仅为了描述特定实施方案而不旨在限制本发明。如这里使用的，单数形式“一”、“一个”以及“该”同样旨在包括复数形式，除非上下文另外清楚地指示。此外应当理解，当在此说明书中使用时术语“包括”和/或“包含”指定陈述的特征、整数、步骤、操作、元件和/或组件的存在，但是并不排除一个或多个其他特征、整数、步骤、操作、元件、组件和/或其组合的存在或增加。

除非另外定义，这里使用的所有术语（包括技术和科学术语）与由本发明所属领域的技术人员通常理解的具有相同的意义。此外应当理解，术语，例如在通常使用的字典中定义的那些，应当解释为具有与它们在说明书上下文和相关技术领域中的意义一致的意义，而不应当在理想化或过度正式的意义上解释，除非在这里如此明确地定义。

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术语“发布者”指可以使用计算机网络提供或“发布”数据到外部和/或内部位置的参与方。发布者典型地是原始数据源。术语“订阅者”指可以使用计算机网络请求题目数据的参与者。发布者也可以是他们自己的数据或其他发布者的数据的订阅者。术语“自动的”意思是如此描述的基本上全部或全部操作可以执行而无需人类操作员的帮助和/或手工输入。术语“电子的”意思是系统、操作或设备可以使用任何适当的电子介质通信并且典型地利用可编程地控制使用计算机网络的参与方之间的通信。术语“网络集线器”指控制使用计算机网络的发布者与订阅者之间的数据交换的节点和/或控制位置（或多个位置）。对于发布者位置访问他自己的消息可能不需要网络集线器（也就是，保健数据请求来自发布者机构内的订阅者并且仅对于来自发布者机构、典型地由发布者网关控制的机构专用数据的情况）。术语“HIPAA”指由健康保险可携性及责任法案定义的美国法律。术语“开放标准”指使用对公众开放（也就是非专有）的标准的数据的标准化电子格式。当前开放标准消息传递格式的示例包括 HL-7、MAGE-ML 以及目前存在或还没有开发的相关行业标准代码。例如，对于保健应用，行业标准代码可以包括，但不局限于，用于诊断（ICD-9，ICD-10）、程序（CPT）、化验室结果（LOINC 和/或 SNOMED）以及药物（NDC，RxNorm）的那些。

术语“消息”指可以是规定计算机代码语言格式的题目的一个或多个数据单元。可以存在不同的消息类型，例如但不局限于，命令和控制消息、临床或目标数据发布消息、通知消息和警报消息。消息可以包括从发布者专用的内部 IT 计算机系统接收的单元，典型地是 HL7 消息格式。目标数据的发布可以作为可以经由订阅者各自的网关发送到订阅者的题目发布消息而执行。题目发布消息可以包括内容定义报头，其可以与题目发布消息中的其他数据单元处于不同的格式（例如 XML）。典型地，与报头一起发送的数据封装在消息主体中（称作信封或外壳），并且位于信封中的通常可以是任何任意行业专用格式的数据。题目发布消息中的其他数据单元可以是行业专用格式和/或代码或者映射到所有参与方之间的规定通信协议/公共语言的规定标准化消息代码/内容。例

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如，对于保健数据共享系统，题目发布消息可以包括内容定义摘要/报头以及包括与订阅者的数据请求相关联的那些临床数据单元。可以配置消息数据单元以产生该数据单元的（典型地简短的）文本摘要。

本发明的实施方案可以特别适用于一个或多个可以使用计算机网络实现的协同保健数据共享系统。术语“计算机网络”包括一个或多个局域网（LAN）、广域网（WAN），以及在某些实施方案中可以包括私有内联网和/或公共因特网（也称作万维网或“网络”）。由本发明实施方案考虑的保健或其他数据共享系统可以实现为州系统、地区系统、国家系统和/或跨国系统的一个或多个。

术语“保健数据”和“临床数据”可以互换使用并且包括治疗、医疗、药物或处方使用、化验室测试和/或结果、诊断信息、人口统计信息、物理位置、家庭地址（例如邮编）或者与事件或患者相关联的旅行或其他相关数据的任何和/或全部。保健数据可以用于临床试验、药物不良事件、疾病监测（例如传染遏制或警报）或者其他生物监测和/或保健质量评价。本发明的实施方案也可以用于非保健系统。可以配置非保健系统以提供专用数据的系统。因此，为了讨论的清楚，本发明在这里将主要关于保健系统而讨论，但是特征、组件和/或操作并不局限于此。

同样应当注意，为了讨论的完整，本发明的实施方案可以关于 IBM 专用产品而讨论。但是，本发明并不局限于此，因为其他产品和/或供应商可以用来实现本发明。

如本领域技术人员将理解的，本发明的实施方案可以实施为方法、系统、数据处理系统或计算机程序产品。因此，本发明可以采取完全软件实施方案或组合软件和硬件方面的实施方案的形式，全部在这里一般地称作“电路”或“模块”。此外，本发明可以采取具有实现在介质中的计算机可用程序代码的计算机可用存储介质上的计算机程序产品的形式。可以使用任何适当的计算机可读介质，包括硬盘、CD-ROM、光学存储设备、传输介质例如支持因特网或内联网的那些、或者磁性或其他电子存储设备。

执行本发明操作的计算机程序代码可以面向对象编程语言例如

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Java、Smalltalk 或 C++编写。但是，执行本发明操作的计算机程序代码也可以常规过程编程语言，例如“C”编程语言或者在面向直观的编程环境例如 VisualBasic 中编写。

某种程序代码可以完全在一个或多个用户计算机上，部分地在用户计算机上，作为独立软件包，部分地在用户计算机上且部分地在远程计算机上，或者完全在远程计算机上执行。在后者场景中，远程计算机可以通过局域网（LAN）或广域网（WAN）连接到用户计算机，或者可以连接到外部计算机（例如使用因特网服务提供商通过因特网）。如下面将进一步讨论的，典型地，一些程序代码在每个发布者网关计算机上执行而一些程序代码在网络集线器服务器（例如消息流服务器和/或网络应用或管理服务器）上执行，且网关与网络集线器服务器之间的通信使用因特网。

下面参考根据本发明实施方案的方法、系统、计算机程序产品和数据和/或系统体系结构的流程图说明和/或框图部分地描述本发明。应当理解，说明的每个框和/或框的组合可以由计算机程序指令实现。这些计算机程序指令可以提供到通用计算机、专用计算机或其他可编程数据处理装置的处理器以产生机器，使得经由计算机或其他可编程数据处理装置的处理器执行的指令建立方法以实现在一个或多个框中指定的功能/动作。

这些计算机程序指令也可以存储在计算机可读内存或存储器中，其可以指导计算机或其他可编程数据处理装置以特定方式运行，使得存储在计算机可读内存或存储器中的指令产生包含实现在一个或多个框中指定的功能/动作的指示方法的制品。

计算机程序指令也可以装载到计算机或其他可编程数据处理装置上以使得一系列操作步骤在计算机或其他可编程装置上执行，从而产生计算机实现的过程，使得在计算机或其他可编程装置上执行的指令提供实现在一个或多个框中指定的功能/动作的步骤。

现在将参考附图讨论本发明的实施方案。图 1A 说明示例电子协同数据共享系统 10，包括与管理服务器 1100 通信的消息流服务器 100。

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如所示，该系统也包括参与发布者 200 和订阅者 300（为了容易讨论每个显示一个）。可以配置管理服务器 1100 控制参与方访问消息流服务器 100 和与消息流服务器 100 通信，使得仅经发布者批准的发布响应发布者输入而发送或传递到订阅者。管理服务器 1100 的全部或一些功能可以合并到消息流服务器 100 中。但是，典型地，管理服务器 1100 与消息流服务器 100 分离并且彼此电子通信。类似地，虽然显示为两个服务器，但是可以使用多于两个服务器来实现消息流服务器或管理服务器功能。本领域技术人员将理解，可以将功能组合在单个物理节点中。

每个发布者 200 可以包括至少一个发布者网关 200g。发布者网关 200g 与消息流服务器 100 通信以将（他们内部授权的）发布数据发送到订阅者 300。发布者 200 典型地包括隶属部门（例如入院和/或出院）、医生、化验室和药房的私有内联网，如下面将进一步讨论的。配置网关 200g 从各个发布者 200 收集临床数据。在一些实施方案中，配置网关 200g 以基于存储介质的大小仅收集临时数据。

订阅者 300 可以由任何适当的通信方法从参与发布者 200 接收经批准的临床发布数据，包括无线消息传递到 PDA、无线通信系统（例如蜂窝式电话）、个人或企业计算机、便携式计算机、经由电子邮件（带有或不带有附件）、语音邮件、存储到数据库或与订阅者相关联的存储介质中、订阅者网关（300g，图 6）等的一种或多种。发布数据可以作为订阅者 300 可以选择的格式的临床题目发布消息而提供。订阅者 300 可以为不同发布数据请求不同发布格式或目的地。目的地可以在位置建立或配置期间建立，或者可以由管理服务器 1100 在启动时或响应变更请求而完成。在一些实施方案中，可以使用管理服务器 1100 控制/建立发布、订阅、目的地和数据格式的条件或规则。

如图 1B 中所示，系统 10 可以包括可能关注的具有不同的发布规则的不同数据类型或内容的题目目录。电子题目目录 1101 可以是由管理服务器 1100 显示给订阅者和发布者 300，200 的全局题目目录 1101。订阅者 300 可以从题目目录 1101 中选择关注的题目或者如果现有题目不具有期望的内容、格式和/或保密级可以创建新的题目。可以通过创建

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或选择具有选择期望格式的内容约束的题目来请求期望的消息格式。也就是，在题目目录中，两个不同题目可以具有相同的数据内容，但是基于指示被请求数据如何发送到他们的期望输出格式和/或通信方式而在题目目录中为不同的题目项。

仍然参考图 1B，显示了示例发布周期。订阅者 300 在由管理服务器 1100 提供的入口访问系统并且输入对临床数据的请求 300R。管理服务器 1100 可以使用系统入口（管理服务器网络应用）将订阅者的发布请求 300R 转发到发布者 200。典型地，当由各个发布者 200 的人（而不是电子地）审查时，请求被批准或拒绝。特定订阅者和题目的请求可以被批准一次。典型地，管理服务器 1100 使用管理服务器网络应用发送请求通知并且发布者响应请求通知。因此，在操作中，请求通知消息和请求响应（以及关于其的订阅者通知）可以通过管理服务器电子传递到订阅者/发布者或从其传递。

在一些特定实施方案中，一个或多个发布者 200 可以配置有电子过滤器或约束，其可以自动地电子批准或拒绝对于一些或全部题目的发布请求。另外，在一些实施方案中，发布者 200 可以对管理服务器 1100 预先标识他们常设“拒绝”的那些订阅者（根据题目或根据订阅者的身份）。在这种情况下，可以配置管理服务器 1100 不发送来自被标识“黑名单”的订阅者和/或“题目”的发布请求。

一旦发布者 200 批准特定订阅者 300 的发布请求 300R，在他们的满足该题目（内容定义）请求 300R 的网关中对于患者而收集或聚集的任何正在进行的临床数据可以作为发布 200m 发布到消息流服务器 100，该发布 200m 然后自动地转发到请求且经批准的订阅者 300。这可以描述为对于具有规定数据内容的特定题目到特定订阅者的发布者专门批准的订阅。对于由各个发布者 200 发送的特定发布者发布，可以存在具有被批准订阅的许多经批准的订阅者。当发布者 200 将具有题目数据的发布 200m 发送到消息流服务器 100 时，它可以通常同时“广播”到多个经批准的订阅者 300。为了取消订阅，各个发布者 200 可以访问管理服务器 1100 的系统入口并且发送对于一个或多个订阅者和/或对于特定

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题目的订阅取消命令。这将阻止来自该发布者 200 的未来发布发送（对于所选一个或多个题目或者全部题目）自动发送到该订阅者 300。

图 1C 说明参与者与服务器 1100，100 之间的通信可以是基于消息的通信。如所示，订阅者 300 可以从题目目录 1101 中选择（或创建）特定题目的发布请求 300R。这产生发布题目请求 300R 的通知，管理服务器 1101 可以将它显示在系统入口的发布者屏幕上。发布题目请求 300R 将定义关注的相关临床数据的题目标题或名字（这具有相关的题目描述）并且标识请求订阅者。发布者 200 通过批准或拒绝请求并且发送消息到管理服务器 1100 来响应发布请求。如所示，每个发布者 200 发送批准响应 200a 到管理服务器 1100。如果批准，则管理服务器 1100 发送命令和控制消息 1100c 到消息流服务器 100 以通知消息流服务器 100 订阅者 300 具有经批准的订阅并且被授权接收从该批准题目的特定发布者发送的发布消息 200m。如所示，对于来自订阅者 300 的单个发布题目请求，消息流服务器 100 可以接收并发送来自不同发布者 200 的临床数据的许多题目发布消息 200m。

发布者网关 200g 的一个或多个也可以配置成订阅者网关 300g，作为两种功能的公共网关 200gc，从而作为订阅者接受外部数据并且作为发布者发送内部数据，如图 7 中所示。在其他实施方案中，订阅者 300 可以如上所述不使用订阅者网关 300g 而通信，或者订阅者 300 可以具有专用的订阅者网关 300g。

图 1D 说明一些订阅者 300 可以隶属于发布者 200。消息流服务器 100 可以发送或传递所选临床数据到发布者组织内部的订阅者 300（以及外部订阅者）。消息流服务器 100 可以通过发布者网关 200g，配置发布者网关 200g 具有双模态操作/功能从而也用作订阅者网关 300g 时，从而利用公共订阅者/发布者网关 200gc（图 7）或者通过独立的订阅者网关 300g（图 6）与订阅者 300 通信。在其他实施方案中，消息流服务器 100 可以使用如上讨论的它们选择的电子通信模态将临床数据和/或请求信息直接发送到订阅者 300。订阅者 300 可以包括管理员、医生、部门领导或者期望临床数据的其他职能或人。如前所述，临床数据可以

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一种或多种格式发送到订阅者，包括但不局限于，电子邮件、下载或发送到数据库或电子存储介质、经由电话或无线通信设备包括蜂窝式电话和 PDA 或者其他便携式和/或普遍计算设备的页面、文本或语音消息传递。例如，临床医生可以订阅以从他们自己的保健机构（或者其他保健部门或专科）接收临床数据，这通知他或她心脏病患者表现出某些症状或所选的标准例如指定药物治疗。

该信息可以任何适当的格式发送，例如到便携式通信设备以允许更即时的通知和允许任何期望的护理跟踪。在另一个实例中，管理员可以请求具有超过护理监控报告保健标准的各种诊断的规定阈值或其他标准的所有住院患者的临床数据。在又一个实例中，部门领导可以订阅来自他或她的各个护理机构的发布消息的题目，包括例如由他或她的部门医生治疗的、对于特定症状开出某种药方或没有开出某种药方的患者的通知，化验室工作和/或诊断。这可以标识培训需求或患者跟踪。

系统 10 可以包括大量参与订阅者和发布者。虽然图中显示为单个消息流服务器 100，但是在单个节点，为了冗余和/或服务可以适当地使用多个这种服务器和/或节点。

对于保健应用，数据的一类发布者典型地是护理提供者例如医院、诊所、私立医院、康复中心、紧急护理机构、化验室、医生和其他护理提供者，特别是有责任向管理机构报告临床数据的那些提供者。其他类发布者可以包括独立化验室、药房利润经理和其他临床资料库。

典型的订阅者包括联邦、州和/或当地（发布者位置当地）管理和/或政府机构、任何公众健康机构、诊所或医院（其也可能是发布者）、保险公司、制药公司、研究员、公众健康和/或政策机构/代理处等。系统 10 可以用作国家健康信息基础设施（NHII）和/或地区或州健康信息组织的一部分。

在一些实施方案中，可以描述为观察者的第三类参与方可以可选地存在。观察者可以具有已建立的标准监控协议，由此观察者可以获得发送到和/或来自某些或全部发布者 200 和/或某些和/或全部订阅者 300 的临床数据、数据消息和/或消息摘要的副本。另外，可以存在主机服务

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的第四管理类参与方（没有显示）。

对于基于因特网的应用，可以配置消息流服务器 100、订阅者 300、发布者 200 和/或相关网关 200g，300g 使用 SSL（安全套接字层）和高级加密来操作。用户或参与方可以指定到具有为他们的系统处理数据的一组属性的“组织”。系统 10 具有定义用户角色并提供在网络入口处（例如当注册时）识别的具体授权级别的用户注册。发布者 200 和订阅者 300 经由网络入口 10p（图 6，8）和管理服务器 1101 与网络集线器 10h 通信，从而将来自一个或多个发布者 200 的关于题目的临床数据经由管理服务器 1100 控制的消息流服务器 100 发布到感兴趣的订阅者 300。

图 2 说明根据本发明实施方案可以使用管理服务器 1100 和消息流服务器 100 便于数据的协同共享的操作。如所示，管理服务器接收到发布所选题目的请求（框 105）。管理服务器可以评价订阅者是否经授权接收来自参与发布者（例如来自任何、全部或仅所选发布者）的数据（框 110）。可以将发布请求转发到发布者，使得每个发布者可以批准或拒绝对于特定题目或订阅者的发布请求（框 115）。在特定实施方案中，管理服务器可以预先筛选订阅者题目请求，看是否存在来自特定发布者的对于特定订阅者或题目的任何“黑名单”或常设指示。如果发布者批准来自特定订阅者的特定题目的发布请求，则可以建立经授权的常设订阅命令，允许临床数据自动从批准发布者经由消息流服务器 100 发送到经授权的请求订阅者（框 116）。管理服务器 1100 可以将订阅消息发送到消息流服务器以发起订阅并且允许临床数据从发布者经由消息流服务器传递到订阅者，而不需要请求者从该订阅者请求关于该题目的未来事件或数据的发布。

图 3 说明可以由发布者 200 执行的示例操作。如所示，在发布者入口处（管理服务器应用）为被标识的订阅者和题目接收发布请求的通知（框 201）。通知可以在任何观察屏幕上，但是典型地在发布者的“收件箱”中。发布者可以各自确定是否批准或拒绝各个订阅者和/或题目请求的发布请求。发布者可以审查通知并且基于发布者的具体偏好、标准、

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规则和/或约束对网络应用入口响应批准或拒绝（框 202）。发布者对请求的批准和/或拒绝可以在网络应用入口上选择并且作为通知从管理服务器发送到订阅者。请求订阅者可以在订阅者入口的“收件箱”中查看该通知。

发布者网关可以与电子患者数据记录的消息队列数据库通信，该电子患者数据记录已经聚集并配置成标准化消息数据格式，典型地是开放标准消息格式，以形成患者的电子临床数据消息记录。发布者网关可以为经批准的发布请求电子搜索并提取与所选题目匹配的患者记录数据的消息(框 203)。提取的发布者患者数据消息可以发送到消息流服务器(框 204)。在一些实施方案中，可以过滤患者数据消息以在发送前自动和/或电子地去除某些信息，例如个人标识符(框 205)。可以基于发布者的规则(遵守业务或管理规则，例如 HIPAA 保密规则等)，或者可以基于请求数据的订阅者的身份和/或基于请求发布的题目使用可选的过滤。

可以配置消息队列数据库包括有限时间段的患者数据消息，典型地大约 30-120 天之间或者更典型地大约 30 天，这取决于存储介质的大小。可能将较老的消息数据清除或者传送到一个或多个发布者控制的历史数据库供随后使用，例如如果期望的话用于历史趋势分析。在周期性清除的实施方案中（典型地，基于先进先出（FIFO）的清除协议），系统 10 用作可以提供相对新的临床数据的临时系统。可以配置发布者 200 缓存数据，使得较老的或未使用的数据（没有标记为最近接收的、“使用中”或最近使用的，例如在最近的 30-60 天内）可以自动地电子“落到”缓存时间段的末尾（缓存时间段典型地由硬件存储限制所限制）。订阅者 300 可以具有将消息存储或缓存到他们自己的历史数据库或系统的资料库。因此，在一些实施方案中，不存在患者数据的中央资料库。发布者网关 200g 也可以具有其他电路或模块，例如为了对题目的更完整响应，可以暂停挂起其它患者数据（来自化验室、药房等不同输入的聚集）的接收的已提取患者数据消息的发送的消息高速缓冲存储器，如下面将进一步讨论的。

来自订阅者的发布请求可以与来自发布者的发布的患者数据消息处

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于相同的标准化消息格式(例如 HL7)。发布者数据消息的发布可以是基于事件的操作，由此当患者记录被识别为满足订阅者发布请求的经批准订阅题目的数据内容时可以基本上实时地产生发布(典型地小于一小时，以及在一些实施方案中小于大约 10 分钟)。在其他实施方案中，可以在规定或现场适用的评价周期上以期望的间隔执行数据记录的评价。

图 4 和 5 说明可以包括在根据本发明一些实施方案操作的设备中的示例数据处理系统或数据库环境。如图 4 中说明的，可以用来执行或指导网络集线器和/或网络应用（管理服务器）和/或消息流服务器的操作的数据处理系统包括处理器 138、存储器 136 和输入/输出电路 146。数据处理系统可以包括在例如个人计算机、服务器、路由器等的一个或多个中。处理器 138 经由地址/数据总线 148 与存储器 136 通信以及经由地址/数据总线 149 与输入/输出电路 146 通信。输入/输出电路 146 可以用来使用例如因特网协议（IP）连接在存储器（存储器和/或存储介质）136 与另外的计算机系统或网络之间传送信息。这些组件可以是常规组件，例如在许多常规数据处理系统中使用的那些，可以配置它们如这里描述地操作。

类似地，图 5 说明可以用来执行和/或指导发布者网关的操作的数据处理系统包括处理器 238、存储器 236 和输入/输出电路 246。数据处理系统可以包括在例如个人计算机、服务器、路由器等的一个或多个中。处理器 238 经由地址/数据总线 248 与存储器 236 通信以及经由地址/数据总线 249 与输入/输出电路 246 通信。输入/输出电路 246 可以用来使用例如因特网协议（IP）连接在存储器（存储器和/或存储介质）236 与另外的计算机系统或网络之间传送信息。这些组件可以是常规组件，例如在许多常规数据处理系统中使用的那些，可以配置它们如这里描述地操作。

特别地，处理器 138，238 可以是市场上可买到的或定制的微处理器、微控制器、数字信号处理器等。存储器 136，236 可以包括任何存储设备和/或存储介质，包含用来实现根据本发明实施方案使用的功能性电路或模块的软件和数据。存储器 136，236 可以包括，但不局限

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于，下面类型的设备：高速缓冲存储器、ROM、PROM、EPROM、EEPROM、闪速存储器、SRAM、DRAM 和磁盘。在本发明的一些实施方案中，存储器 136，236 可以是内容可寻址存储器（CAM）。

如图 4 和 5 中进一步说明的，存储器（和/或存储介质）136，236 可以包含在数据处理系统中使用的几种类别的软件和数据：操作系统 152，252；应用程序 154，254；输入/输出设备驱动 158，258；以及数据 156，256。如本领域技术人员将理解的，操作系统 152，252 可以是适合于与数据处理系统一起使用的任何操作系统，例如 IBM® OS/2®、AIX®或 zOS®操作系统或者 Microsoft® Windows®95、Windows98、Windows2000 或 WindowsXP 操作系统，Unix 或 Linux™。IBM、OS/2、AIX 和 zOS 在美国、其他国家或二者是国际商业机器公司的商标，而 Linux 在美国、其他国家或二者是 Linus Torvalds 的商标。Microsoft 和 Windows 在美国、其他国家或二者是微软公司的商标。输入/输出设备驱动程序 158，258 典型地包括由应用程序 154，254 通过操作系统 152，252 访问以与设备例如输入/输出电路 146，246 和某些存储器 136，236 组件通信的软件例程。应用程序 154，254 代表实现根据本发明一些实施方案的电路和模块的各种特征的程序。最后，数据 156，256 表示由应用程序 154，254、操作系统 152，252、输入/输出设备驱动 158，258 以及可以驻留在存储器 136，236 中的其他软件程序使用的静态和动态数据。

关于图 4，数据 156 可以包括定义发布者愿意接收来自不同订阅者或题目的数据发布请求的参与方或用户简档型数据 126，以供根据本发明一些实施方案的应用程序 154 的电路和模块使用，如这里进一步讨论的。例如，相对于非隶属机构，隶属订阅者医院或诊所可以具有从每个相关或隶属发布者接收记录的较高级别的权利。在其他实例中，非隶属但是经批准的订阅者（例如政府机构）也可以具有高级别的权利。

关于图 5，数据 256 可以包括电子患者数据记录 226。患者数据记录可以包括已经映射并解析成患者数据消息的患者数据记录，以供根据本发明一些实施方案的应用程序 254 的电路和模块使用，如这里进一步

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讨论的。在一些实施方案中，由发布者保存的患者数据记录可以包括例如名、姓、社会安全号、不透明标识符（用来提供患者专用保密性同时提供对源发布者的可溯性和对患者的间接可溯性）、性别、生日、地址、电话号码、出生地、血型、年龄、身高、体重、眼睛颜色、头发颜色、种族和/或基因特征，例如单核苷酸多态性（SNP）、化验室和/或测试和相关结果、OTC（非处方药）或处方药物治疗（当前、过去或对当前事件开处方的）、接种疫苗、其他过去、当前或处方疗法、诊断、出院和入院日期、症状、人口统计和地理信息（家庭、居所和/或工作邮编、城市、州、最近的旅游评论或观察）、主治医生、工作单位或其他潜在毒物或危险暴露等。如上所述，为了某种发布，可以在发送到消息流服务器之前（或者在一些其他实施方案中，由消息流服务器）从消息中去除患者个人标识符数据，以遵守当地发布者和/或管理规则。应当理解，仅为了示范而提供患者数据的该列表，并且本发明的实施方案并不局限于这里列出的属性类型。

如图 4 中进一步说明的，根据本发明的一些实施方案，应用程序 154 包括下面的一个或多个：用户/参与方注册模块 120、发布者/订阅者通信协议接口模块 124、和/或订阅者可访问和可选择电子题目目录模块 125。应用程序 120、124、125 可以位于本地服务器（或处理器）和/或数据库或者远程服务器（或处理器）和/或数据库，或者本地和远程数据库和/或服务器的组合中。

如图 5 中进一步说明的，根据本发明的一些实施方案，应用程序 254 包括可以将患者数据转换、映射和/或解析成患者消息格式的消息格式标准化模块 220、发布者消息流服务器接口模块 224、和/或允许各个发布者为他们的患者数据定义他们自己的发布规则的发布规则或约束模块 234 中的一个或多个。应用程序 220，224，234 可以位于本地服务器（或处理器）和/或数据库或者远程服务器（或处理器）和/或数据库中。

虽然分别参考图 4 和 5 中的应用程序 120，124，125 和 220，224，234 说明本发明，但是如本领域技术人员将理解的，其他配置落在本发

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明的范围内。例如，不是应用程序 154，254 的这些电路和模块也可以合并到操作系统 152，252 或者数据处理系统的其他这种逻辑部分中。此外，虽然图 4 和 5 中的应用程序 120，124，125 和 220，224，234 是在单个数据处理系统中说明的，但是如本领域技术人员将理解的，这种功能性可以跨越一个或多个数据处理系统而分布。因此，本发明不应当解释为局限于图 4 和 5 中说明的配置，而是可以由数据处理系统之间的其他功能方案和/或部分提供。例如，虽然图 4 和 5 示出具有各种电路和模块，但是也可以组合这些电路和模块的一个或多个而不背离本发明的范围。

图 6 说明根据本发明一些实施方案的操作和设备的示例环境。如图 6 中说明的，消息流服务器 100 可以包括网络集线器环境 10h 的一部分。一般而言，配置网络集线器环境 10h 以提供发布者到订阅者的基于内容的传递。如上所述，也可以配置网络集线器环境 10h 以将消息从发布者仅传送到经授权的订阅者，从而将经批准的基于内容的消息传递到发布专门批准的订阅者。系统可以允许参与方识别他们希望接收（订阅者观点）和/或他们愿意提供（发布者观点）的各种类型患者信息的内容、格式和/或目的地。

如图 6 中所示，网络集线器环境 10h 可以包括与消息流服务器 100 通信的管理服务器 1100。网络集线器环境 10h 也可以可选地包括 AGPI（匿名全球患者标识符）服务器 1109。AGPI 可以配置成 J2EE 设备。如本领域技术人员已知的，J2EE 是用于开发基于组件的多层企业应用的 Java™2 平台企业版（J2EE）标准（Java 在美国、其他国家或二者是 Sun 微系统的商标）。应当理解，图 6 中说明的消息服务器 100 和/或管理服务器 1109 可以包括上面参考图 4 讨论的数据处理系统或数据库环境的全部或一部分。基于网络的管理服务器 1100，在一些实施方案中也可以称作基于网络的管理应用，也可以配置成 J2EE 设备。网络集线器环境 10h 也可以包括其他特征，例如通过 IBM 的 WebSphere®产品套件可获得的产品，例如 WebSphere 应用服务器、WebSphere MQ，Tivoli®目录服务器（LDAP）或“轻量目录访问协议”，以及 DB2® UDB

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（“DB2 通用数据库”，这是影响 IBM eServer™ iSeries™ 的按需特征的关系数据库管理系统（RDBMS））。WebShpere、Tivoli、DB2、eServer 和 iSeries 在美国、其他国家或二者是国际商业机器公司的商标。

图 6 也说明网络集线器环境 10h 与多个发布者 200_1，200_2，200_n 和订阅者 300_1，300_2，300_n 通信。对于来自订阅者 300_1 对特定所选题目的发布请求，管理服务器 1100 将所选题目的发布请求通知发出到一个或多个发布者（所示为两个发布者 200_1，200_2）并且从那些发布者接收响应回馈。响应可以是对请求订阅者的发布批准的消息或者请求的拒绝。响应也可以是对特定题目的先前（或常设）发布批准的取消。消息流服务器 100 然后将所有批准的发布消息从各个发布者发送到请求订阅者 300_1。管理服务器 1100 可以预先筛选参与方以及授权或参与级别以将订阅者请求仅发送到可能愿意的发布者等。到发布者和订阅者以及来自发布者和订阅者的消息可以使用 SSL（安全套接子层）通道、加密和/或其他安全数据传输方法经由因特网传送。网络系统可以包括至少一个域防火墙 1200。典型地，使用多于一个防火墙，包括医院网络集线器和订阅者防火墙 1200（图 9）。

仍然参考图 6，可以配置发布者网关 200_1，200_2，200_n 连接到各自的发布者参与方机构的计算机系统和/或信息技术系统以收集、聚集和/或接受可以与特定患者或其他期望标准相关的电子数据记录。也可以配置发布者网关 $200g_1$，$200g_2$，$200g_n$：（a）缓存患者数据一段期望的时间间隔，以便允许相关数据在患者数据消息的发布或记录之前和/或在将患者数据映射到标准消息格式的患者数据记录消息之前聚集和/或编辑成患者数据记录；（b）在发布之前从患者记录中去除标识或去除某种患者信息（以提供匿名和/或遵守 HIPAA 保密的数据）；（c）映射和/或规格化消息、事件和/或通常接受的医疗参考码（例如观测结果标识符逻辑命名与编码分类“LOINC”，国际疾病分类的分类码 ICD-9，ICD-10 等）以将本地数据转换成标准化格式；（d）执行消息解析例如解析 HL7 和 XML 数据类型；以及（e）应用本地业务或数据使用/发布规则。

在一些实施方案中，配置发布者网关 200 以电子校正具有不正确形

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成的 HL7 消息的电子患者数据记录，将电子患者数据记录中的非标准 HL7 观测结果消息转换成标准 HL7 消息，将药物医嘱从非标准 HL7 观测结果转换成标准药房医嘱消息，将入院源和出院安排的本地发布者代码映射成 HL7 推荐的代码和/或数据字段，以及将化验室观测结果的本地代码映射成通常接受的化验室测试/结果的行业标准编码系统（LOINC）。

订阅者网关 300 可以包括资料数据库或与其通信，在资料数据库中，它们可以存储响应题目数据请求而接收的消息发布（或者对于某些订阅者或观察者是消息和/或警报的资料库）。

在特定实施方案中，网关 200，300 可以使用 JAVA 和/或 IBM WBI 代码或其他适当程序代码。发布者网关 200 可以包括从患者数据消息中去除个人标识符（名字、社会安全号等）的基于 XML 的患者"去除标识例程"。发布者网关 200 也可以包括：将患者数据记录从 HL7 消息转换成 CDA XML 文档的文档转换例程，HL7 解析（可以使用来自位于加拿大多伦多的 iNterfaceware 的 Chameleon 执行的消息传递 HL7 工具包），以及 Websphere 企业集成产品，DB2 UDB 和到 WBI 连接器的 HL7 TCP/IP 套接字。

图 7 说明发布者和订阅者网关 200g，300g 可以作为实现二者功能的公共网关 200gc 而提供。图 7 也说明 AGPI（全球患者注册或标识符）服务器 1109 可以直接与发布者网关 200g 通信以提供公共患者注册服务给各个发布者网关 200g。

图 8 说明协同数据网络系统 10 的示例体系结构。系统 10 包括具有消息流服务器 100 和参与方网络防火墙 1200 的因特网入口或网络集线器 10h。如所示，每个发布者位置 200s 可以包括与各种连接（内部和/或外部）的服务提供者或数据收集站通信的至少一个发布者网关 200g，服务提供者或数据收集站例如但不局限于，医院记账系统 206（其可以提供出院或入院诊断）、化验室 207（其可以提供化验室或测试结果或者开医嘱的测试/评价）、药房 208（用于药物医嘱的输入）以及其他相关数据收集输入。可以配置发布者网关 200 以基于他们选择、批准和/或

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定义的发布者专用业务规则或约束来过滤、连接和映射保健数据单元。

业务规则的一个示例可以是检查患者记录，基于诊断看是否所有推荐的测试或程序都已经完成。而且系统可以识别诊断有某种疾病或机能障碍的患者并且关联跟踪化验结果以确认诊断。这些检查或规则可以推动患者护理改进、便于正确的治疗和/或帮助管理疾病爆发。在一些实施方案中，患者记录的结果或数据摘要可以使用来自 IBM 的 WebSphere MQ 在组织内快速且可靠地共享。系统 10 可以用来以快速且错误减少或没有错误的方式跟踪结果，这优于延迟的或容易出更多错误的常规图表标出。这种类型的自动报告可以便于遵守审计计划或需求。

网关 200g 可以与警报接收器 209 通信，由此可以电子地监控由网关 200g 收集和/或提供的数据，以便当识别到某种异常情况时，对内部和/或外部管理机构和/或管理员产生警报。警报接收器 209 可以是与网关 200g 通信的发布者 200 处的独立模块和/或数据库，或者可以集成到网关 200g 中。例如，警报接收器 209 可以检测某种条件允许的患者数目的增加和/或识别可能的广泛健康关注例如食物中毒诊断、一个或多个患者中炭疽暴露或脊椎膜炎的识别、生物恐怖主义暴露、某种药物或药物类型（例如识别为上瘾或具有较高死亡风险的那些）的处方的增加、药物不良事件等。

图 8 也说明订阅者（组织或位置）300 可以包括可以提供质量和/或不良事件监督或分析临床数据并且连接到订阅者网关 300g 的一个或多个隶属机构（其相对于彼此可以是本地或远程的）。如所示，订阅者 300 可以包括网络办公室 301 和临床指挥站 302，以及传染控制官方组织/机构 303。订阅者可以创建题目（定义被请求数据的参数）以及订阅和/或选择题目（定义题目中各个订阅者的具体关注）。

如上所述，订阅者位置和发布者 200 可以是使用可以在发布者或订阅者模式中工作的公共网关 200gc（图 7）的公共发布者和订阅者位置。警报接收器 209 以及发布者网关 200g 和/或订阅者 300 可以用来监控患者护理过程和护理质量，并且可以用来产生例如图 12 中所示的报

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告。

图 9 是示例协同保健数据共享系统 10 中不同组件的示意说明。如上所述，系统 10 可以包括控制参与方访问并且与控制消息业务的消息流服务器 100 通信的网络入口 10p。网络入口 10p 可以是单个、联合或甚至全局入口，或者几个入口例如外来或所选网络的独立入口的互连系统等。系统 10 允许参与方定义数据共享规则，选择共享什么数据并且决定与谁共享，以及监控、警报、通知和报告所选题目并且提供账户活动。

图 10 说明根据本发明一些实施方案的示例基于网络的数据共享系统 10 的更详细体系结构。如所示，网络集线器 10h 包括提供集中式经营和管理应用的服务器 1100。可以配置管理服务器 1100 以提供会话管理、跟踪和记录系统管理、工作量管理和成员服务。管理服务器 1100 可以包括或与多个数据库通信，包括：题目目录 1101、参与方（订阅者和发布者）简档 1102、安全目录 1103、发布或传递安全规则 1104 以及通知 1105。管理服务器 1100 可以包括集成到网络系统中的几个子服务器，例如但不局限于，可以包括 IBM WebSphere 应用服务器的 WAS（网络应用服务器）、Tivoli 目录服务器（LDAP）、AGPI（全球患者注册或标识符）服务器 1109、DB2 服务器和 SMTP（简单邮件传输协议）服务器 1110。注意，虽然这里描述为“服务器”，但是可以使用其他适当的计算机配置。

题目目录数据库 1101（图 10）可以是订阅者可选题目（可以包括题目名和题目描述）的电子目录或列表，例如图 15 中显示的那些。题目目录可以字母顺序显示（例如当提供完整列表时），或者可以使用输入的关键字搜索，同样如图 15 中所示。如果订阅者想要请求没有在目录中的题目的数据，订阅者可以输入请求作为可以保存并审查看它是否满足发布规则的“新”的题目条目。一旦在目录中，订阅者可以请求关于该题目的数据，但是网络集线器 10h（管理服务器 1100 或消息流服务器 100）可以基于先前建立的订阅者和/或发布者参与规则等选择发送请求到哪个（如果存在）发布者以发布关于新（或现有）题目的保健数据。

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通知数据库 1105 可以用来提供例如图 14 和 16A 中显示的通知摘要。如这些图中显示的，发布者可以查看通知细节，包括日期、时间、类型、来源和主题。发布者也可以审查提供请求订阅者的身份/名字和被请求题目的发布请求。图 14 和 16A 中显示的屏幕视图可以配置为发布者"主页"屏幕视图。

再次参考图 10，可以配置消息流服务器 100 从参与发布者到参与（经批准）订阅者动态地发布和/或订阅关注的所选题目并且实现发布/订阅通信协议。消息流服务器 100 可以包括消息代理程序例如 WebSphere WBI（WebSphere 业务集成）消息代理程序，其可以提供基于题目和/或内容的传递、响应所选信息的请求动态地登记订阅，以及在题目名称空间上提供访问控制。消息流服务器 100 可以包括一个或多个子服务器、客户端或管理器，例如但不局限于，配置管理器 1001、用户名服务器 1002、消息代理程序 1003 和队列管理器 1004。消息流服务器 100 可以包括和/或与几个数据库或服务器、客户端等通信，例如但不局限于，消息流数据库 1005、元数据字典 1006、发布和订阅者列表 1007、用户节点服务器 1008 以及消息队列数据库 1009。

同样如图 10 中所示，管理服务器 1100 可以配置有在发布者入口位置 200s 处出现的网络应用功能。服务器 1100 可以包括和/或配置为 WBI 服务器表示。网络应用可以用来：允许用户注册为参与方、管理 ACL（访问控制列表）、登录 UID/PWD（使用通用 ID 或密码访问）、注销、定义简档偏好、搜索、批准发布请求、接收数据请求和创建通知事件。

可以配置发布者网关 200g 以与医院或其他发布者 IT（信息技术）环境或平台例如药房、化验室和 ADT（入院、出院和转院）等集成在一起。也可以配置网关 200g 以解析 HL7/映射/转换，使用题目组帧规格化 HL7 消息，映射 LOINC、ICD 代码，与网络入口处的消息流服务器 100 交互，将消息排列，将数据推向数据代理程序，提供网络服务接口给网络集线器 10h 处的全球患者注册处 1109。网关 200g 可以与多个数据库通信和/或包括多个数据库，例如本地一个或多个目录 $200db_1$、

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HL7 消息和消息队列 $200db_2$ 以及命令和控制数据库 $200db_3$。

表格 1 说明具有题目描述和相关代码的示例 HL7 支持的事件。

表格 1

当前支持的 HL7 事件	
ADT A01 患者入院	
ADT A02	患者转院
ADT A03	患者出院
ADT A04	登记患者
ADT A08	更新患者
ADT A09	患者去世
ADT A11	取消入院
ADT A13	取消出院
DFT P03	详细财务事项
OMP O09	药房/治疗
ORM O01	一般医嘱
ORU R01	观测结果
RDE O11	药房/治疗编码医嘱
RDS O13	药房/治疗配药
VXU V04	接种疫苗记录更新

如果期望，其它的 HL7 消息可以作为配置的一部分而实现。

图 10 也说明与网络应用功能 300a 通信的订阅者入口位置 300s。关于发布者位置，管理服务器 1100 可以执行网络应用功能的全部或一些。网络应用功能可以用来：允许订阅者注册为参与方、登录 UID/PWD、注销、定义简档偏好、订阅、取消订阅、搜索、发出数据请求以及创建通知事件。可以配置网关 300g 以与网络入口处的消息流服务器 100 交互、排队进入的消息、解开存储以及到本地 IT 系统的接

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口。如所示，在图 10 中，网关 300g 可以包括或与多个数据库通信，包括消息队列数据库 $300db_1$、接收消息的本地 HL7 资料库 $300db_2$ 以及命令和控制数据库 $300db_3$。

图 11 说明具有遗留或现有 IT 系统 500 的现有保健发布者位置 200s 以及在该环境中使用的不同代码或分类系统。例如，位置 200s 药房 208 可以使用药物代码（一般/商业），化验室 207 可以使用 LOINC 代码，并且管理输入记录 206（入院、出院和转院或患者护理记录）可以使用 CPT4 代码。可以典型地使用 HL7 消息将这些完全不同的代码/分类转换成标准消息格式。

表格 2 说明根据本发明一些实施方案可以使用消息监控和/或跟踪的数据单元。

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表格 2

数据单元	病状
一般	
入院诊断	全部
出院诊断	全部
出院安排	全部
性别	全部
入院源	全部
种族	全部
诊断	
炭疽诊断	炭疽
水中军团菌诊断	水中军团菌
AMI 诊断	AMI
糖尿病诊断	糖尿病
中风诊断	中风
肺炎诊断	肺炎
观测结果	
呼吸道病毒性结果	呼吸道
水痘测试结果	水痘
HDL 胆固醇	糖尿病
LDL 胆固醇	AMI，糖尿病
甘油三酸酯结果	糖尿病
阳性怀孕	不良药物
药物治疗	
ACE 抑制剂	AMI
抗生素	肺炎
非氨酯	癫痫
镇静剂	麻风病
抗血栓形成	中风
硝苯吡啶	中风

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示例仅用于说明而不限制本发明的范围，因为题目数据种类和单元的类型并不局限于示例中显示的那些。

图 12 说明可以为特定参与方的监督或者商业需求或期望而编辑的不同事件的数据流摘要。如所示，可以提供根据事件/保健问题的日期和类型聚集消息的图表。这种信息可以用来识别可以为特殊观测（例如呼吸道病毒性测试结果）而标记的目标群体，或者产生临床警报（例如当从入院开始的某个时间范围内具有急性心肌梗塞的患者还没有被识别为安排 β 受体阻滞剂药物治疗时）。可以定制和/或根据不同本地使用而自动生成报告。图 15 说明使用入口 10p 在发布者网关 200g 处的活动摘要的样本视图，以根据题目名称查看内部的发布者专用消息。

表格 3 说明可以由参与机构，特别是政府机构跟踪的“关键”数据单元的一些示例，以评价护理质量和/或健康趋势。

表格 3

关键数据单元	补充
观测结果	
AMI 诊断（GE 65）	全部化验室和药物信息
AMI 诊断 LT 65	全部化验室和药物信息
HF 诊断 GE 65	全部化验室和药物信息
HF 诊断 LT 65	全部化验室和药物信息
肺炎诊断 GE 65	全部化验室和药物信息
肺炎诊断 LT 65	全部化验室和药物信息
脑膜炎	全部化验室和药物信息
药物治疗	
下丙酮香豆素钠	凝血酶原时间

图 13 是包括患者的三个数据消息段，化验室数据 2001、药房数据

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200p 和诊断数据 200D 的消息 200m 的示例。批准并提交消息 200m 以发布到消息流服务器 100，以便发送到请求订阅者。该消息使用消息时间戳标识题目“中风诊断”并且包括“中风诊断”的相关规则名称、提供者标识符和全球患者标识号（患者 ID）。

图 16A 说明发布者查看和使用模式并且图 16B 说明在发布模式下发布者可以查看正在发布的发布及其细节（并且发布者可以取消发布，如果期望的话）。发布者可以创建发布（同意提供题目订阅的数据）、查看发布（列出发布的细节－全部或选择记录），以及删除发布（允许发布者删除现有的发布）。参与发布者通常可以对于所有患者连续地使所有支持数据流向他们的网关 200g。临床系统通常可以 HL7 消息的形式流动（发送）数据。他们各自的网关 200 可以存储他们的患者消息期望的时间，如上所述。

图 17A 说明用户可以电子地选择转到订阅者模式。图 17A 说明订阅者可以识别或选择以获得关注的保健记录（如果根据定义的规则订阅者已经对其授权）的所选题目的一些细节（“题目定义细节”）。题目包括题目触发事件（如“AMI”或急性心肌梗塞的疾病诊断所示），关注的项目（如阿司匹林的药物医嘱所示）使得仅那些指示匹配药物医嘱的记录将包括在返回的数据中，以及是否关注人口统计数据或者是否进一步根据其限制请求。一旦题目被创建并存储在题目目录中，所有订阅者都可以使用它，只要他们各自的使用权利（保密规定或权利）与题目兼容。

系统 10 提供允许参与方限制所发送数据的内容的过滤器。默认地，典型地，应用所有过滤器并且订阅者将接收由系统支持的所有数据类型的数据。参与方可以“关闭”或取消选择一个或多个过滤器。在这种情况下，系统 10 可以发送与题目事件匹配的数据以及没有被过滤的种类的数据。

“题目事件”功能的主要目的是选择具有相关数据的患者记录。题目事件功能也可以影响数据的内容。例如，任何题目事件的首次出现标记待发送消息的开始括号，并且最后题目事件的首次出现标记将发送的消

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息的结束括号。通常不考虑题目事件匹配的次序。在开始和结束括号之间发生的所有消息将被发送，如果其他规则不覆盖该过程。如果题目事件是诊断，开始括号可以是入院并且结束括号是出院（典型地整个患者遭遇）。订阅者可以通过指定持续时间来限制持续时间。如果识别到持续时间，那么评价从入院开始并且以达到时间限制结束。如果在指定时间内所有题目事件和指定人口统计数据都不匹配，那么没有数据消息记录将被发送。当所有题目事件匹配时数据可以发送。但是典型地，参与方不能指定数据何时发送。

一旦在发布者处接收到来自订阅者的触发事件（经由消息流服务器100），发布者评价患者的存储消息和随后消息，看患者是否表现出全部指定标准。

图 17B 是可以经由“查看”按钮访问的关于触发事件字段的更多信息的屏幕视图。如所示，对于诊断，名称“AMI”与三个 ICD-9 代码，410.01、410.21 和 410.71 相关联。可以基于该请求的触发事件包括匹配这些代码中一个或多个的记录。对于诊断，参与方应当定义所有相关的变化和有效 ICD-9 代码。类似地，图 17C 说明可以经由相关查看按钮获得的关于阿司匹林药物医嘱的更多信息。如所示，对于“阿司匹林”的药物名称标识符，将包括具有在“aspirin”或“asa”下开的药物的记录。

典型地，系统 10 可以接收包含医嘱 ID 和来自该医嘱的相关 LOINC、CPT 或 ICD-9 代码的化验室和程序观测/结果消息。如果参与者（订阅者）想要关于化验室或程序医嘱的数据，化验室或程序结果应当被指定为另外数据的题目事件种类。如果根据化验室结果定义事件，参与方应当使用相应 LOINC 代码指定化验室测试的所有期望变化。参与方也可以指定题目事件下的结果标准。如果事件是程序，参与方应当指定该程序的所有期望变化，其对于指定的每个程序是有效值并且应当具有相应的有效 ICD-9 或 CPT 代码。参与方可以指定是否应当使用 ICD-9 和/或 CPD 代码。

本发明的实施方案可以用来自动化质量和依从报告以及与联邦和州机构例如 CDC（疾病控制中心）、FDA（食品和药物管理部门）、NIH

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（国家健康研究所）和 CMS（医疗保险和补助中心）的临床数据共享。可能参与协同数据共享系统的其他联邦机构包括 DOD（国防部）、FAA（联邦航空管理局）、FBI（联邦调查局）、国土安全部等。在一些实施方案中，本发明的系统可以经由 HL7 利用在许多提供者设置中可用的现有电子数据，例如 ICD、CPT，LOINC 和 NDC。

图 18 说明本发明的实施方案可以用来识别药物不良事件（ADE）。可以配置网关 200g 识别药物不良事件。在一些实施方案中，可以将识别的药物不良事件的消息数据保存在专用数据库和/或警报接收器（图 8，209）中。当在发布者位置 200_2 检测到 ADE 时，网络集线器 10h 可以将自动电子警报 200A 发送到其他发布者 200 和/或订阅者 300。警报 200A 可以格式化为使用基于约束的规则发送到所选参与者的消息集成警报。可以设置规则以将警报 200A 选择性地发送到题目目录中相关健康题目的订阅者。订阅者的示例可以包括主治医生和/或医院、药物的制造商、临床试验管理员、不同备选药物的竞争制造商，或者如上所述通常实时地使用消息传递系统的政府机构（CDC、FDA 等）。

图 19 说明本发明的实施方案可以用来监控和/或识别疾病爆发。关于 ADE 警报、疾病爆发，某些诊断或暴露观察可以触发到参与订阅者 300 的全部或一些的疾病/暴露警报 200A′。如以前，根据基于约束的规则将警报 200A′发送到所选订阅者。例如，一些参与订阅者（例如政府机构）可能特别关注当发布者识别到具有与增加死亡率相关联的疾病或暴露的患者、公众健康风险、认为传染性的疾病、具有共同诊断的增加患者数目（异常爆发）和/或生物恐怖主义事件或药剂时的即时通知。例如，系统可以监控和识别病毒、细菌和/或原生动物引起的疾病的新的或不期望的增加，包括但不局限于，伤寒、结核病、小儿麻痹症、天花、瘟疫（腹股沟腺炎）、埃博拉病毒、马尔堡病、禽流感、西尼罗河病毒、SARS（严重急性呼吸系统综合症）、肝炎和 HIV。系统也可以监控和识别生物恐怖主义事件或药剂或环境危险，例如炭疽暴露、食物中毒、大肠杆菌暴露、Creutzfeldt-Jakob 病、辐射暴露、蓖麻素暴露、石棉暴露以及铅暴露。可以在 CDC 网站找到可能的生物恐怖主义药剂的

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更完整列表：www.bt.cdc.gov/agent/agentlist.asp。

警报 200A'可以基本上实时地从发布者源 200 经由网络集线器 10h 发送到订阅者 300。在特定实施方案中，从发布者到一个或多个经批准的订阅者的数据发送的周期性可以根据订阅者的请求和/或发布者的相关数据收集而变化。可以配置发布者 200 以传递患者数据并且通常或基本上连续地关联数据（并且可以连续地这样做，忽略计算机停机时间或电源中断或停机），使得可以在入院、化验室测试和/或出院时即时识别可疑疾病。

监控可以用来为管理机构和/或付款人例如保险公司提供通常实时的疾病监控。付款人的早期检测和监控可以允许患者处于适当的或更主动的治疗程序或疗法中，可能减少保健成本，特别是对于早期检查和疾病管理对于减少成本、增加寿命和/或减少死亡率有益的疾病管理。

本发明的实施方案可以用来跨越完全不同的（之间或内部）临床系统集成患者数据，提供临床质量审查和监督，以及可能减少在医疗处理中可能出现的错误数目。该系统可以用来监控临床性能、处理变化以及提供业务相关的数据例如成本分析。单个发布者可以支持多个订阅者并且以如上讨论的不同格式（例如使用 HL7 消息、短文本消息、电子邮件等）发布临床数据以及发布到不同设备例如 PDA、个人计算机、大型机（直接到资料数据库）、便携式无线通信设备蜂窝式电话/通信等。

发布位置（数据源组织）可以控制他自己的患者数据的发布并且批准或拒绝订阅者（数据审查组织）对数据的请求。发布者可以通过使用关于授权和加密的高安全标准发送患者数据（不可直接识别的患者数据，如果适当的话）来遵守 HIPAA 保密规则。

系统可以集成药房、化验室和入院/出院系统，并且收集相关数据流（例如 HL7 数据流）并关联患者数据，使得可以将相对全面的记录转发到经批准的订阅者。配置系统以控制和/或检验以商定的方式安全地仅发布经批准的数据（例如不带有患者标识符数据）。

系统可以使用基于内容（保健系统的临床题目）和连接到保密和/或授权级别的订阅权利传递被请求数据的“发布和订阅”协议。体系结构

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相对灵活、可伸缩并且配置以便于在参与者位置容易采用。

图 20，21A，21B 和 22 说明根据本发明实施方案可以用来提供发布者 200 与订阅者 300 之间的安全数据共享的保密级别数据共享协议的实施方案。也就是，系统 10 可以配置有协议级别安全性，以仅允许经授权的用户参与数据共享网络从而阻止外部未经授权的用户访问或篡改数据。另外，系统 10 可以使用“权利”保密级别协议，其阻止数据的发布者 200 发送数据到未经授权和/或没有资格接收全部或某些类型数据的订阅者 300。

图 20 说明定义组织可以具有的一组系统保密级别的保密级别栅格 1400。术语“组织”可以认为是一组隶属部门和/或机构、一组非隶属机构或人，和/或甚至整个系统 10 本身。给定网络可以配置有中央保密寄存器，使得关于给定保密级别和具有公共权利定义的一组公共保密级别的意义，所有客户端可以引用单个授权，和/或可以为网络或系统（也就是，在应用范畴内）定义数据共享协议。术语“保密级别”指根据内容或患者标识符数据的较少到较多程度分类数据类型的分类系统（也就是，认为较一般的数据而言认为敏感的、个人的和/或“秘密”的数据）。可以配置保密级别以允许对更多或不同数据内容的访问。在其他实施方案中，可以分层方式配置保密级别，使得较高保密级别可以包括访问具有较低保密级别的数据的权利。在一些实施方案中，可以配置保密级别以定义发布者网关过滤和/或订阅者访问不同数据内容，也就是，具有患者保健和患者标识信息的数据记录的权利。

特定客户端（也就是订阅者和/或发布者）可以支持用于数据共享的特定网络或系统的规定保密级别的全集或子集。因此，例如，订阅者 300 不能支持（请求或创建数据）指定保密级别外的题目，以及发布者网关 200g 不能发布（或者在一些实施方案中，甚至编辑）其特定指定保密级别外的数据记录。各个发布者网关 200g（或者，实际上订阅者网关 300g）不需要支持组织 1000 内的规定保密级别的完全超集，但是各个网关 200g 应当支持他们提供报告的入口的保密级别。

一般来说，可以仅允许包括处于全部不同网关 200g 的不同保密级

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别交集处的保密级别处的数据内容的电子数据记录 1000G（其可以根据题目而定义）对于特定组织是“全局的”（也就是，所有订阅者可以请求全局数据题目的数据 300R 并且所有发布者可以发送全局数据题目的发布数据 200M）。所有网关 200g，300g 和/或参与组织可以许可地使用/支持全局保密级别。其他数据请求将不是对于所有用户全局可获得的。对于保健数据共享实施方案，一种规定的保密级别可以是“HIPPA 受限的 A”而另一种可以是“HIPPA 完全去除标识”，每个具有与定义这些级别的法律规则相对应的数据共享约束。在其他非健康领域中，可以使用不同的数据共享约束和保密级别。

典型地，在“加入”或客户建立期间，客户端（订阅者或发布者或者其他）进入网络或系统 10 并且基于本地参与方数据共享决策或选择和/或发送和/或接收某种类型（和/或内容）数据的法律权利指定一个或多个保密级别。在各个发布者 200 具有多于一个发布者网关 200g 的情况下，每个发布者网关 200g 可以支持不同的保密级别。为发布者网关 200G 或订阅者 300 的各自保密级别分配一个或一组保密级别，其定义他们提供或访问包括在该级别中的数据的法律权利。例如，在一些特定实施方案中，订阅者参与方可以定义为豁免、非豁免、内部、外部或政府参与方等。可以在给定系统安装/应用中备选地定义或建立保密级别。某些政府订阅者 300 可以具有允许他们查看“完全标识”的患者数据的权利。可以配置系统 10 使得参与方仅可以与在他们的指定保密级别操作或支持他们的指定保密级别的其他参与方通信。当订阅者 300 和/或发布者 200 希望通信（对于订阅者是接收数据，而对于发布者是发送数据）时，他们仅可以在支持相同保密级别的那些订阅者 300 和/或发布者 200 之间这样做。因此，两个参与方之间共享的数据匹配到具体的保密级别。例如，如果发布者（1）支持保密级别 A，B 和 C 但是订阅者（1）仅支持保密级别 C，那么发布者 A 仅可以与订阅者（1）共享匹配“C”保密级别的数据。在一些实施方案中，订阅者 300 仅可以查看/创建具有他们支持的保密级别的题目。类似地，可以配置发布者网关 200g 仅发布他们支持的保密级别的题目。因此，在这些实施方案中，订阅者

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300 仅可以订阅来自支持他们保密级别的发布者 200 的数据。管理服务器 1100 可以使用题目的保密级别控制发布者 200 与订阅者 300 之间的通信。可以在与管理服务器 1100 相关联（合并到其中或与其通信）的保密级别电子寄存器中维护保密级别。

组织 1000 可以包括多个发布者网关 200g，每个具有一个或多个不同的指定保密级别。订阅者 300 的保密级别定义机构可以接收什么数据，而对于发布者网关 200g，各个保密级别定义网关 200g 可以发送什么数据。

参考图 21A 和 21B，在如上所述的数据共享系统 10 中显示三个订阅者 300_1，300_2 和 300_3 以及三个发布者 200_1，200_2，200_3。同样如上所述，可以配置系统 10 使用电子题目目录 1101，每个题目具有指定的保密级别（显示为“保密级别”（“PL”）A，B 和 C，但是可以使用更多或更少的保密级别种类）。每个订阅者 300 可以查看、选择和/或创建对于题目目录 1101 中具有与请求、查看或创建订阅者的保密级别匹配的保密级别的题目的请求。例如，如所示，订阅者 300_1 具有保密级别“A”并且能够查看和/或创建目录 1101 中具有保密级别“A”的数据题目。类似地，如果“题目”定义为保密级别 D 的题目，并且订阅者 300 支持级别“A”和“D”，那么订阅者 300 将仅接收级别 D 的数据。类似地，如果发布者 200 支持 A，B 和 D 并且期望发布级别 D 的题目，那么发布者 200 可以发布该题目。发布者网关 200g 可以发布具有他们的组织为他们定义的保密级别的题目。如果订阅者 300 和发布者 200 分别想要接收或发布关于不同保密级别的题目的数据，则需要在由该机构支持的保密级别指定新题目。支持的保密级别对于发布者 200 可以描述为经授权的“提供级别”而对于订阅者 300 可以描述为“权利级别”。订阅者 300 可以创建具有支持的保密级别的新题目，但是可以配置各个发布者 200 以自由发布（发布不需要许可）该题目，即使保密级别是支持的保密级别。

管理服务器 1100 可以与定义各个参与方及其相应保密级别的电子保密级别寄存器 1100R 通信和/或包括电子保密级别寄存器 1100R。虽然在表示数据流服务器 100 的框中显示，在图 21A 和 21B 中，寄存器

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1100R 可以位于管理服务器 1100 中和/或与管理服务器 1100 通信或者用作独立模块或组件。寄存器 1100R 将订阅者 300 与特定保密级别关联并且用来控制订阅者 300 与发布者 200 之间经由消息流服务器 100 的通信，从而阻止或防止对于来自发布者 200 的未经授权或没有资格的数据的访问。保密级别寄存器 1100R 的功能组件的实例在图 10 中显示，包括通常称作安全目录 1103 的数据库、参与方简档 1102 和规则 1104 的一个或多个。管理服务器 1100 可以包括和/或与寄存器 1100R 以及题目目录 1101 和消息流服务器 100 通信，如上所述，使得仅经保密级别授权的订阅者 300 接收来自发布者 200 的内容具体数据。

如图 21A 和 21B 中所示，每个订阅者 300_1-300_n（显示为 300_1-300_3）具有指定的保密级别，其可以是全局保密级别。在一些实施方案中，订阅者 300 和/或发布者 200 可以具有多于一个指定的保密级别。在一些实施方案中，特定订阅者 300 的保密级别可以是针对发布者 200 的。例如，在订阅者 300 隶属于特定发布者 200 的情况下，可以为该发布者-订阅者通信数据共享协议指定更高级的保密级别（具有增加的权利）。

图 21A 说明各个订阅者 300 可以经由入口（管理服务器或网络应用）查看来自题目目录 1101 的题目的子集。管理服务器与所有订阅者和发布者以及消息流服务器 100 通信。消息流服务器 100 与各个参与方之间的通信流没有在图 21A 中显示。

图 21B 说明具有保密级别“A”的订阅者 300_1 可以查看和/或请求具有指定“A”保密级别的那些题目的题目发布。支持保密级别“A”的那些发布者可以接收请求和/或经由消息流服务器 100 转发匹配该题目的数据。该通信协议由具有从发布者 200_1，200_3 到消息流服务器 100 然后到订阅者 300_1 的箭头的相对粗的黑线显示。

图 22 说明保密级别寄存器 1100R 可以包括电子兼容性相关矩阵 1100M，其可以根据规定的权利保密级别控制参与订阅者与发布者之间的数据共享协议。矩阵 1100M 可以包括定义每个订阅者 300 相对于每个发布者 200 的通信协议/数据内容的数据字段，以及可以包括确认特

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定发布者 200 已经批准他们的题目数据的订阅的“订阅”段，如果该题目满足保密级别。操作中，如果未经授权的订阅者 300 尝试获得数据，则消息流服务器 100 将不转发来自发布者 200 的数据，其中发布者 200 未批准此订阅者“订阅”关于特定所选题目和/或关于不匹配该订阅者保密级别的题目的发布者的数据。消息流服务器 100 可以与管理服务器 1100 和/或保密寄存器 1100R 通信，以核实订阅者 300 对于该题目的权利级别以及适当地阻止对该发布者数据的访问。

前述内容说明本发明而不认为是其限制。虽然已经描述了本发明的几种示例实施方案，但是本领域技术人员容易理解，许多修改在示例实施方案中是可能的且本质上不背离本发明的新颖教导和优点。因此，打算将所有这种修改包括在如权利要求中定义的本发明的范围内。在权利要求中，方法附加功能条项，如果使用的话，打算覆盖这里描述为执行所述功能的结构，不仅结构等价物而且等价结构。因此，应当理解，前述内容说明本发明而不解释为局限于公开的具体实施方案，并且打算将对公开实施方案的修改以及其他实施方案包括在附加权利要求的范围内。本发明由下面的权利要求定义，并且权利要求的等价物包括在其中。

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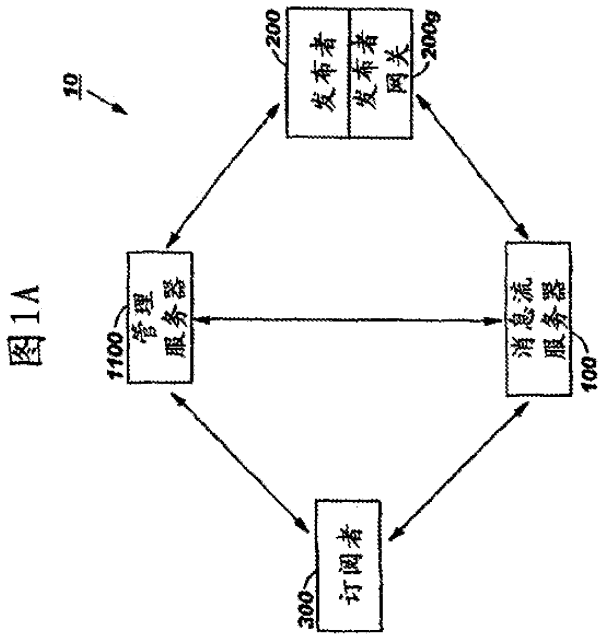
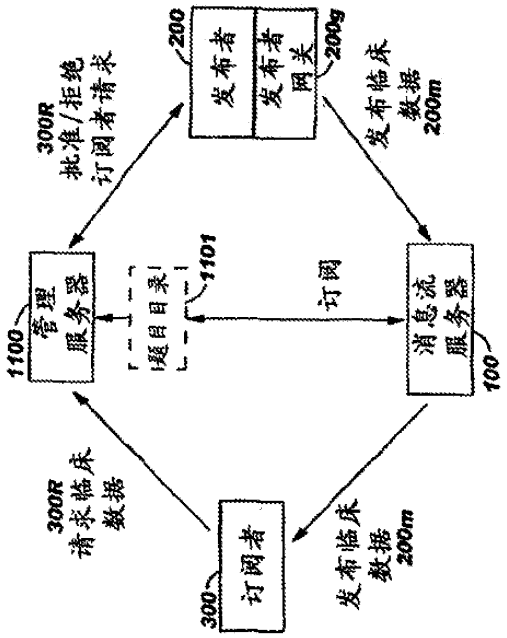


图1A

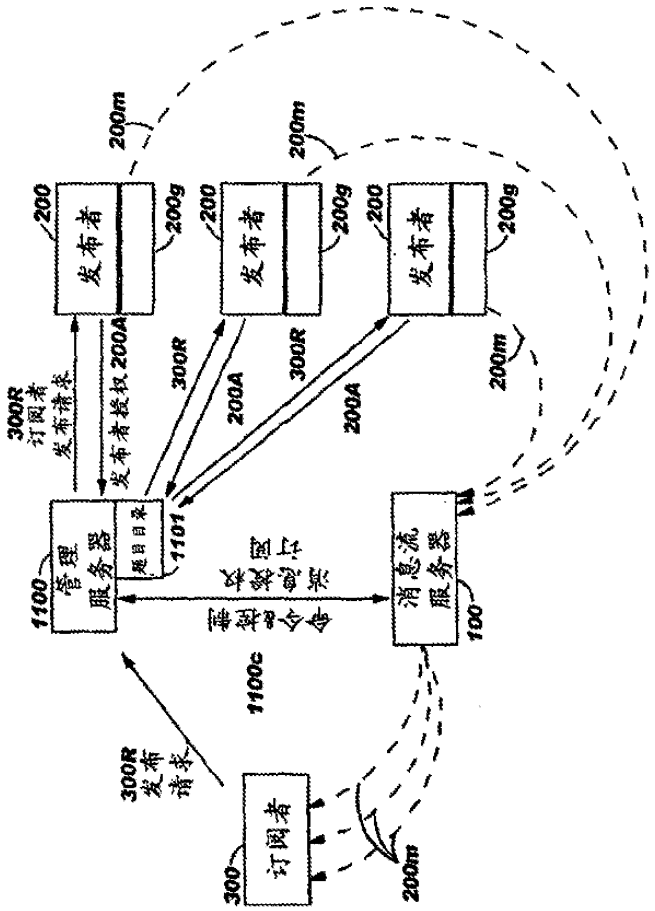
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图1B



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图1C



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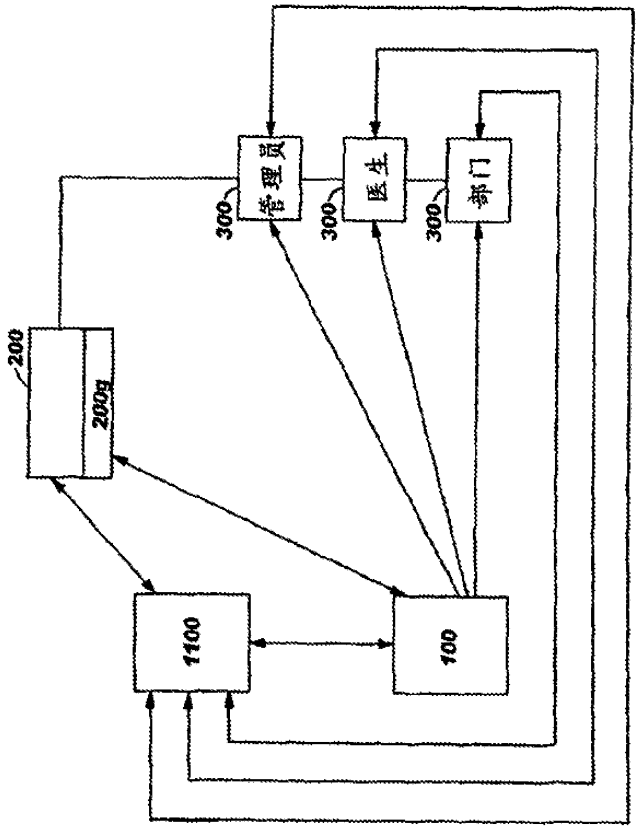
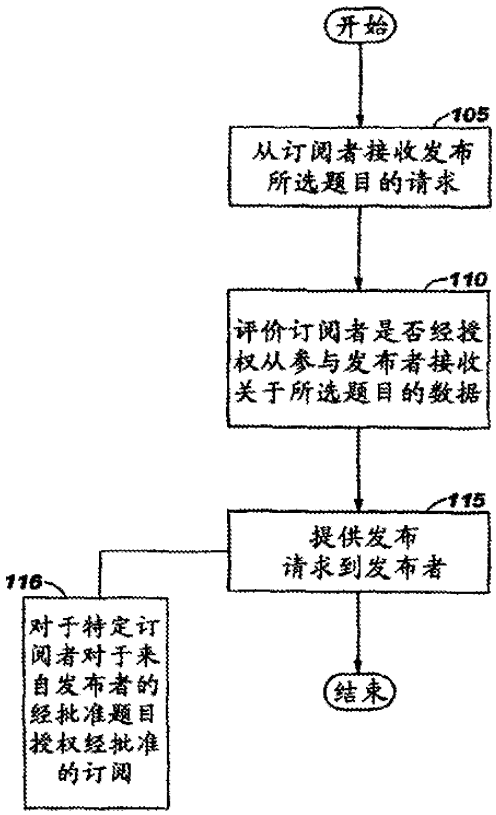


图 1D

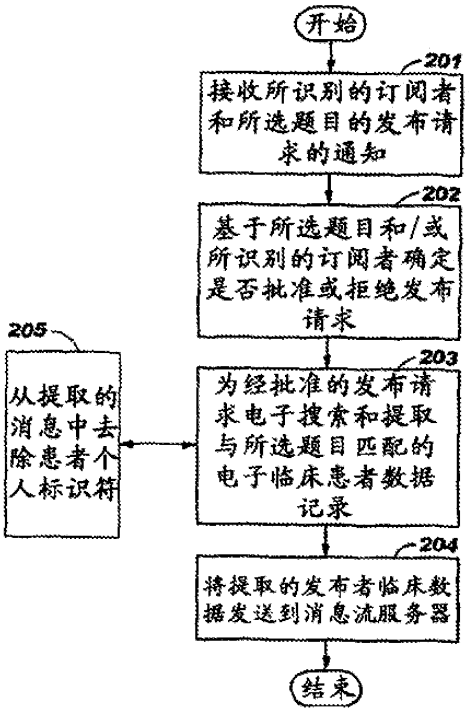
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图2



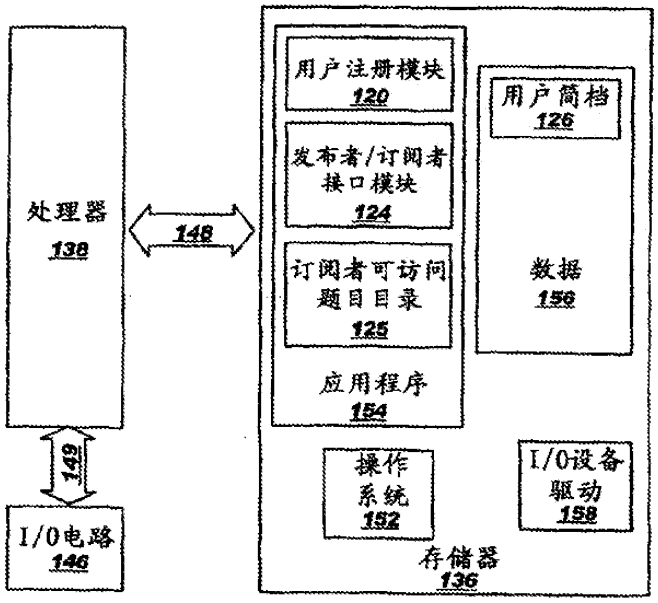
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图 3



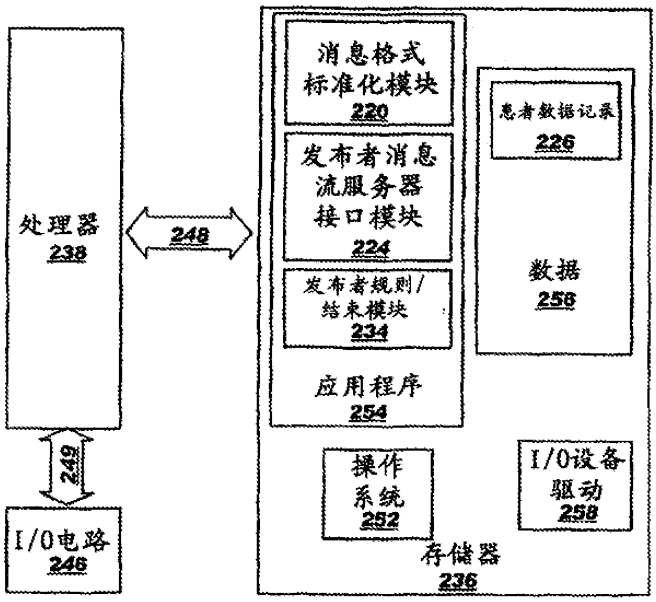
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图4



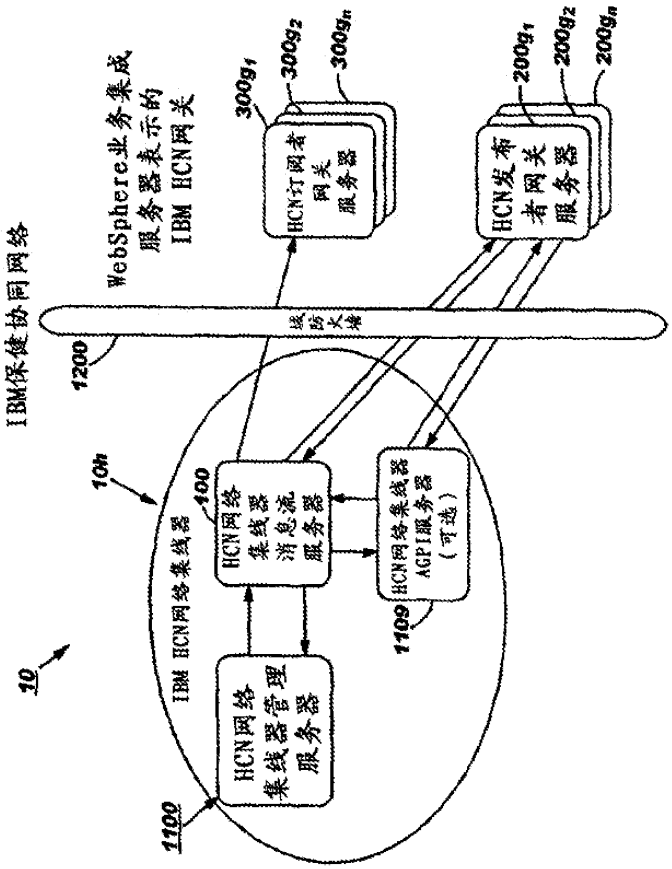
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图5



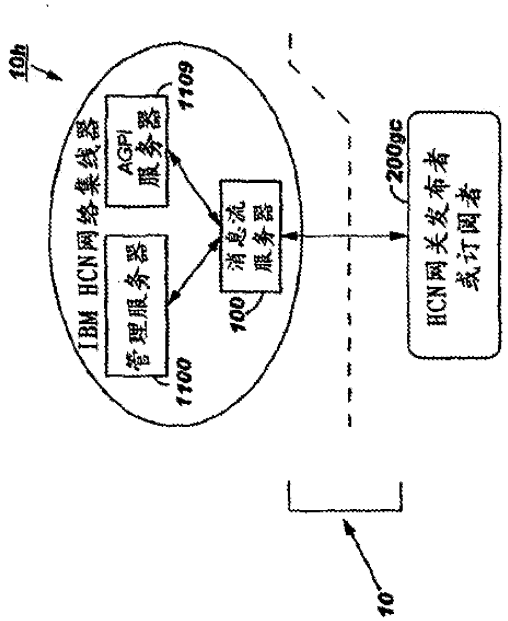
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图6



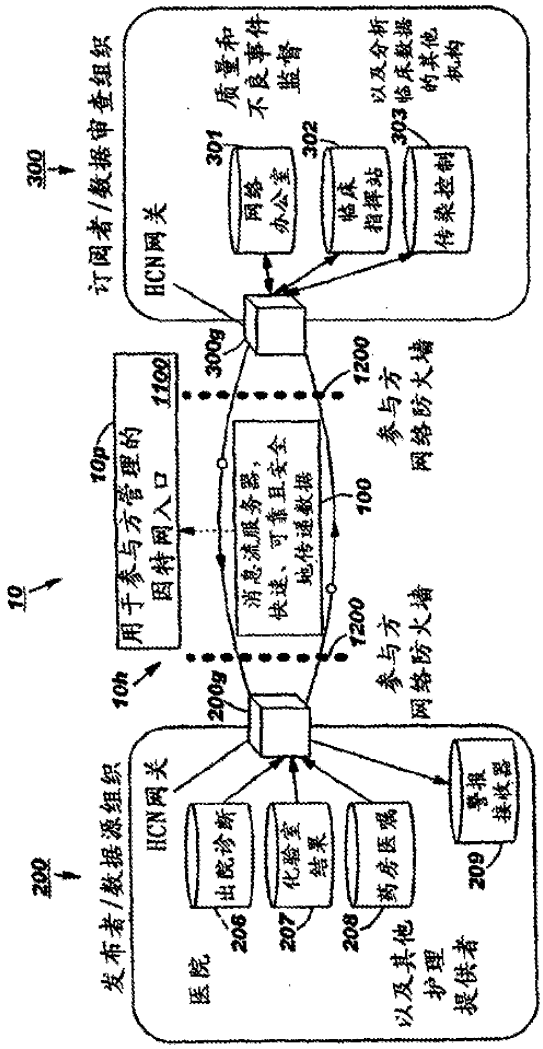
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图7



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图 8



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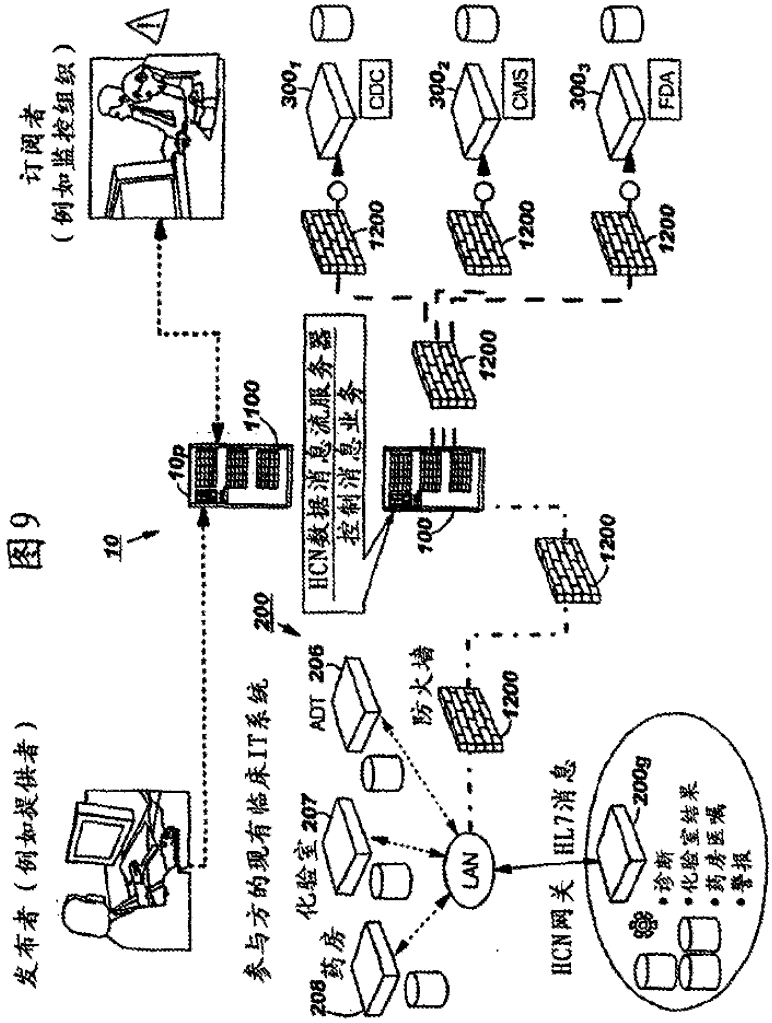
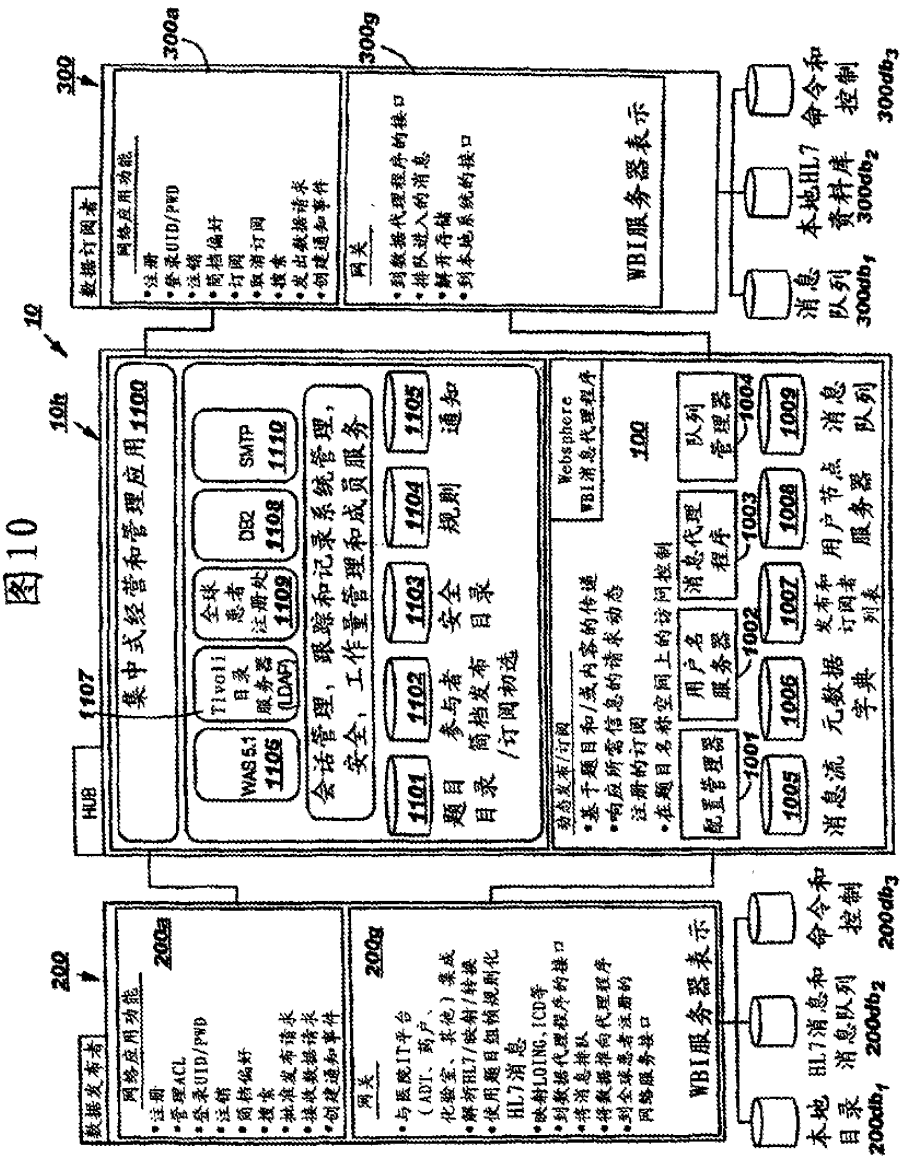


图9

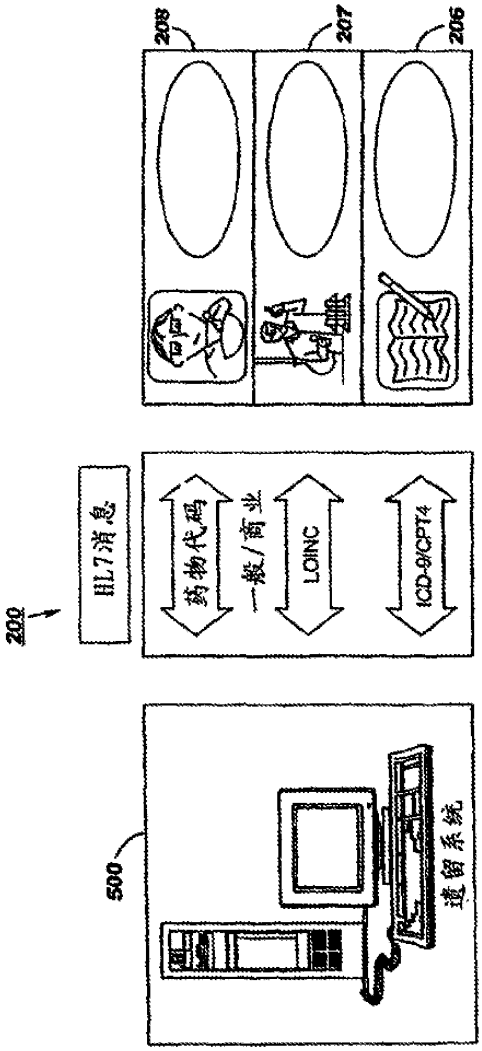
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图10



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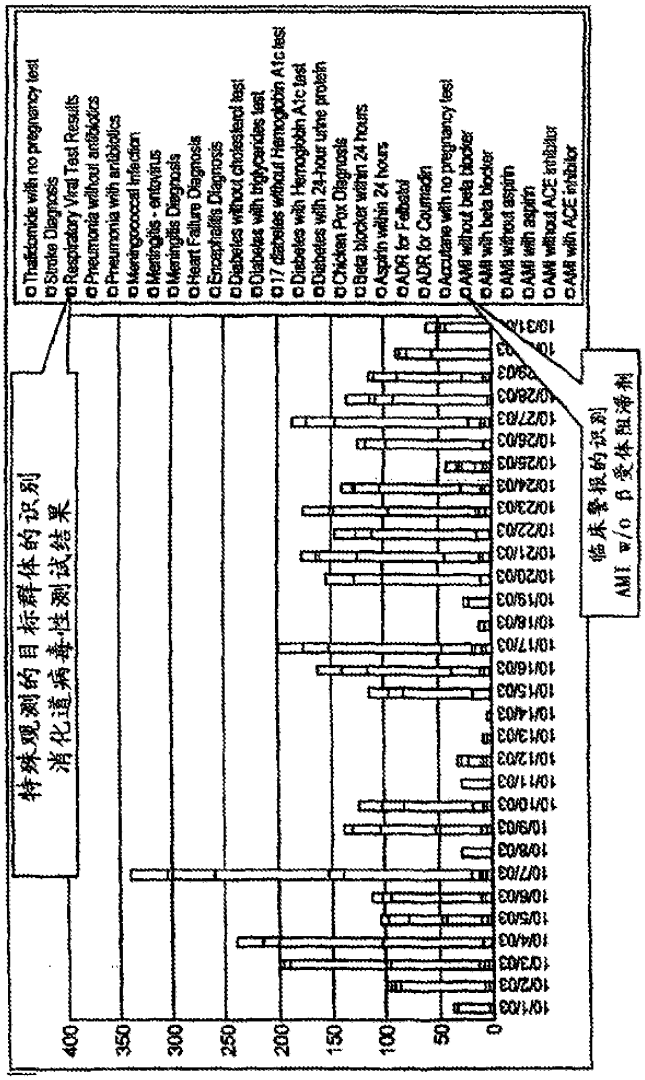
图11



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图12

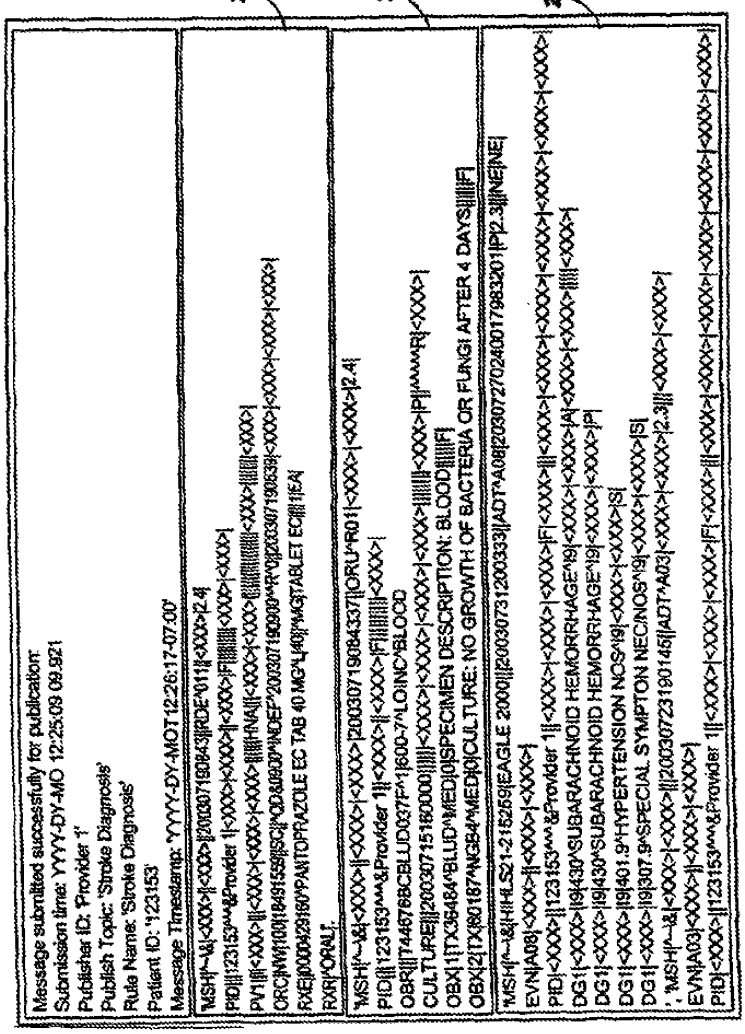
样本数据流摘要-根据日期聚集消息



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图13

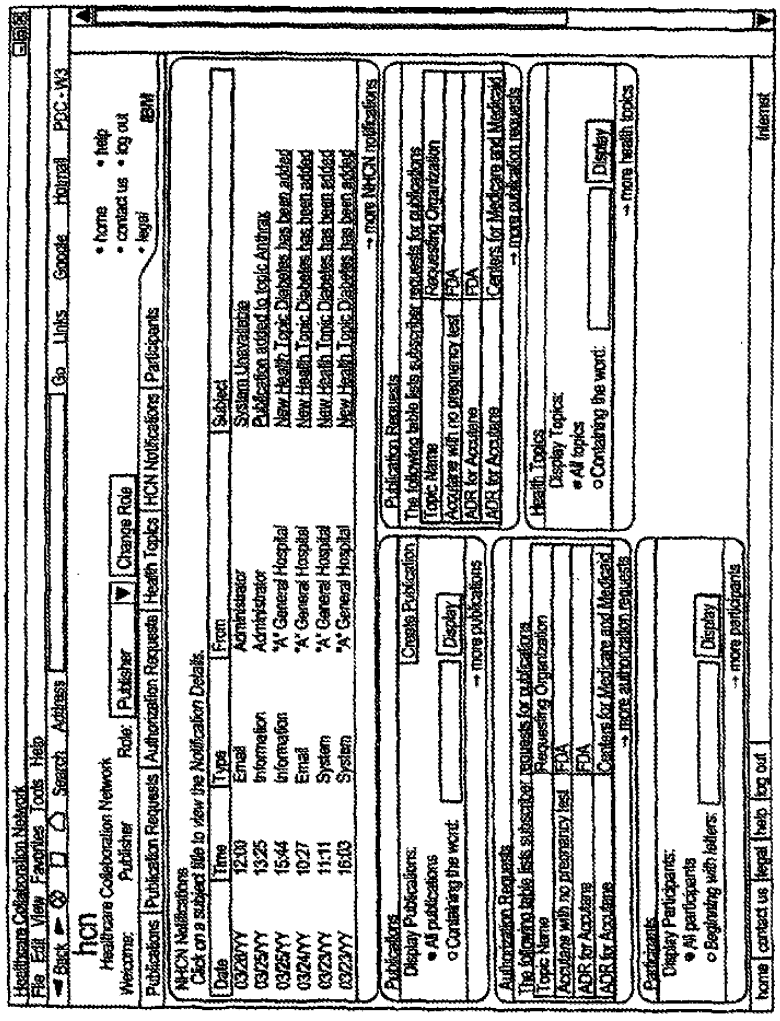
样本HCN消息包括患者的化宝宝、药房和诊断记录



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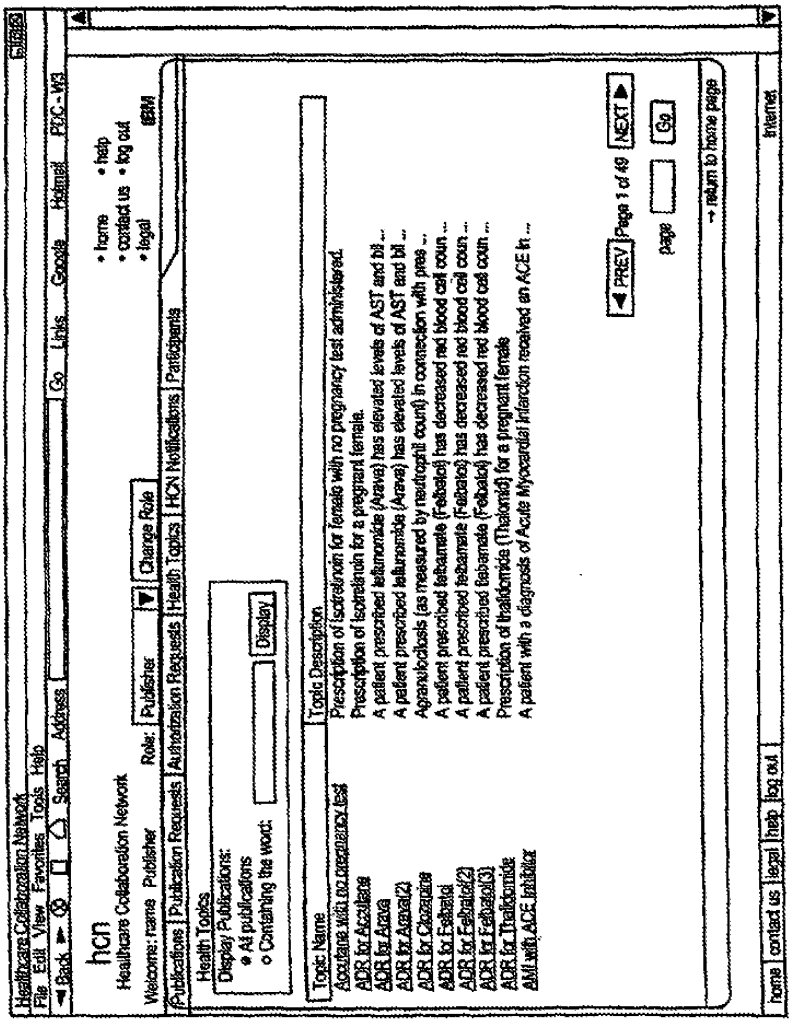
图14

HCN入口处通知的样本视图



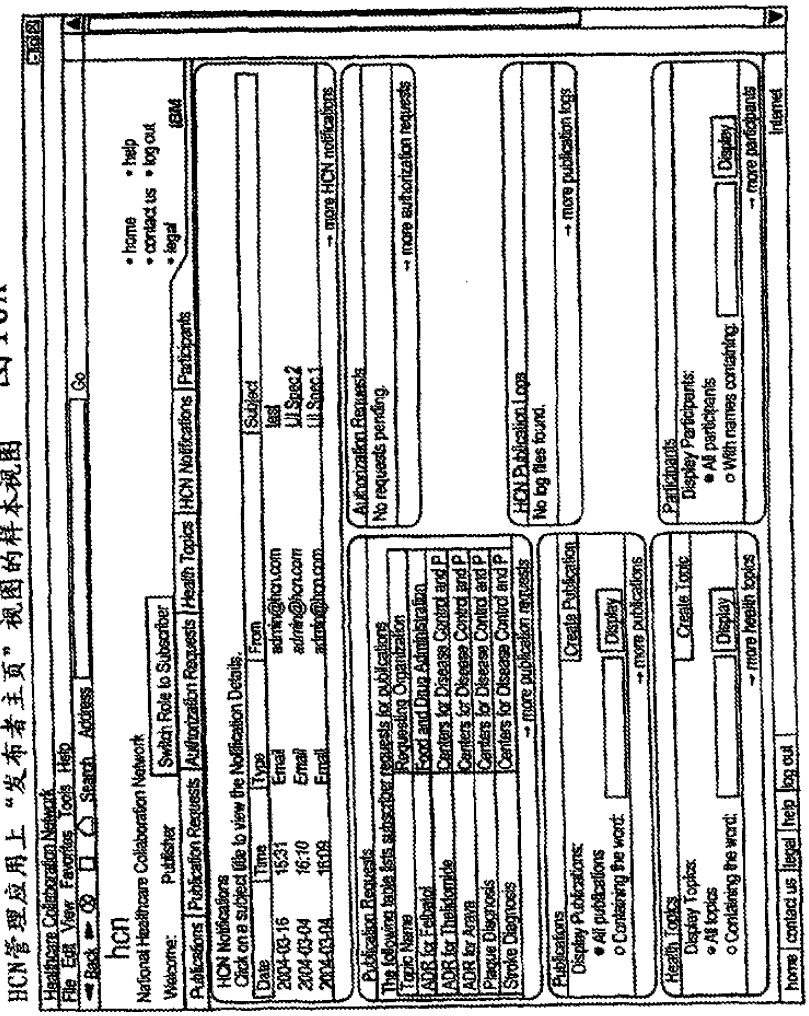
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图15



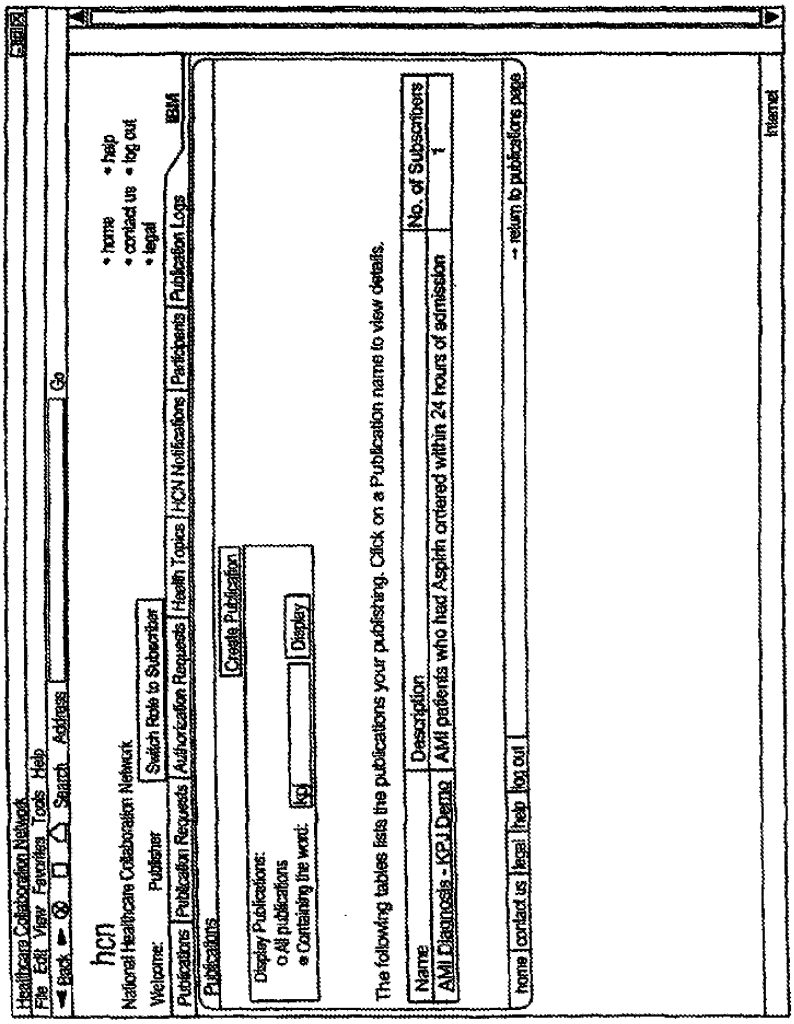
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HCN管理应用上“发布者主页”视图的样本视图 图16A



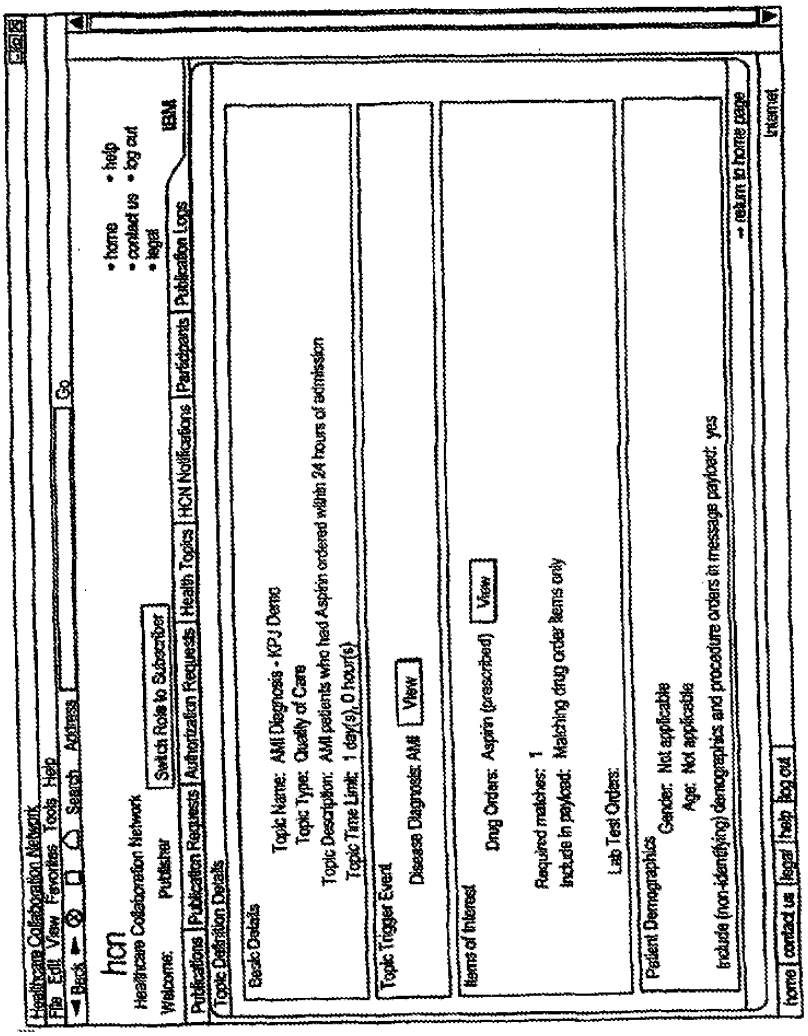
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图16B



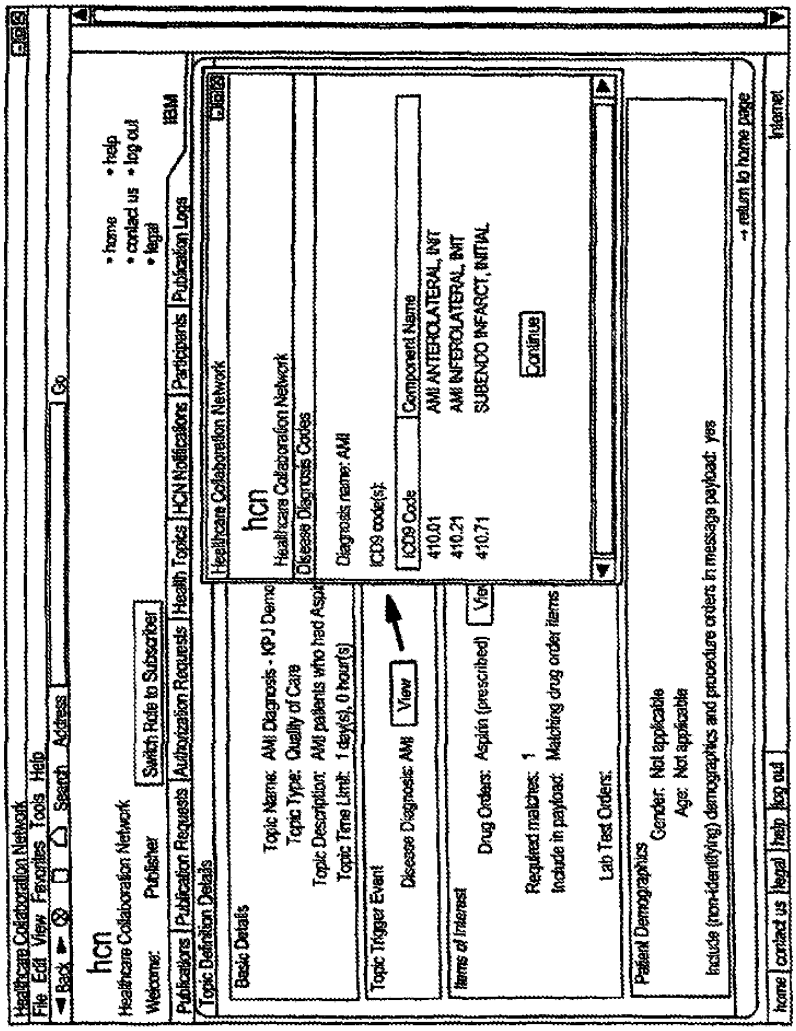
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图17A



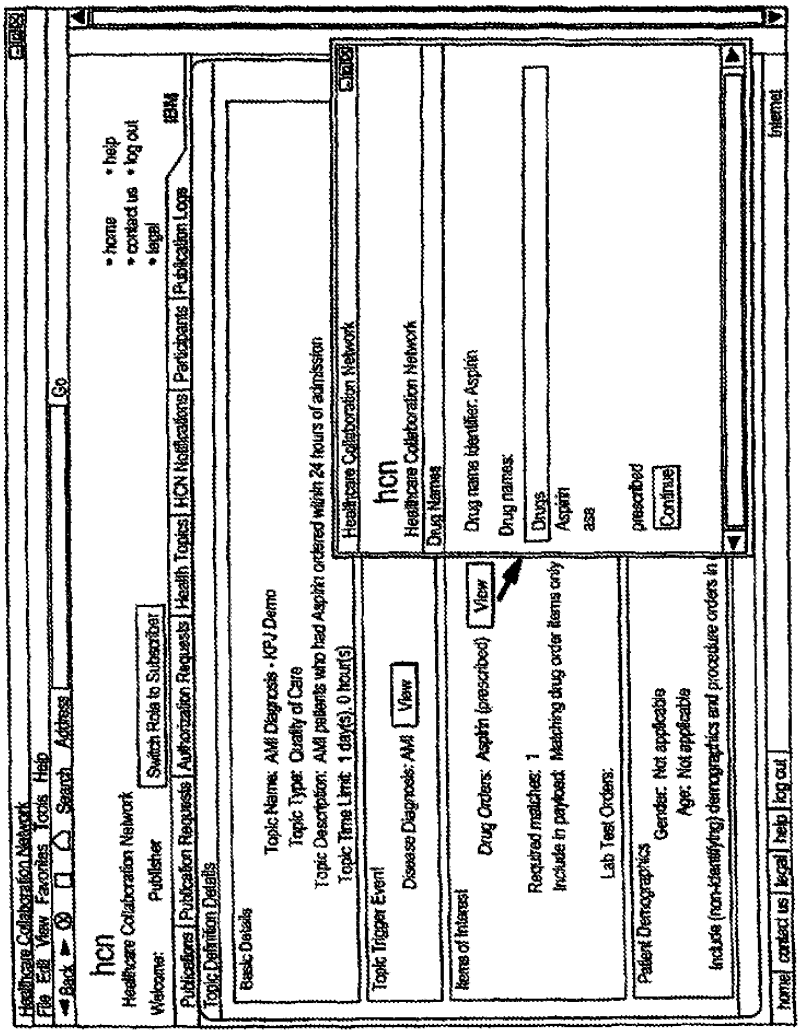
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图17B



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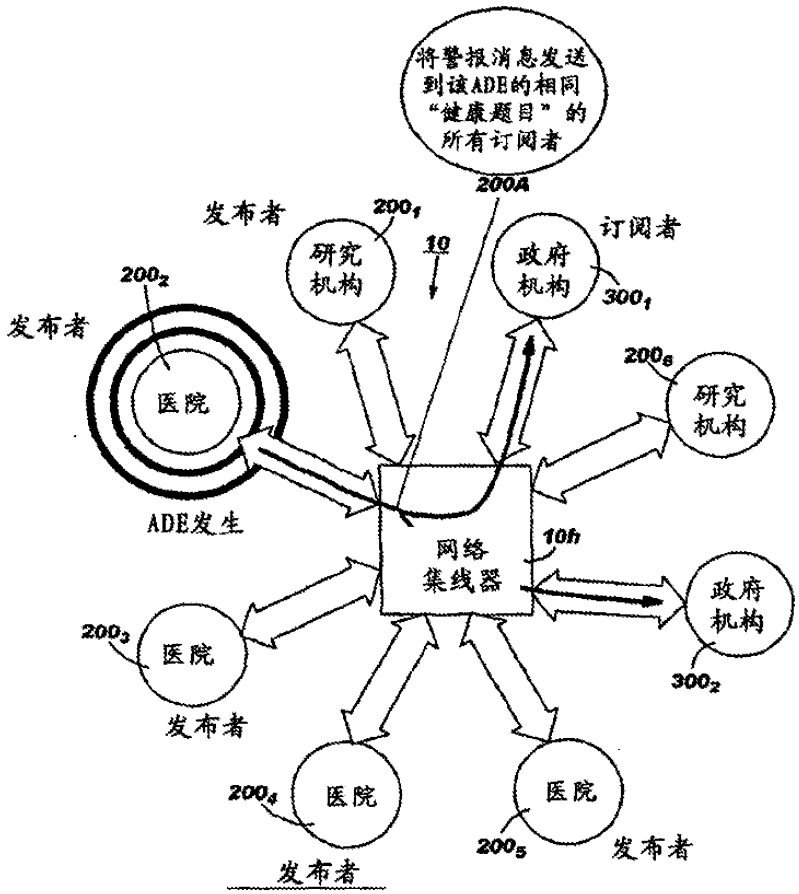
图17C



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图18

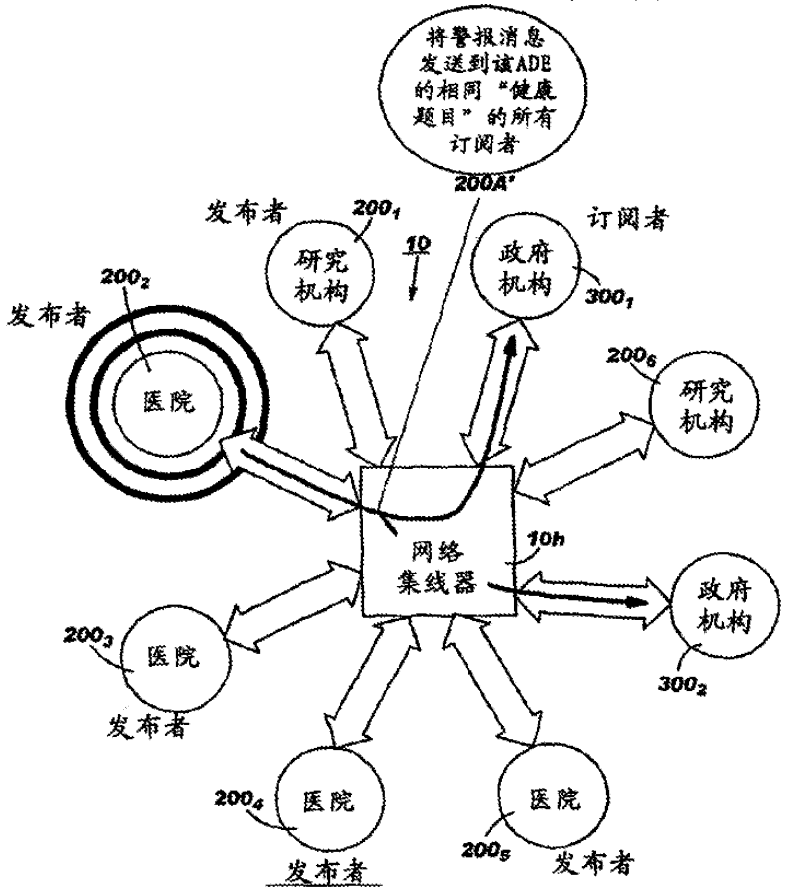
接近实时地监控和警报药物不良事件的系统



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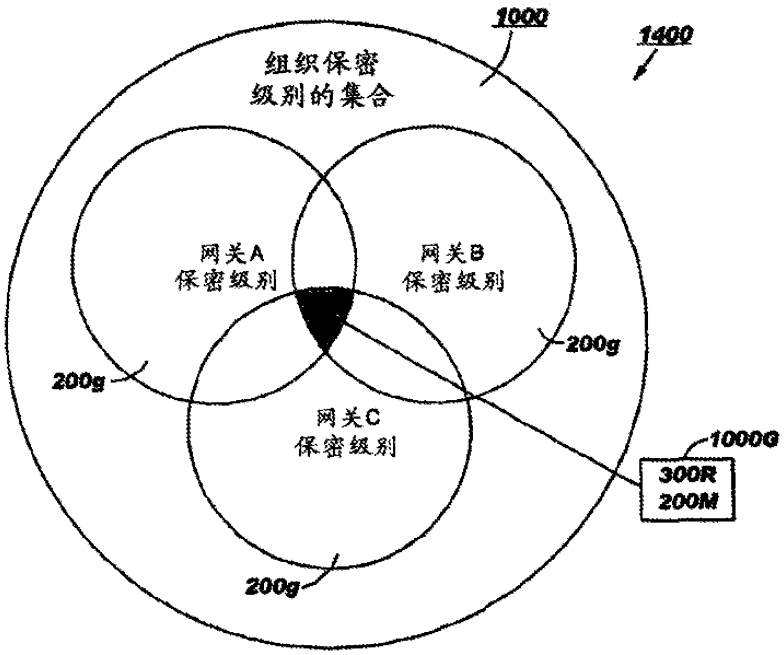
图19

使用ME接近实时地监控和警报疾病/暴露的系统



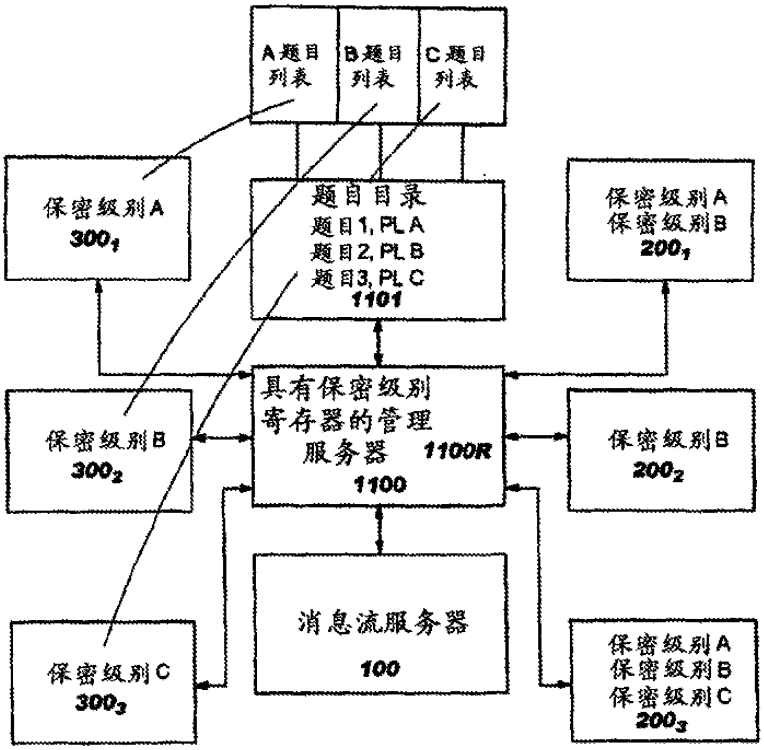
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图20



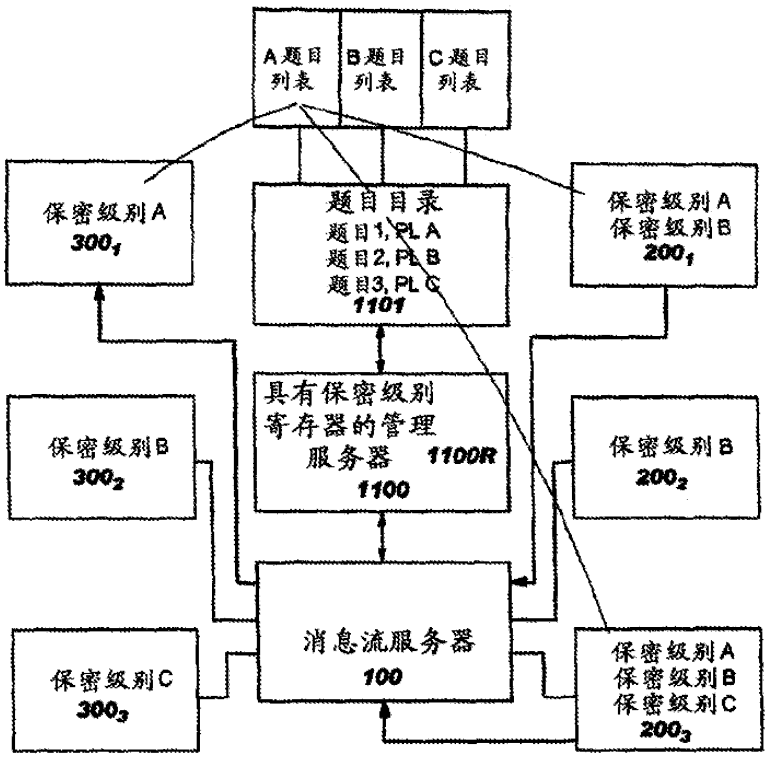
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图21A



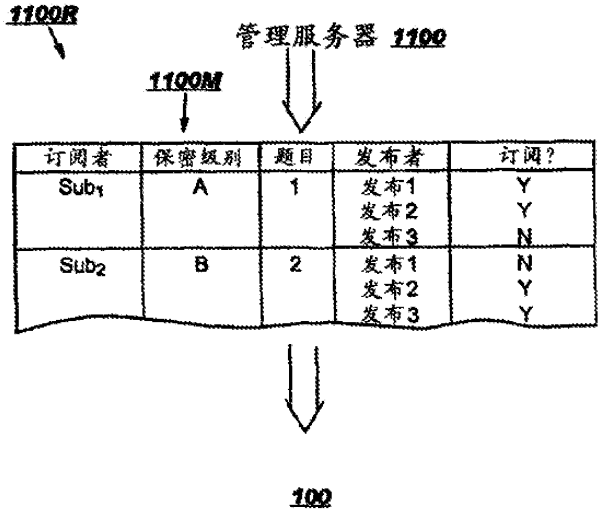
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图21B



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图22



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Espacenet

Bibliographic data: CN103154954 (A) — 2013-06-12

Monitoring fitness using a mobile device

Inventor(s): HOFFMAN MICHAEL T; CRANKSON KWAMINA; NIMS JASON; ORENSTEIN MICHAEL LEVI; WHITE KRISTEN LAINA ± (HOFFMAN MICHAEL T, ; CRANKSON KWAMINA, ; NIMS JASON, ; ORENSTEIN MICHAEL LEVI, ; WHITE KRISTEN LAINA, ; M.T.霍夫曼, ; K.克兰克森, ; J.尼姆斯, ; M.L.欧伦斯坦, ; K.L.怀特)

Applicant(s): NIKE INTERNATIONAL LTD ± (NIKE INTERNATIONAL LTD, ; 耐克创新有限合伙公司)

Classification: - international: *A63B24/00; G06F19/00*
- cooperative: A61B5/0022; A61B5/6807; A61B5/6898; A63B24/0003; A63B24/0021; A63B24/0062; A63B24/0084; A63B71/0622; G01S19/19; G01S19/48; G06F1/1626; G06F1/1698; G06F19/00; G06F19/3481; G06F3/011; G06F3/165; G09B19/0038; G16H20/30; G16H40/67; H04M1/72527; H04M1/72569; A61B2503/10; A61B5/1118; A61B5/112; A63B2024/0065; A63B2024/0068; A63B2071/0625; A63B2071/063; A63B2071/0655; A63B2071/0661; A63B2220/12; A63B2220/30; A63B2220/40; A63B2220/62; A63B2220/72; A63B2220/73; A63B2220/836; A63B2225/20; A63B2225/50; A63B2230/06; A63B2230/10; A63B2230/207; A63B2230/50; A63B2230/75; A63B24/0059; G06Q50/01; H04M1/7253; H04M2250/10; Y02A90/26

Application number: CN2011848859 20110809 Global Dossier

Priority number(s): WO2011US47067 20110809 ; US20100371842P 20100809

Also published as: CN103154954 (B) BR112013003183 (A2) CA2807938 (A1) CA2807938 (C) EP2603870 (A2) more

Abstract of CN103154954 (A)

Athletic performance monitoring and tracking may provide multiple ways in which to track athletic movement and activity. In one example, an athletic monitoring device may include or be associated with multiple types of movement sensors and switch between the sensors or use both depending on various factors including type of workout. Workouts may also be tagged with various parameters including mood, weather, terrain, athletic equipment used and the like. In one or more examples, the parameters

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may be automatically determined based on location. User workouts and accomplishments may also be celebrated through messages from celebrities, family, friends and other users. In some cases, the messages may be triggered by various conditions. Coaching may also be provided to the user to help improve workouts and overall athletic performance. Running routes may also be automatically tracked, stored and shared.

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(19)中华人民共和国国家知识产权局

(12)发明专利申请

(10)申请公布号 CN 103154954 A
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(85)PCT申请进入国家阶段日
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K.L.怀特

(74)专利代理机构 北京市柳沈律师事务所 11105
代理人 王小京

(51)Int.Cl.
G06F 19/00(2006.01)
A63B 24/00(2006.01)

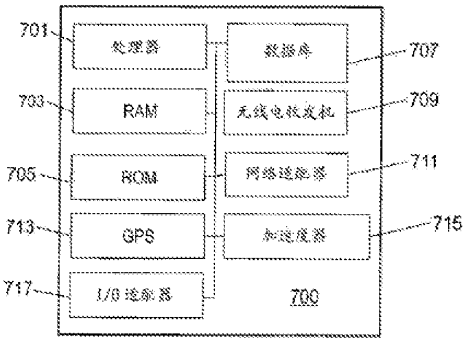
权利要求书4页 说明书46页 附图172页

(54)发明名称

使用移动装置监测健身

(57)摘要

运动表现监测和追踪可提供追踪运动性的移动和活动的多种方式。在一个示例中，运动监测装置可包括或与多种类型的运动传感器相关联，且取决于包括锻炼类型的各个因素在传感器之间切换或使用两者。锻炼可被使用多个参数标记，参数包括心情、天气、地形、使用的运动装备等。在一个或多个示例中，参数可基于位置而自动地确定。用户锻炼和成就可通过来自名人、家庭、好友以及其他用户的消息祝贺。在一些情形中，消息可由不同的状况触发。指导也可提供至用户，以帮助改进锻炼和总体运动表现。跑步路径也可被自动地追踪、存储和共享。



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1. 一种系统，包括：

移动式运动活动监测装置，包括：

第一传感器装置，配置为测量运动活动；

第二传感器装置，配置为确定用户的锻炼期间用户的物理位置变化；

处理器；和

存储器，存储计算机可读取指令，该指令在执行时使得监测装置：

确定用户的运动活动是否包括物理位置的变化；和

响应于确定用户的运动活动不包括物理位置的变动：

自动地激活使用第一传感器装置的运动活动数据记录，和

自动地中止使用第二传感器装置的运动活动数据记录，否则

响应于确定用户的运动活动包括物理位置变动，自动地激活使用第二传感器装置的运动活动数据记录。

2. 如权利要求 1 所述的系统，其中该计算机可读指令在被执行时还使得该监测装置：

响应于确定用户的锻炼包括物理位置的变动而自动地中止使用第一传感器装置的运动活动数据记录。

3. 一种或多种非瞬时性计算机可读介质，其存储计算机可读指令，该指令在被执行时使得计算系统：

当没有针对用户已经记录的此前的运动活动锻炼时产生第一界面，该第一界面包括启动新锻炼的选项；且当针对该用户已经至少记录一次运动活动锻炼时产生第二界面，该第二界面包括配置为使得计算系统基于该此前记录的至少一次运动活动锻炼自动产生锻炼推荐。

4. 如权利要求 3 所述的一种或多种计算机可读介质，其中该计算机可读指令在被执行时还使得该计算系统：

接收启动改进锻炼的用户输入，其中推荐的锻炼基于所述此前记录的至少一次运动活动锻炼而被产生，且设置反映所述此前记录的至少一次运动活动锻炼的至少一个统计数据的增加的目标；和

当用户完成改进锻炼时呈报至少一条祝贺消息。

5. 如权利要求 4 所述的一种或多种计算机可读介质，其中所述祝贺消息接收自至少一个其他用户。

6. 如权利要求 3 所述的一种或多种计算机可读介质，其中该计算机可读指令在被执行时还使得该计算系统：

在用户进行运动活动锻炼时产生第三界面，该运动活动包括反映此前记录的至少一个运动活动锻炼的统计数据的增加的目标，该第三界面提供关于用户的表现的反馈。

7. 如权利要求 6 所述的一种或多种计算机可读介质，其中所述反馈包括在此前记录的至少一次运动活动锻炼的统计数据上进一步改进的挑战。

8. 一种方法，其包括：

由计算系统接收运动活动锻炼的用户选择；

由计算系统自动识别参与运动活动锻炼的一个或多个其他用户；和

传输参与该运动活动锻炼的电子邀请至识别出的一个或多个其他用户。

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9. 如权利要求 8 所述的用户，其中确定一个或多个其他用户包括：

确定该用户的属性；和

基于所述一个或多个其他用户跟所述用户的相似性的阈值水平识别该一个或多个其他用户，该相似性的阈值水平是基于所述确定的属性。

10. 如权利要求 9 所述的方法，其中所述属性包括下列一个或多个：年龄、身高、体重、性别和健身水平。

11. 如权利要求 8 所述的方法，其中确定所述一个或多个其他用户包括确定该一个或多个其他用户是否和运动活动服务联机。

12. 如权利要求 8 所述的方法，其中确定所述一个或多个其他用户包括确定所述一个或多个其他用户在与选定的运动活动锻炼的运动活动路径类似的运动活动路径的预定的邻近范围中。

13. 如权利要求 12 所述的方法，确定所述一个或多个其他用户在与选定的运动活动锻炼的运动活动路径类似的运动活动路径的预定的邻近范围中包括确定运动活动路径的距离和选定的运动活动锻炼的运动活动路径的距离之间的差值在阈值差值内。

14. 一种方法，其包括：

使用第一传感器确定在运动活动锻炼中用户的位置是否已经变化；

响应于确定用户的位置已经变化而选择由其记录运动活动锻炼数据的一个或多个运动活动传感器的第一组，其中该一个或多个运动活动传感器的第一组包括第二传感器；和

响应于确定用户的位置尚未变化而选择由其记录运动活动锻炼数据的一个或多个运动活动传感器的第二组，其中该一个或多个运动活动传感器的第二组包括第一传感器。

15. 如权利要求 14 所述的方法，其中所述第一传感器包括位置确定系统，且第二传感器包括加速度器。

16. 如权利要求 14 所述的方法，其中一个或多个运动活动传感器的第二组包括第一和第二传感器。

17. 一种装置，包括：

处理器；和

存储器，存储计算机可读取指令，该指令被执行时使得该装置：

存储由用户进行的运动表现的运动表现数据；

识别在运动活动进行期间由用户使用的运动装备，其中该运动装备不同于所述装置；和

使用标识在运动活动进行期间使用的运动装备的信息来标记所述运动表现数据。

18. 如权利要求 17 所述的装置，其中所述运动装备包括服饰件，且其中使用标识运动装备的信息来标记运动表现数据包括存储下列中的至少一项：与使用标识服饰件的信息相关联的消耗的卡路里数、速度和跑动的英里数。

19. 如权利要求 17 所述的装置，其中该指令在被执行时还使得该装置：

基于存储的运动表现数据确定使用运动装备进行的运动活动的量；和

响应于确定使用运动装备进行的运动活动的量在特定的阈值之上，产生对其他运动装备的推荐。

20. 如权利要求 19 所述的装置，其中所述运动装备包括鞋，且运动活动的量包括使用

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所述鞋的累计的距离运动活动。

21. 一种装置，包括：

处理器；和

存储器，存储计算机可读取指令，该指令被执行时使得该装置：

存储由用户进行的运动活动的运动表现数据；

使用地理位置确定系统确定和运动活动相关联的地理位置；

确定该地理位置的至少一个属性，其中该至少一个属性包括和进行的运动活动相关联的地理位置的标识之外的信息；和

使用确定的地理位置的至少一个属性来标记运动表现数据。

22. 如权利要求 21 所述的装置，其中所述至少一个属性包括天气信息。

23. 如权利要求 21 所述的装置，其中所述至少一个属性包括地形信息。

24. 如权利要求 21 所述的装置，其中所述至少一个属性从远端网络装置取得。

25. 一种装置，包括：

处理器；和

存储器，存储计算机可读取指令，该指令被执行时使得该装置：

使用位置确定系统确定用户的地理位置；

识别用户在其上进行运动活动的路径的至少一部分；

确定该识别的路径的至少一部分的至少一项属性；和

基于该确定的至少一项属性产生关于在所述识别的路径的至少一部分上进行运动活动的推荐。

26. 如权利要求 25 所述的装置，其中所述至少一个属性包括地形信息。

27. 如权利要求 25 所述的装置，其中所述至少一个属性包括天气信息。

28. 如权利要求 25 所述的装置，其中用于产生推荐的指令是基于该用户的锻炼历史而被执行。

29. 如权利要求 25 所述的装置，其中用于识别所述路径的至少一部分的指令包括将确定的地理位置和针对一个或多个预存储锻炼路径存储的地理位置进行比较的指令。

30. 如权利要求 25 所述的装置，其中所述推荐包括推荐的速度。

31. 如权利要求 25 所述的装置，其中所述推荐包括在特定类型的地形上跑步的建议。

32. 如权利要求 25 所述的装置，其中所述推荐包括鼓励性评论。

33. 一种装置，包括：

处理器；和

存储器，存储计算机可读取指令，该指令被执行时使得该装置：

提供限定运动锻炼的信息至在线社区；

提供和从所述在线社区中的其他用户处接收的反馈的量相关的确定，其中所述反馈对应于限定所述运动锻炼的信息；和

基于确定的接收的反馈的量的提供而选择提供至用户的消息，其中如果反馈量对应于量的第一范围则选择第一消息，且如果反馈量对应于量的第二范围则选择第二消息。

34. 如权利要求 33 所述的装置，还包括在所述运动锻炼进行期间提供消息至用户。

35. 如权利要求 33 所述的装置，其中所述反馈通过远端网络站点从其他用户接收，且

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其中所述在线社区包括社交网路站点。

36. 如权利要求 33 所述的装置，其中所述消息包括可听见的音效。

37. 如权利要求 33 所述的装置，其中所述消息包括视频内容。

38. 如权利要求 33 所述的装置，其中所述消息包括触觉反馈。

39. 如权利要求 33 所述的装置，其中所述反馈的量仅包括正反馈的量。

40. 如权利要求 33 所述的装置，其中所述消息包括来自名人的消息。

41. 如权利要求 33 所述的装置，其中所述反馈的量包括跨多个在线社区接收的反馈。

42. 一种装置，包括：

处理器；和

存储器，存储计算机可读取指令，该指令被执行时使得该装置：

基于检测到的位置信息记录由用户进行的运动活动的路径；

存储与记录的路径相关联的运动活动的运动表现数据；

产生示出记录的路径的路径地图，其中所述路径地图还包括在路径上标识运动活动的至少一个指标的一个或多个标记。

43. 如权利要求 42 所述的装置，其中所述路径地图还包括标识路径的最高和最低海拔的海拔标记。

44. 如权利要求 42 所述的装置，其中用于产生路径地图的指令包括用于产生路径的动画的指令，其中所述路径的部分的动画对应于在这些部分中用户的速度。

45. 如权利要求 42 所述的装置，其中用于产生路径地图的指令包括取决于在每个不同的部分中用户的速度为路径的每个部分选择不同的颜色。

46. 如权利要求 42 所述的装置，其中所述一个或多个标记包括最快速度标记和最慢速度标记。

47. 如权利要求 42 所述的装置，其中所述一个或多个标记还包括距离标记。

48. 如权利要求 42 所述的装置，其中所述指令在执行时还使得所述装置产生计分板，其根据在路径上进行的运动活动的次数和在路径上进行运动活动所需要的时间的量中的至少一个列出用户。

49. 如权利要求 42 所述的装置，其中用于产生路径地图的指令包括用于显示路径的部分的路径线的指令，对于该路径线的位置信息被记录，且将来对于其记录位置信息的其他部分留空。

50. 如权利要求 42 所述的装置，其中用于产生路径地图的指令包括显示路径线的指令，其中记录位置信息的路径的部分以第一外观显示，且未记录位置信息的路径的其他部分以第二外观显示。

51. 如权利要求 42 所述的装置，其中所述一个和多个标记包括标识由用户针对沿路径的特定位置而手动地输入的备注的备注标记。

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使用移动装置监测健身

背景技术

[0001] 尽管大部分人了解身体健康的重要性，许多人难以找到保持常规锻炼程序所需要的动力。一些人特别难于保持涉及持续重复的动作的锻炼方式，这包括跑步、步行和骑自行车。此外，经常地，个人通常由于记录和追踪锻炼结果所需要的额外的努力而不能被激励进行锻炼。例如，个人可能被要求手动地输入诸如跑的英里数、跑的路径、平均心率等的锻炼信息进入数据库，以追踪他或她的进度。在另一示例中，个人可能需要使用专用于具体健身项目的装置以自动追踪锻炼结果。在一些情形中，可能需要不同类型的健身装备，取决于个人在室内或室外锻炼、在跑步机或在室外路径上跑步等。

[0002] 激励也可来自在个人健身水平上获得进步。但是，进步通常涉及增加或以其他方式变动锻炼制度。例如，个人可能开始跑动得更快或在较长的时间段上跑步，以增加耐久力。在一些情形中，个人可能重复相同的锻炼，并由此未能挑战自己以在此前的表现上获得进度。在不被提醒进行更耗力的锻炼时，个人可能不能迅速地看见结果或根本不能看见结果，并由此不被激励。

发明内容

[0003] 根据一个或多个方面，用户可使用具有多种类型定位系统(诸如全球定位系统(GPS))以及加速度器或不取决于远端系统的其他类型的装置(诸如计步器)等的移动装置记录且追踪运动活动。通过使用 GPS 装置和加速度器两者，移动装置可记录用于室内锻炼(诸如固定地点)锻炼和室外锻炼两者的锻炼数据。移动装置可取决于状况从一个装置切换至其他装置。例如，如果丢失了 GPS 信号，加速度器可被激活和用作替代方式以提供锻炼相关数据。在重新获得 GPS 信号之后，系统可再次开始记录 GPS 数据。系统可取决于信号可用性和 / 或强度、检测到的移动、位置(室内或室外)、用户偏好(例如，偏好的锻炼数据类型、偏好的精确度)等在两个传感器之间切换(或使用两者)。

[0004] 根据另一方面，此处描述的系统和方法可提供用于改进锻炼的挑战或建议。例如，系统可提供选项至用户，以改进此前的跑步或其他运动活动。用户可基于此前记录的跑步或锻炼而从建议的改进跑步的列表中选择或创建定制的跑步。在特定的示例中，系统可建议将速度、距离、消耗的卡路里或跑步的时间量增加 5% 的改进跑步。在其他示例中，系统可分析在预定的时间段上(诸如一周、一个月、6 个月等)的运动员趋势，并确定每周或每天的进度的平均量。系统可继而推荐并入该确定的平均进度量的改进锻炼。可使用其他的活动改进算法，以产生用于帮助运动员改进一项或多项运动活动指标的建议的锻炼。

[0005] 根据又一方面，用户可同步数据至运动活动监测服务提供方或从其查看数据。用户可下载数据至移动健身监测装置，以追踪历史跑步和他或她在特定的时间段上的进度。附加地或替换地，一些数据可本地存储在用户的移动装置中，且补充有来自远端网络站点(例如，运动活动监测服务提供方)的数据。此外，由移动装置记录的数据(例如，GPS 数据或加速度器数据)可和远端网络站点同步，以减轻移动装置的存储需求。附加地，和远端网络站点的同步可允许用户查看来自其他位置和装置的运动活动信息。此外，锻炼信息可通过

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一个或多个社交出口共享。

[0006] 根据另一方面，使用定位装置完成的跑步可存储具有路径信息。路径信息包括用户在锻炼中采用的路径。路径可对比地图显示，以允许用户查看关于跑步的各种信息和统计数据。例如，可显示距离标记、速度标记、和海拔标记。附加地，可提供标记用于标示最快和最慢速度、最高和最低心率、最高和最低海拔等。可使用颜色或路径的其他视觉元素以标示各种类型的运动信息，包括速度、心率、播放的音乐类型、温度(环境温度或体温)等。路径显示可被根据用户偏好定制。用户还可通过划线或基于此前记录的GPS路径/跑步进一步创建路径。

[0007] 根据此外的又一方面，可提供指导给用户，以辅助改进和实现目标。在一个示例中，指导可包括指令性评论，以标明用户为了实现或超过特定的目标可采取的特定的动作。指导可包括诸如运动员、电影明星、歌手、音乐家等名人的声音或视频叠加。指导还可计入自动确定的位置专用参数，诸如天气和地形，且还可包括评价其他用户在相同或类似的位置的表现。

[0008] 根据又一方面，移动运动活动监测装置还可包括在运动锻炼或跑步之前、之中和之后提供评价、建议、或言辞鼓励至用户。例如，如果用户在跑步过程中达到预定的距离，装置可产生且呈报文本、音频和/或视频信息至用户。在一种或多种布置中，名人消息可包括为诸如祝贺或激励消息。在另一示例中，可基于设置的触发器(诸如达到一定距离或实现特定的速度)而提供祝贺或激励消息。在一种布置中，可在接收到来自好友的阈值数量的消息之后(例如，通过诸如TWITTER或FACEBOOK的社交网络站点)，向用户提供特定的声音、视觉或触觉反馈。

[0009] 更进一步的，用户可标记或以其他方式将各个参数和记录与锻炼进程相关联。标记、记录和/或参数在一些情形中可被自动地检测。例如，天气、地形、坡度、海拔、体温等可基于通过诸如GPS接收机、心率监测器、陀螺仪、加速度器、温度计等的装置确定的信息自动地记录作锻炼进程的参数或经标记的参数。在一些示例中，可标记在锻炼中使用的运动装备。该信息可继而被用于监测运动装备损耗、推荐新的、补充的和/或替换的装备、确定哪些装备提供更佳的结果等。

[0010] 根据此外的又一方面，可提供自动地识别且将用户和其他挑战参与者匹配的方法和系统。例如，系统可从第一用户接收一请求，以启动跑步以及挑战一个或多个其他用户至该跑步。系统可允许用户选择和邀请被挑战的特定用户，或替换地或附加地，自动识别这样的其他用户。在一个示例中，可确定该第一用户的属性，且将其与其他用户的属性进行比较。系统仅可识别当前联机的挑战。识别出的用户可继而被邀请参与该挑战。如果用户接受该挑战，参与者可在该挑战中竞赛，且在该挑战结束时宣布胜者。奖励、喝彩和其他认可可提供至胜者。附加地或替换地，系统可自动地建议两个参与者之间的其他挑战的安排，以鼓励改进和运动活动。

[0011] 发明的这些和其他特征将从下列的细节的描述变得明显。

附图说明

[0012] 图1示出了可用于实施本发明的各个示例的计算装置。

[0013] 图2和3示出了根据本发明的各个示例可采用的运动信息监测装置的示例。

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[0014] 图 4 示出了其中可采用根据本发明的各个示例的运动参数测量装置的环境。

[0015] 图 5 示出了根据本发明的各个实施例可用于采集和 / 或显示运动数据的运动信息采集和显示装置的示例。

[0016] 图 6 示出了根据本发明的各个示例可采用的运动数据配置装置的示例。

[0017] 图 7 示出了根据此处描述的一个或多个方面的示例性移动运动活动监测装置。

[0018] 图 8 和 9 示出了根据此处描述的一个或多个方面用于限定锻炼的示例性方法。

[0019] 图 10A 至 10G 示出了根据此处描述的一个或多个方面的当个人开始初次跑步时可产生和显示的一系列用户界面。

[0020] 图 11A-11E 示出根据此处描述的一个或多个方面的在用户完成且记录初次跑步后可产生和显示的一系列界面。

[0021] 图 12A 和 12B 示出了根据此处描述的一个或多个方面的可产生和显示的另一示例性主屏幕界面。

[0022] 图 13A 示出了根据此处描述的一个和多个方面的当用户没有此前的跑步历史时用于显示的示例性跑步类型选择界面。

[0023] 图 13B 示出了根据此处描述的一个和多个方面的当用户有记录的跑步历史时可用于显示的示例性跑步类型选择界面。

[0024] 图 14A-14G 示出了根据此处描述的一个或多个方面的用于限定时间跑步的一系列示例性用户界面。

[0025] 图 15A-15G 示出了根据此处描述的一个或多个方面的在用户选择距离跑步类型时可显示的一系列示例性用户界面。

[0026] 图 16A-16F 示出了根据此处描述的一个或多个方面的当用户选择改进跑步类型时可产生和显示的一系列示例性用户界面。

[0027] 图 17 示出了根据此处描述的一个或多个方面的通过其用户可选择音乐定义选项的示例性界面。

[0028] 图 18A-18E 示出了根据此处描述的一个或多个方面的在用户选择音频内容定义选项时可显示的一系列示例性音频内容选择界面。

[0029] 图 19A-19C 示出了根据此处描述的一个或多个方面的一系列示例性位置定义界面。

[0030] 图 20A-20Z 示出了根据此处描述的一个或多个方面的可显示用于设置跑步的附加的示例性界面。

[0031] 图 21A-21D 示出了根据此处描述的一个或多个方面的可显示用于设置跑步的附加的示例性界面。

[0032] 图 22A-22D 示出了根据此处描述的一个或多个方面的在用户锻炼中可显示至用户的各个示例性界面。

[0033] 图 23A 和 23B 示出了根据此处描述的一个或多个方面的不具有动力歌曲选项的示例性跑步中途界面。

[0034] 图 24A-24F 示出了根据此处描述的一个或多个方面的在用户锁定界面(例如，为了阻止输入)或在在其中没有检测到用户输入的时间周期过去之后可显示的示例性锁定界面。

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[0035] 图 25A-25F 示出了根据此处描述的一个或多个方面的可用于传输 GPS 可用性和状态的各个示例性界面。

[0036] 图 26A 和 26B 示出了根据此处描述的一个或多个方面可提供至用户的示例性警报。

[0037] 图 27A-27H 示出了根据此处描述的一个或多个方面的在用户进行跑步时可显示的附加的或替换的用户界面。

[0038] 图 28A 和 28B 示出了根据此处描述的一个或多个方面的可实质为文本且可伴随有相应的音频消息的附加的示例性警报。

[0039] 图 29 示出了根据此处描述的一个或多个方面的用于室内跑步的示例性锻炼小结。

[0040] 图 30A-30C 示出了根据此处描述的一个或多个方面的其中用户可校准距离跑步的一系列示例性用户界面。

[0041] 图 31A-31C 示出了根据此处描述的一个或多个方面的通过其用户可校准加速度器或非 GPS 跑步的其他的示例性界面。

[0042] 图 32A-32D 示出了根据此处描述的一个或多个方面的通过其用户可基于各种信息类型标记跑步的一系列示例性用户界面。

[0043] 图 33A-33C 示出了根据此处描述的一个或多个方面的用于室外跑步的示例性锻炼小结。

[0044] 图 34 示出了根据此处描述的一个或多个方面的示例性路径信息界面。

[0045] 图 35A-35C 示出了根据此处描述的一个或多个方面的其中可显示地图的示例性路径小结界面。

[0046] 图 36 示出了根据此处描述的一个或多个方面的示例性路径命名界面。

[0047] 图 37A 示出了根据此处描述的一个或多个方面的显示用于创造了新的距离记录的里程奖牌的示例性小结界面。

[0048] 图 37B 示出了根据此处描述的一个或多个方面的如果用户未能完成目标或任务时可显示的示例性界面。

[0049] 图 37C 示出了根据此处描述的一个或多个方面的示例性锻炼提醒界面。

[0050] 图 38A 和 38B 示出了根据此处描述的一个或多个方面可显示至用户的其他示例性警报和提醒消息。

[0051] 图 39A 示出了根据此处描述的一个或多个方面的如果用户是由运动活动监测服务方提供的服务的会员时可显示的示例性界面。

[0052] 图 39B 示出了根据此处描述的一个或多个方面的包括注册选项的示例性锻炼小结界面。

[0053] 图 40A-40C 示出了根据此处描述的一个或多个方面的通过其数据可与服务提供方同步的一系列示例性界面。

[0054] 图 41A-41C 示出了根据此处描述的一个或多个方面的通过其进行同步的示例性锻炼小结界面。

[0055] 图 42A-42C 示出了根据此处描述的一个或多个方面的通过其用户可通过登录或创建服务提供方账户而同步运动活动数据的示例性界面。

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[0056] 图 43 示出了根据此处描述的一个或多个方面的具有标示锻炼已经超时的消息的示例性界面。

[0057] 图 44A-44C 示出了根据此处描述的一个或多个方面的其中可进行同步过程的一系列示例性界面。

[0058] 图 45A 和 45B 示出了根据此处描述的一个或多个方面的通过其用户可从锻炼历史删除条目的界面。

[0059] 图 46A-46C 示出了根据此处描述的一个或多个方面的可显示以传输历史信息至用户的附加的示例性界面。

[0060] 图 47A 和 47B 示出了根据此处描述的一个或多个方面的用于配置运动活动监测装置和应用的各个设置界面的示例性部分。

[0061] 图 48A-48F 示出了根据此处描述的一个或多个方面的提供描述可用特征和功能的详细信息的示例性简介界面。

[0062] 图 49A-49E 示出了根据此处描述的一个或多个方面的通过其用户可向服务提供方注册的一系列示例性界面。

[0063] 图 50A 和 50B 示出了根据此处描述的一个或多个方面的其中用户可选择力量歌曲 (power song) 选项且后续地从歌曲列表中选择歌曲的一系列示例性界面。

[0064] 图 51A-51C 示出了根据此处描述的一个或多个方面的允许用户分别设置距离指标、反馈频率、和锁定屏幕取向的示例性界面。

[0065] 图 52A-52H 示出了用于限定可允许对运动活动统计数据准确的监测和追踪的各种用户属性和偏好的示例性校准界面。

[0066] 图 53A-53V 示出了根据此处描述的一个或多个方面的通过移动健身监测装置可产生和显示的替换的或附加的设置界面。

[0067] 图 54A-54C 示出了根据此处描述的一个或多个方面的通过其用户可在社交网络站点和新闻汇总 (news feeds) 上共享锻炼的示例性界面。

[0068] 图 55A 和 55B 示出了根据此处描述的一个或多个方面的用于共享锻炼 / 跑步信息的其他示例性界面。

[0069] 图 56 示出了根据此次描述的一个或多个方面的可公布和传输锻炼信息的示例性社交网络站点界面。

[0070] 图 57 示出了根据此处描述的一个或多个方面的允许好友或其他用户输入鼓励消息的示例性消息输入界面。

[0071] 图 58 示出了显示通过图 57 的界面提交的消息的示例性移动装置界面。

[0072] 图 59 示出了根据此处描述的一个或多个方面的运动活动监测服务的登录界面。

[0073] 图 60A-60F 示出了根据此处描述的一个或多个方面的可用于浏览和查看可从远端健身监测站点至少部分地接收的锻炼信息的示例性界面。

[0074] 图 61A-61C 示出了根据此处描述的一个或多个方面的示例性目标定义界面。

[0075] 图 62A 和 62B 示出了根据此处描述的一个或多个方面的用于提供锻炼和目标提醒的示例性界面。

[0076] 图 63A-63C 示出了根据此处描述的一个或多个方面的其中一个或多个祝贺或激励消息可在列表中显示的示例性祝贺界面。

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[0077] 图 64A-64E 示出了根据此处描述的一个或多个方面的包括名人消息的示例性祝贺界面。

[0078] 图 65A-65D 示出了根据此处描述的一个或多个方面的示例性锻炼公告。

[0079] 图 66A-66K 示出了根据此处描述的一个或多个方面的可包括锻炼回顾的示例性界面。

[0080] 图 67A-67G 示出了根据此处描述的一个或多个方面的其中可显示路径信息的一系列示例性路径细节界面。

[0081] 图 68A 示出了根据此处描述的一个或多个方面的另一示例性路径细节界面。

[0082] 图 68B 示出了根据此处描述的一个或多个方面的通过其用户可保存路径和添加路径细节的示例性界面。

[0083] 图 69A 示出了根据此处描述的一个和多个方面的列出了用户已经跑过、创建和 / 或保存的各个路径的示例性经保存路径界面。

[0084] 图 69B 示出了根据此处描述的一个或多个方面的在用户从路径列表选择路径之后可显示的示例性路径界面。

[0085] 图 70A 示出了根据此处描述的一个或多个方面的通过其用户可限定新的路径的示例性路径创建界面。

[0086] 图 70B 示出了根据此处描述的一个或多个方面的其中多个此前记录的路径被显示的示例性选择菜单。

[0087] 图 70C 示出了根据此处描述的一个或多个方面的其中一个或多个框可被自动填充的另一示例性路径创建界面。

[0088] 图 71A 和 71B 示出了根据此处描述的一个或多个方面的用于查看路径信息的其他的示例性界面。

[0089] 图 72A-72F 示出了根据此处描述的一个或多个方面的其他的示例性路径追踪和查看界面。

[0090] 图 73 示出了根据此处描述的一个或多个方面的其中显示路径专用统计数据的示例性界面。

[0091] 图 74 示出了根据此处描述的一个或多个方面的用于产生和处理实时挑战的示例性方法。

[0092] 图 75 和 76 示出了根据此处描述的一个或多个方面的通过其用户可分别在锻炼进程前或锻炼进程之后选择热身或放松活动的示例性界面。

具体实施方式

[0093] 运动活动总述

[0094] 本发明的方面涉及运动和非运动信息的测量、采集、显示和管理。如由本领域技术人员将理解的，运动信息可首先从个人获得。通过本发明的各种实施例，一个或多个不同的运动信息监测装置可用于测量和记录对应于由个人进行的运动活动的运动数据、并将该信息转换成货币形式。通常，运动信息监测装置将并入用于测量涉及被监测的个人的参数的传感器以及用于处理由该传感器测量的参数的计算装置。

[0095] 一旦运动信息监测装置已经为个人的运动活动记录运动信息，该个人可继而传输

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记录的运动信息至一个或多个分立的装置，以查看记录的运动数据。用户可例如从运动信息监测装置下载记录的运动信息至分立的采集装置。该采集装置可继而传输来自运动信息监测装置的运动信息至分立的显示配置装置，其中运动信息可被组织和配置用于后续的使用例如使用又一装置查看。如将在下文中更详尽的讨论的，本发明的各种实施例将允许个人使用一组在网络（诸如互联网）上通信的计算装置记录、采集和显示运动信息。

[0096] 例如，此处描述的一些方面允许个人使用特殊用途计算装置测量和记录运动信息。用户可继而传输记录的运动信息至本地计算装置，诸如个人电脑或笔记本电脑。更特别地，用户可从运动信息监测装置下载记录的运动信息至本地计算机上的采集软件工具，该计算机用作计算机网络中的“客户端”。该采集软件工具可继而通过网络传输下载的运动信息至远端“服务器”计算机。远端服务器计算机上的显示配置软件工具将继而保存传输的运动信息。此后，用户可使用客户端计算机或另一本地计算机以从服务器计算机获取存储的运动信息。响应于来自本地计算机的显示请求，显示配置软件工具将配置请求的运动信息以显示在本地计算机上，且继而传输配置的运动信息至本地计算机用于显示。

[0097] 计算装置

[0098] 本发明的各个实施例可使用配置为执行一个或多个功能的电子电路实施。例如，通过本发明的一些实施例，运动信息监测装置、采集装置、显示装置或以上的任意组合可使用一个或多个专用集成电路（ASIC）实施。但是，更具体地，本发明的各个示例的组分将被使用执行固件或软件指令的可编程计算装置实施，或由在可编程计算装置上执行的固件或软件和专用电子电路的一些组合实施。

[0099] 因此，图 1 示出了计算机 101 的一个说明性示例，其可用于实施本发明的各个实施例。如在该附图中可见的，计算机 101 具有计算单元 103。计算单元 103 通常包括处理单元 105 和系统存储器 107。处理单元 105 可为用于执行软件指令的任意类型的处理装置，但将可传统地为微处理器装置。系统存储器 107 可包括只读存储器（ROM）109 和随机存取存储器（RAM）111。如将由本领域普通技术人员所理解的，只读存储器（ROM）109 和随机存取存储器（RAM）111 两者可存储用于由处理单元 105 执行的软件指令。

[0100] 处理单元 105 和系统存储器 107 被直接地或间接地连接（通过总线 113 或替换的通信结构）至一个或多个周边装置。例如，处理单元 105 或系统存储器 107 可直接或间接连接至附加的贮存存储器，诸如硬盘驱动器 115、可移除磁盘驱动器 117、光盘驱动器 119 和闪存卡 121。处理单元 105 和系统存储器 107 还可直接或间接连接至一个或多个输入装置 123 和一个或多个输入装置 125。输入装置 123 可例如包括键盘、触摸屏、遥控板、指点装置（诸如鼠标、触摸板、触控笔、轨迹球或操纵杆）、扫描仪、摄像机或麦克风。输出装置 125 可包括例如监视器显示屏、触觉反馈装置、电视、打印机、音响、或喇叭。

[0101] 此外，计算单元 103 将被直接地或间接地连接至一个或多个网络界面 127，用于和网络通信。该类型的网络界面 127（有时也称作网络适配器或网络界面卡（NIC））根据一个或多个通信协议将数据和控制信号从计算单元 103 转换成网络信息，这些通信协议诸如传输控制协议（TCP）、互联网协议（IP）、和用户数据包协议（UDP）。这些协议在本领域中是周知的，且因此将不在此被详尽地讨论。界面 127 可采用任意合适的连接中介以连接至网络，这包括例如无线收发器、电源线适配器、调制解调器、或以太网连接。

[0102] 将理解，在以上具体列出的输入、输出和存储周边装置之外，计算装置可连接

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至多种其他周边装置，这包括一些可进行输入、输出和存储功能的那些，或者以上的组合。例如，计算机 101 可连接至数字音乐播放器，诸如 IPOD 品牌数字音乐播放器，其可从 Cupertino, California 的 Apple 公司获得。如在本领域中已知的，该类型的数字音乐播放器可用作计算机的输出装置（例如，将来自声音文件的音乐输出或将来自图像文件的图像输出）以及存储装置两者。此外，该类型的数字音乐播放器还可用作用于输入记录的运动信息的输入装置，如将在下文中更详尽地讨论的。

[0103] 在数字音乐播放器之外，计算机 101 可连接至或以其他方式包括一个或多个其他周边装置，诸如电话机。该电话机可例如为无线“智能手机”。在一个示例中，通信装置可为 IPHONE® 品牌的便携式通信装置，其可从位于 Cupertino, California 的 Apple 公司获得。如在本领域中已知的，该类型的电话机使用无线电频率传输通过无线网络通信。在简单的通信功能之外，“智能手机”还可向用户提供一个或多个数据管理功能，诸如发送、接收和浏览电子信息（诸如，电邮信息、SMS 文本信息等），记录或回放声音文件，记录或回放图像文件（例如，静态图表或动态影像文件）、浏览和使用文字编辑文件（例如，Microsoft Word 或 Excel 文件，或 Adobe Acrobat 文件）等。由于该类型电话机的数据管理能力，用户可将电话机和计算机 101 连接，从而其保持的数据可被同步。

[0104] 当然，其他类型的周边装置可包括在图 1 中输出的类型的计算机 101 中或以其他方式连接至其，如本领域中已知的。在一些情形中，周边装置可永久地或半永久地连接至计算单元 103。例如，对于许多计算机，计算单元 103、硬盘驱动器 117、可移除光盘驱动器 119 和显示屏被半永久地收纳在单个壳体中。但是，此外的其他周边装置可可移除地连接至计算机 101。计算机 101 可例如包括一个或多个通信端口，通过其周边装置可连接至计算单元 103（直接地或间接地通过总线 113）。这些通信端口可因此包括并行总线端口或串行总线端口，诸如使用通用串行总线（USB）标准或 IEEE1394 高速串行总线标准（例如，火线端口）的串行总线端口。替换地或附加地，计算机 101 可包括无线数据“端口”，诸如蓝牙接口、Wi-Fi 接口、红外数据端口等。

[0105] 应理解，根据本发明的各个示例采用的计算装置可包括较图 1 中示出的计算机 101 多的构件，较计算机 101 少的构件，或和计算机 101 不同的构件的组合。例如，本发明的一些实施例可采用一个或多个意图具有非常具体的功能的计算装置，诸如数字音乐播放器或服务器计算机。这些计算装置可忽略非必须的外设，诸如网络界面 115、可移除光盘驱动器 119、打印机、扫描仪、外置硬盘驱动器等。本发明的一些实施例可替换地或附加地采用意图能够实现宽范围的多种功能的计算装置，诸如台式机或笔记本个人计算机。这些计算装置可按需要具有外部装置或附加的构件的任意组合。

[0106] 运动信息监测装置

[0107] 图 2 示出了根据本发明的各个示例可采用的运动信息监测装置 201 的一个示例，用于测量对应于用户的运动活动的运动信息。如在该附图中示出的，运动信息监测装置 201 包括数字音乐播放器 203、电子界面装置 205、和运动参数测量装置 207。如将更详细地描述的，数字音乐播放器 203 被（可移除地）连接至电子界面装置 205，且该组合被用户在他或她进行运动活动（诸如跑步或步行）时佩带或以其他方式携带。附加地，数字音乐播放器 203 可包括电通信组件，用于产生和接收电话通信、短信息、多媒体信息等。在一个或多个示例中，数字音乐播放器 203 可对应于智能手机，该智能手机被配置为执行计算机应用、提供电

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通信能力、播放音频、视频、提供触觉反馈、访问局域网和广域网等。

[0108] 运动参数测量装置 207 还可被用户在他或她进行运动活动时佩带或携带，且其测量和由用户进行的运动活动相关的一个或多个运动参数。运动参数测量装置 207 传输对应于测量的运动参数的信号至电子界面装置 205。电子界面装置 205 从运动参数测量装置 207 接收信号，并提供接收的信息至数字音乐播放器 203。在一种或多种布置中，电子界面装置 205 可不被包括作为运动监测系统 201 的一部分。而是，数字音乐播放器 203 可包括一通信装置，其配置为从一个或多个运动测量传感器接收传感器数据，以及将指令传输至其。

[0109] 如在图 3 中更详尽地示出的，运动参数测量装置 207 包括一个或多个传感器 301，以测量与佩带或以其他方式使用运动参数测量装置 207 的人员相关的运动参数。通过示出的实施例，例如，传感器 301A 和 301B 可为加速度器（诸如压电加速度器），以沿两个正交方向测量运动参数测量装置 207 的加速度。运动参数测量装置 207 由用户携带或以其他方式佩带，以在用户锻炼时测量希望的运动参数。例如，如在图 4 中所示，运动参数测量装置 207 可在用户步行或跑步时位于用户的鞋 401 的鞋底中。通过该构造，传感器 301 将产生对应于用户的脚部的移动的电信号。如本领域所知的，这些信号可用于产生代表由用户进行的运动活动的运动数据（例如，速度和 / 或用户移动的距离）。在其他示例中，运动参数测量装置 207 可佩带在胸带上或佩带在用户的腕部上，或可并入在数字音乐播放器 203 中。运动参数测量装置 207 还包括处理器 303，以处理由传感器 301 输出的电信号。通过本发明的一些实施例，处理器 303 可为可编程微处理器。但是，对于本发明的此外的实施例，处理器 303 可为专用电路装置（诸如 ASIC）。处理器 303 可在来自传感器 301 的信号上进行任意希望的操作，诸如曲线平缓、噪声滤波、坏点移除、放大、求和、积分等。处理器 303 提供处理后的信号至传输器 307。运动参数测量装置 207 还包括电源 307，以按照需要提供电力至传感器 301、处理器 303、和传输器 305。电源 307 可例如为电池。

[0110] 运动参数测量装置 207 传输处理后的信号至电子界面装置 205，如图 4 所示，或直接传输至数字音乐播放器 203。现在返回至图 3，电子界面装置 205 包括接收器 309，其在运动参数测量装置 207 中接收由传输器 305 传输的处理过的信号。接收器 309 传送处理过的信号至第二处理器 311，该第二处理器进一步处理信号。处理器 303 可在来自传感器 301 的信号上进行任意希望的操作，诸如曲线平缓、噪声滤波、坏点移除、放大、求和、积分等。

[0111] 处理器 303 提供处理后的信号至数字音乐播放器 203。现在返回至图 2，在一种布置中，电子界面装置 205 包括物理地插入且连接至设置在数字音乐播放器 203 上的常见的输入端口 211 的连接器系统 209。其中连接有电子界面装置 205 的连接器系统 209 的输入端口 211 可为用于传输数据的任意希望类型的输入端口，诸如并行数据端口、串行数据端口、耳机或麦克风插口等。连接器系统 209 可包括任意合适的连接装置，诸如电线、针脚、电连接器等，以形成和设置在数字音乐播放器 203 的输入端口 211 中的对应的元件的电连接或其他合适的连接（例如，以允许界面装置 205 和数字音乐播放器 205 之间的电和 / 或数据通信）。如果需要或希望，可设置附加的固定元件，以牢固地将界面装置 205 连接至数字音乐播放器 203，诸如带、钩、搭扣、卡扣、夹子、口子、保持元件、机械式连接器等。

[0112] 现在返回至图 3，处理器 311 提供处理后的信号至计算单元 313。计算单元 313 可初始地将处理过的信号存储在存储器 315 中。而且，通过本发明的一些实施例，计算单元 313 可操作由运动信息监测装置 201 提供的处理过的信号，以产生对应于由用户进行的运

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动活动的运动数据组。例如，如果运动信息监测装置 201 包括用于测量用户的脚部的运动的加速度器，计算单元 313 可分析来自运动信息监测装置 201 的处理过的信号，以产生描述在用户的运动活动期间的特定时刻处的用户的速度以及在该特定时刻的每一个处用户行进的总距离的运动数据的组。用于从加速度信号确定用户的速度的各种技术在例如 2005 年 5 月 24 日授权至 Blackadar 等的题为“在脚部上监测用户活动(Monitoring Activity Of A User In Locomotion On Foot)”的美国专利 No. 6, 898, 550、2005 年 4 月 19 日授权至 Ohlenbusch 等的题为“在脚部上监测用户活动”的美国专利 No. 6, 882, 955、2005 年 4 月 5 日授权至 Darley 等的题为“在脚部上监测用户活动”的美国专利 No. 6, 876, 947、2002 年 12 月 10 授权至 Ohlenbusch 等的题为“在脚部上监测用户活动”的美国专利 No. 6, 493, 652、在 2001 年 10 月 2 日授权至 Blackadar 的题为“在脚部上检测人员的移动的开始和停止”的美国专利 No. 6, 298, 314、在 2000 年 4 月 18 日授权至 Gaudet 等的题为“测量运动中的人员的脚部接触时间和脚部抬起时间”的美国专利 No. 6, 052, 654、在 2000 年 1 月 25 日授权至 Gaudet 等的题为“测量运动中的人员的脚部接触时间和脚部抬起时间”的美国专利 No. 6, 018, 705 中描述，其每一个都通过引用的方式全文合并于此。

[0113] 运动数据组还可包括和每个速度值和 / 或每个距离值相关联的时间值。如果运动信息监测装置 201 可用于采集来自不同用户的运动信息，则运动数据计算单元 313 可附加地提醒用户以一方式标示他或她自身。标示信息可继而包括在从由运动信息监测装置 201 提供的信息产生的运动数据组中。一旦计算单元 313 已经从由运动信息监测装置 201 提供的信息产生运动数据组，则计算单元 313 可将运动数据组存储在存储器 315 中。如将在下文中更详尽地描述的，当数字音乐播放器 203 继而连接至实施运动信息采集工具的计算装置时，计算单元 313 将下载运动数据至位于远端计算装置上的显示配置工具。

[0114] 尽管为图 2-4 中示出的实施例描述了运动参数测量装置 207 和界面装置 205 之间的无线通信，可使用运动参数测量装置 207 和界面装置 205 之间任意希望的通信方式，而不背离本发明，包括有线的连接。而且，可提供将从来自运动参数测量装置 207 的物理或生理数据获取的数据布置成恰当的形式或格式，以在电子装置 210 显示或输出至其的任意希望的方式，而不背离本发明。例如，希望的话，运动参数测量装置 207 可特别地设计为和 / 或编程为和一个或多个具体的电子装置使用，例如预编程和 / 或配线为和具体的一个或多个装置操作且以适于这些装置的格式和形式提供输出数据。在该情形中，界面装置 205 可被推销且出售至具体的目标专用电子装置，诸如特定型号的数字音乐播放器和甚至其他电子装置，诸如电话、手表、个人数字助理等。作为另一替代方式，希望的话，界面装置 205 可被在后续的时间编程，以通过从互联网、磁盘、或其他源下载用于特定的电子装置的显示器或装置驱动器和 / 或格式数据而和宽的范围的不同电子装置一起操作。

[0115] 希望的话，根据本发明的至少一些示例，电子界面装置 205 和 / 或电子播放器装置 203 还可包括显示器 220 和 / 或用户输入系统 222，诸如一个或多个旋转输入装置、开关、按钮(如在图 2 中示出的示例中示出的)、鼠标或轨迹球元件、触摸屏等，或以上的组合。显示器 220 可被用于显示例如和由数字音乐播放器 203 正在播放的音乐相关的信息、和由数字音乐播放器 203 正在接收的运动信息信号相关的信息、由数字音乐播放器 203 从接收的运动信息信号产生的运动数据等。用户输入系统 222 可用于例如：控制经由界面装置 205 接收的输入数据的处理的一个或多个方面，控制输入数据接收(例如，时刻、接收的信息的类

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型、按需数据请求等)，控制数据输出至电子装置 203 或由电子装置 203 进行的数据输出，控制运动参数测量装置 207 等。替换地或附加地，希望的话，数字音乐播放器 203 上的输入系统(例如，按钮 222、触摸屏、基于数字转换器 / 触控笔的输入、旋转输入装置、轨迹球或滚动球、鼠标等)可用于提供用户输入数据至界面装置 205 和 / 或至运动参数测量装置 207。作为又一示例，希望的话，可为界面装置 205 和 / 或数字音乐播放器 203 设置语音输入系统，以示例性地允许经由语音指令的用户输入。可提供任意其他希望的类型的用户输入系统以控制任意系统元件和 / 或用于任意目的，而不背离本发明。

[0116] 数字音乐播放器 203 可包括附加的输入和 / 或输出元件，例如，诸如图 2 中示出的端口 224 和 226、用于耳机(或其他听觉输出)、功率供应、无线通信、红外输入、麦克风输入或其他装置。希望的话，且如果这些端口 224 和 / 或 226 将在界面装置 205 被附连至电子装置 203 时被覆盖，则界面装置 205 可装备有和端口 224 和 / 或 226 类似的外部端口，且界面装置 205 中可设置内部电路以允许用户将相同的附加的装置插入界面装置 205 中，因为他们可能插入数字音乐播放器 203 而仍然利用相同的功能(例如，以由此允许必须的数据、信号、功率和 / 或信息传输通过界面装置 205 至用户、至另一输出、和 / 或至数字音乐播放器 203)。

[0117] 应理解，尽管上述的本发明的一些具体实施例涉及数字音乐播放器 203，可使用任意便携电子装置实施本发明的替换性示例。例如，通过本发明的一些实施例，运动参数测量装置 207 可结合移动电话、手表、个人数字助理、另一类型的音乐播放器(诸如 CD 或卫星广播音乐播放器)、便携式电脑或任意其他希望的电子装置一起使用。此外，本发明的一些实施例可替换地或附加地不使用界面装置 205。例如，运动参数测量装置 207 可配置为使用蓝牙无线通信协议通信，从而其可和带蓝牙功能移动电话、个人数字助理、手表或个人电脑一起使用。当然，可使用此外的其他无线或有限通信技术，而忽略界面装置 205。

[0118] 还将理解，尽管为了便于理解已经描述了运动参数测量装置 207 的具体示例，可将任意类型的希望的运动参数测量装置 207 和本发明的各个实施例一起使用。例如，通过本发明的一些实施例，运动参数测量装置 207 可为心率监测器、血氧监测器、卫星定位装置(例如，全球定位卫星(GPS)导航装置)或其他定位系统、测量用户的活动的装置(例如，EKG 监测器)、或测量用户的一个或多个物理参数的任意其他装置。此外，运动参数测量装置 207 可测量由用户操作的一些装置的一个或多个操作参数，诸如在自行车上移动的速度和 / 或距离；使用踏车、划船器、椭圆机、固定自行车等进行的速度和 / 或功；以及使用由用户穿戴的滑板(滑水或滑雪)、滑冰鞋(旱冰或真冰)或雪鞋等行进的速度和 / 或距离；等。

[0119] 而且，尽管已经将运动参数测量装置 207 描述为和数字音乐播放器 203 或其他从运动参数测量装置 207 接收信号的便携电子装置分立，在本发明的一些实施例中，运动参数测量装置 207 可合并入数字音乐播放器 203 或其他便携电子装置中。例如，本发明的一些实施例可采用并入加速度器、卫星定位装置或用于测量运动活动的任意其他希望的装置的音乐播放器、移动电话、手表或个人数字助理。此外，应理解本发明的各个实施例可采用多个运动参数测量装置 207，其并入在数字音乐播放器 203 或其他便携式电子装置中、和数字音乐播放器 203 或其他便携式电子装置分立、或以上的一些组合。

[0120] 运动采集和显示工具

[0121] 图 5 示出了根据本发明的各个实施例可用于采集和 / 或显示运动数据的运动

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信息采集和显示装置的示例。如将在下文中更详尽的讨论的，运动信息采集和显示装置 501 可采集和显示运动数据两者。运动信息采集和显示装置 501 可使用此前描述的计算装置 101 的任意合适的变体实施。但是在一些情形中，信息采集和显示装置 501 可使用台式机或笔记本个人计算机商用地实现，其例如使用来自 Redmond, Washington 的 Microsoft Corporation 可购得的 Microsoft Windows 操作系统的一版本，使用来自 Cupertino, California 的 Apple Corporation 可购得的 Apple Macintosh 操作系统的一版本，或从多个商家可购得的 Unix 或 Linux 操作系统的一版本。

[0122] 如在图 5 中所示，运动信息采集和显示装置 501 包括用于从运动信息监测装置 201 接收数据的界面 503。界面 503 可使用例如电子构件、软件构件（诸如应用程序接口（APIs））、或以上的一些组合实施。运动信息采集和显示装置 501 还包括运动数据采集模块 505。在本发明的多个实施例中，运动数据采集模块 505 可检测存储一个或多个运动数据组的数字音乐播放器 203 或其他便携式电子装置何时被通过接口 503 连接至运动信息采集和显示装置 501 并和数字音乐播放器 203 或其他便携式电子装置建立通信进程以获取一个或多个运动数据组。在本发明的一些实施例中，运动数据采集模块 505 可在运动数据组已经在装置 501 获取且存储之后从数字音乐播放器 203 或其他便携式电子装置删除运动数据组。

[0123] 通过本发明的一些示例，运动数据采集模块 505 可在从数字音乐播放器 203 或其他便携式电子装置获取的运动数据组上进行一些其他的操作。例如，如果运动信息监测装置 201 可被用于从不同的用户采集运动信息，则运动数据采集模块 505 可附加地提醒用户标识他或她自身（如果该信息此前未由运动信息采集和显示装置 501 获取的话）。该标识信息可继而包括在获得的运动数据组中。如此前提及的，运动信息采集和显示装置 501 通常从由一个或多个运动参数测量装置 207 测量的信息产生运动数据组。但是通过本发明的一些实施例，运动信息采集和显示装置 501 可替代地存储由运动参数测量装置 207 提供的未处理信息。通过这些实施例，运动数据采集模块 505 可从数字音乐播放器 203 户或其他便携式电子装置获取未处理信息，并继而从未处理信息自身产生运动数据组。当然，本发明的此外的其他示例可按需要将从由运动参数测量装置 207 测得的未处理信息产生运动数据相关的功能在运动数据采集模块 505 和数字音乐播放器 203 或其他便携式电子装置之间分割。

[0124] 运动数据采集模块 505 可例如通过由计算装置 101 的计算单元 113 执行的软件指令实施。通过本发明的一些示例，运动数据采集模块 505 可通过传统的软件工具（诸如浏览器）实施。替换地，运动数据采集模块 505 可由专用软件工具或通过增强用于进行运动数据采集功能的传统软件工具实施。例如，运动数据采集模块 505 可由包括传统浏览器以进行各种功能的软件工具实施。这些功能可包括例如，在从数字音乐播放器 203 或其他便携式电子装置采集活动数据之外选择、购买和下载音乐和视频内容。

[0125] 一旦运动数据采集模块 505 已经采集由运动信息监测装置 201 提供的处理过的信号，则运动数据采集模块 505 通过接口模块 507 将运动数据组传输至运动数据显配置装置 601。运动信息采集和显示装置 501 可通过传统的网络（诸如互联网）和运动数据显配置装置 601 通信。通过这些构造，界面模块 507 可通过使用诸如网络接口卡的任意传统类型的网络接口而实施。当然，可替换地使用任意希望类型的硬件或软件组合，以允许运动数据

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采集模块 505 发送采集到的运动数据至运动数据显配置装置 601。通过本发明的一些实施例，运动数据采集模块 505 可自动地将采集的运动数据馈送至运动数据显配置装置 601。例如，运动数据采集模块 505 可尝试采集之后立刻、以预设的间隔时间、在检测到至运动数据显配置装置 601 的网络连接时将采集的运动数据馈送至运动数据显配置装置 601，或以上的一些组合。替换地或附加地，运动数据采集模块 505 可提醒用户表明何时采集的运动数据应被发送至运动数据显配置装置 601。

[0126] 图 6 示出了根据本发明的各个示例可采用的运动数据显配置装置 601 的示例。如附图所示，运动数据显配置装置 601 包括接口模块 603，用于和运动信息采集和显示装置 501 通信。如前所述，运动信息采集和显示装置 501 可通过传统的网络（诸如互联网）和运动数据显配置装置 601 通信。通过这些构造，界面模块 603 可通过使用诸如网络接口卡的任意传统类型的网络接口而实施。当然，可替换地使用任意希望类型的硬件或软件组合，以允许运动数据显示配置装置 601 与运动小型采集和显示装置 501 通信。

[0127] 运动数据显配置装置 601 还包括运动数据显示配置模块 605 和运动数据存储器 607。当运动数据显配置装置 601 的接口 603 从运动信息采集和显示装置 501 接收运动数据时，其提供接收到的运动数据至运动数据显示配置模块 605。运动数据显示配置模块 603 可继而将运动数据存储在运动数据存储器 607 中用于后续使用。如将在下文中更详细地讨论的，运动数据显示配置模块 605 还从运动数据存储器 607 获取数据，并配置获取的运动数据用于以对用户有意义的方式通过一个或多个用户接口显示。

[0128] 现在返回至图 5，当用户希望观察和他或她的运动活动（或他人的运动活动，如将在下文中更详细地讨论的），用户提交该请求至运动信息采集和显示装置 501。更特别地，用户可采用传统的输入和输出装置，诸如键盘、鼠标、显示器等。显示请求可继而通过传统的接口输入 / 输出接口 511 提供至运动数据显示模块 509。如本领域中周知的，接口输入 / 输出接口 511 可使用任意希望的硬件和软件的组合实施，这诸如用于检测和处理来自输入装置的输入并发送数据至输出装置或以其他方式控制其的传统的应用编程接口（APIs）。

[0129] 通过本发明的一些示例，运动数据显示模块 509 可使用用于接收输入的任意传统的工具以实施，以请求和控制数据的显示，并继而后续地以请求的方式显示数据。例如，运动数据显示模块 509 可使用传统的浏览器程序实施，诸如在计算单元 113 上执行的 Microsoft Internet Explorer、Mozilla Firefox 或 Opera。通过本发明的此外的其他实施例，运动数据显示模块 509 可使用已经被一个或多个显示工具增强的传统的浏览器程序实施，这些显示工具诸如 ActiveX 插件、Java script、或 Macromedia Flash Player 或 Adobe Flash Player 的一版本，其可从 San Jose, California 的 Adobe Systems 公司获得。在本发明的此外的其他实施例中，运动数据显示模块 509 可例如通过用于显示运动数据的专用软件工具实施。

[0130] 如将在下文中更详细地讨论的，当用户激活运动数据显示模块 509 时，他或她被提供有一用户界面，其提醒用户选择他或她希望观察的采集的运动数据、用户希望观察采集的运动数据的格式等。该用户界面可由运动数据显示模块 509、运动数据显示配置模块 605 或以上的一些组合产生。当用户采用提供的用户界面以提交观察运动数据的请求时，运动数据显示模块 509 传输该请求至运动活动显示配置模块 605。作为响应，运动数据显示配置模块 605 配置该请求的运动数据，以由运动数据显示模块 509 显示。例如，如将在下文中

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更详尽地描述的，用户可请求观察在一周的周期中每天用户跑的总距离。作为响应，运动数据显示配置模块 605 将从运动数据存储器 607 获取相关的距离数据。其将继而配置获取的距离数据以通过希望的图像（例如，条状图）显示，并提供配置后的运动数据至运动数据显示模块 509，以显示给用户。

[0131] 应指出，通过本发明的一些实施例，数据显示构造功能可在运动数据显示模块 509 和运动数据显示配置模块 605 之间分割。例如，如果运动数据显示模块 509 由简单的浏览器实施，则运动数据显示模块 509 可用作运动数据显示配置模块 605 的“瘦客户端”（thin client）。即，全部数据显示构造可能可由运动数据显示配置模块 605 进行。运动数据显示模块 509 可继而仅显示提供至其的信息。替换地，如果运动数据显示模块 509 由专用软件工具实施，则全部数据显示配置功能的大部分可由运动数据显示模块 509 实施。通过这些示例，运动数据显示配置模块 605 可仅用于存储和从运动数据存储器 607 获取运动数据。

[0132] 使用具有 GPS 功能的移动装置的运动活动监测

[0133] 如上所述可使用各种软件（例如图 5 中的运动显示模块 509）和硬件（例如图 2 中的数字音乐播放器和 / 或图 5 中的运动信息采集和显示装置 501）来追踪运动活动和提供该信息至个人。在一种布置中，软件和 / 或硬件可包括在诸如移动通信装置或移动计算装置的移动装置中。用于检测、采集、处理和显示运动信息的移动装置的使用可在多种环境中向运动员提供运动活动信息。例如，为了查看处理或采集的运动活动信息，运动员可使用他或她的移动装置，而不是需要使用固定计算系统。这样的移动装置可包括智能手机、移动电话、个人数据助理（PDA）、笔记本型计算装置、数字音乐播放器、平板电脑、腕戴式装置等。形为软件应用或小应用程序的计算机可执行指令可存储在移动装置中，允许移动装置进行各种运动活动追踪和监测功能。例如，移动装置可响应于个人的运动表现提供反馈、挑战、建议、鼓励以及其他数据。在一个示例中，计算装置可挑战个人进行较在此前的锻炼进程中更耗力或更困难的锻炼，以帮助该个人改进和实现更大的进步。通过实现更显著的进步，个人可更被激励继续常规地进行锻炼。在另一示例中，移动装置可被配置为基于他或她的表现和 / 或从其他个人处接收的评论和鼓励鼓励和激励个人。

[0134] 图 7 示出了示例性移动装置块状图，该装置可用于追踪运动活动信息，并提供各种类型的反馈至个人。在特定的示例中，移动装置可对应于诸如图 2 中的数字音乐播放器 203 的数字音乐播放器。移动装置 700 可包括处理器 701、RAM703、ROM705、数据库 707、无线电收发机 709、网络适配器 711、全球定位系统（GPS）装置 713、加速度器 715 和 I/O 适配器 717。诸如 RAM703 和 ROM705 的计算机可读介质可被配置为存储计算机可读指令，该指令在被执行时使得诸如移动装置 700 的装置进行此处描述的一个或多个功能。处理器 701 可被配置为进行各种计算和执行存储在 RAM703 和 ROM705 中的指令。数据库可提供数据的存储，这些数据包括用户信息、电话号码、网络地址、email 地址、软件、图像、文档等。I/O 适配器可配置为便于至一个或多个输入或输出装置的数据的接收和输出，输入和输出装置包括触摸屏、音箱、音频插口、实体键盘、麦克风等。

[0135] 在单个移动装置 700 中包括 GPS 装置 713 和加速度器 715 允许装置 700 在多种锻炼设置中记录运动活动数据。例如，如果个人在跑步机上跑步，GPS 装置 713 将可能为对于检测或提供显著的锻炼数据而言不稳定，这是因为个体总体地保持固定且 GPS 卫星信号可能不可用。这样的话，移动装置可替代地使用加速度器确定个人已经进行的步数、个人的速

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度 / 加速度(例如速度)等。在另一方面,如果个人在室外跑步,使得个人从一个位置移动至另一位置,GPS 装置 713 或来自于其的数据记录(例如,GPS 装置一直被激活,但记录被关闭和打开)可替代地被激活且使用。在一种或多种布置中,移动装置 700 可自动地检测是否应该使用 GPS 装置 713 或应该使用加速度器 715 (或是否应该记录来自 GPS 装置 713 或加速度器 715 的数据)。例如,如果装置 700 确定个人的位置不在改变,则可激活且使用加速度器 715 或记录来自其的数据(再次地,该装置可一直被激活,但来自该装置的数据的记录被打开和关闭)。在一些布置中,GPS 装置 713 和加速度器 715 两者可被彼此结合地使用,以提供附加的数据粒度(data granularity)和 / 或增加数据的准确性。其他传感器也可包括在移动装置 700 中(诸如心率监测装置),以提供附加类型的活动数据。附加地,在一些情形中,如果 GPS 不可用则可使用蜂窝三角定位(cellular triangulation)确定位置。

[0136] 在一种或多种布置中,移动装置 700 可自动在没有加速度器的 GPS 布置、没有 GPS 的加速度器布置或 GPS 和加速度器组合的布置(且在一些情形中,具有加速度器模式的蜂窝三角定位)之间切换。切换以及确定使用哪个模式可取决于多个因素,包括检测到的运动、GPS 信号强度和可用性、用户偏好、位置等。例如,如果 GPS 信号为低强度(例如,低于 50% 强度、低于 30% 强度、低于 10% 强度等),移动装置 700 可操作 GPS 装置 713 和加速度器 715 两者,从而加速度器 715 数据可补充任意可能缺失或不准确的 GPS 信息。替换地或附加地,GPS 数据和加速度器数据可被平均或以其他方式组合,以确定由用户进行的运动活动的量。在另一示例中,当信号强度位于预定水平之上(例如大于 50%、大于 70%、大于 90% 等)移动装置 700 可使用和记录来自 GPS 装置 613 的数据,而不使用和记录来自加速度器 715 的数据。在此外的另一示例中,如果移动装置 700 经由加速度器 715 检测到移动,但未使用 GPS 装置 713 检测到位置变化,则移动装置 700 对于该锻炼可使用加速度器 715,而不使用 GPS 装置 713。而且,如果装置 700 开始检测 GPS 信号,装置 700 可切换至 GPS 模式或组合的 GPS/ 加速器模式。在其他情形中,如果没有 GPS 信号可用和 / 或用户的位置在室内,则可使用加速度器 715 而不使用 GPS 装置 713。可使用 GPS (例如,位置、信号强度)或基于手动输入自动地确定用户位置。

[0137] 根据一种或多种布置,移动装置 700 可通过检测以预定的速度进行的步数、接收运动活动开始的用户标识、检测心率的升高(例如通过心率传感器)等而确定用户正在进行固定位置运动活动。在一个示例中,移动装置 700 可使用来自加速度器 715 的数据检测在阈值速度之上进行的步数。在检测到进行的步数之后,移动装置 700 可确定来自 GPS 装置 713 的 GPS 数据是否可用和 / 或标示位置变动。如果没有(例如,没有 GPS 信号或位置变动),移动装置 700 可记录该用户正在进行固定位置运动活动。移动装置 700 还可和用户确认该确定。附加地或替换地,移动装置 700 还可确定是否检测到升高的心率。

[0138] 在其他示例中,可将其他传感器和定位系统一起使用,以提供替换的或附加的活动信息。例如,如果定位系统没有检测到用户的物理位置的变动(或位于预定的阈值距离或高度之上的变动),则可使用心率传感器确定用户是否正在进行运动活动。附加地或替换地,GPS 装置 713 和 / 或加速度器 715 可和移动装置 700 物理地分离。例如,加速度器 715 可对应于腕戴式或和鞋整合的传感器。例如,GPS 装置 713 可并入在腕戴式装置中。移动装置 700 可使用各种无线或有线通信系统(包括蓝牙、Wi-Fi、红外等)和这些分立装置的每一个通信和从其接收数据。

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[0139] 移动装置 700 或其他计算系统可提供用于限定锻炼的多种功能和选项。例如，系统可提供通过划线启动跑步或通过在此前完成的跑步上改进启动跑步的用户选项。该跑步可继而被定制，且鼓励和 / 或状态信息可在跑步期间和之后提供至个体。

[0140] 限定跑步 - 综述

[0141] 使用诸如图 7 中的装置 700 的运动活动监测装置，用户可记录运动活动进程并记录来自其的数据。记录运动活动进程可包括限定活动的类型、活动的持续期间、将提供的音频、视频或触觉反馈等。信息可通过装置 700 上的一个或多个应用执行而输入。因此，用户可在移动环境中以及在参与运动活动之后短时间内设置运动活动进程。

[0142] 图 8 是示出了通过其用户可使用诸如图 7 的装置 700 或其他健身监测装置的移动装置限定跑步的示例性过程。在步骤 800 中，系统可接收对应于启动锻炼的命令的用户输入。例如，用户输入可包括用户在系统上可用的应用或功能选择锻炼选项。在块 805 中，系统可后续地响应于命令向用户提供多个锻炼选项。例如，系统可提供用于重复上次跑步、启动基础跑步、改进上次跑步、校准一个或多个感知装置、查看锻炼历史和 / 或设置目标的选项。选项可被分类，且在用户界面的分立的部分或屏显中显示。例如，主屏显可包括重复上次跑步选项、改进选项和基础跑步选项，而锻炼屏显可包括基础跑步选项、改进选项、目标设置选项、历史选项和校准选项。

[0143] 如果用户选择重复上次跑步选项，则可在步骤 810 中从数据库获取用户的最近的跑步。数据库可为系统自带的或可位于远端服务器中。系统可继而在步骤 815 中确定跑步进行的地点（例如室外或室内），这是因为跑步的位置可确定使用何种传感器以追踪活动。例如，如果此前的跑步发生在室外，在块 820 中系统可启动使用 GPS 装置追踪和监测的跑步。另一方面，如果该跑步发生在室内，系统可启动使用加速度器系统追踪和监测的跑步，如块 825 所示。跑步的初始化可包括激活相关固件、硬件和 / 或软件、限定锻炼参数（例如，对于室内设置消耗的卡路里而对于室外设置跑动目标）、产生锻炼界面（例如，对于室内跑步为健身房图像而对于室外跑步为室外风景）等。如此处注意到的，在一些布置中，如果锻炼允许使用 GPS，而仅非 GPS 装置可用于室内锻炼时，可使用加速度器和 GPS 系统两者以追踪各种锻炼统计数据。使用装置可包括记录来自该装置的数据并指令该装置在特定的时刻处（或持续地）传输数据。重复上次跑步还可包括使用和上次跑步相同的音乐列表或其他音频内容。附加地或替换地，用户可被提供有针对当前跑步定制音频内容的选项和机会。

[0144] 如果用户选择改进他或她的锻炼表现，则在块 830 中用户可被提供有第二组选项。选项可提供多种改进方法，包括跑特定的路径、跑得更快、跑得更长、跑得更远、创造 1K 或 5K 中的个人最佳成绩（以时间计算）、或创造距离跑步中的个人最佳成绩。如果用户选择完成特定路径的选项，则用户在块 835 中被提供有路径列表。路径列表可包括由用户此前跑动和 / 或保存的路径、从远端网络站点下载的路径、由好友或其他认识的人跑动的路径等。在一些布置中，路径可基于用户的过往运动表现（包括此前跑步的路径类型）推荐给用户。例如，用户可在基本平坦的地形上跑 3 英里，移动装置或其他系统可标示具有类似地形的类似距离的路径。在一些布置中，推荐的路径可包括寻求挑战用户的路径。例如，推荐可包括 3.5 英里和 4 英里路径或具有更显著的山路地形的路径。

[0145] 在另一方面，如果用户选择其他选项中的一个，则在块 840 中用户可被要求输入相应的改进量。在块 845 中，系统可后续地基于用户输入设置锻炼的目标。用户希望改进

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他或她的表现的量可以按照百分比或绝对值限定。例如，如果用户希望跑得更远，用户可以限定他希望跑的额外的英里数或英里数的百分比增加。取决于选择的改进类型，英里数的总量可继而基于最近的跑步或基于个人最佳成绩而计算出。在一个示例中，如果用户选择跑得更远的选项，则改进目标可基于用户的上次跑步限定。但是，如果用户选择创造距离跑步中的个人最佳成绩，则改进目标可自动地、半自动地、和／或手动地基于此前的或当前的个人最佳距离限定。例如，系统可自动地设置目标为在个人最佳距离之上特定的百分比(例如，5%)。替换地或附加地，用户可被给予选择锻炼的选项，由此他可能希望在此前记录的全部锻炼的基础上改进。

[0146] 如果用户从锻炼菜单选择目标设置选项，则在块 850 中用户可能被要求选择他愿意设置的目标的类型。目标的多种类型可包括距离、时间和卡路里。还可设置其他类型的目标，包括速度、心率、百分比坡度跑步等。在一种或多种布置中，用户可选择多种目标类型，继而设置跑步的多个目标参数。在选择目标类型之后，在块 855 中系统可显示目标列表至用户。目标列表包括一个或多个预定和／或自动限定的目标，诸如跑马拉松、跑动特定的时间(例如，30 分钟)和／或消耗特定量的卡路里(例如，300 卡路里)。目标列表还可向用户提供用于定制目标的选项。例如，如果对于跑 10 英里没有可用的预定选择，则用户可设置针对跑 10 英里定制的目标。在另一示例中，如果用户希望消耗 500 卡路里，但预定的卡路里目标是以 200 卡路里递增的，则用户可设置定制的 500 卡路里目标，而不是被强迫选择 400 或 600 卡路里。

[0147] 在用户已经选择了锻炼类型和／或限定了针对该锻炼类型的目标之后，系统在块 860 中可提醒用户选择他或她希望在锻炼中听的音乐的类型。多种选择可包括预定的播放列表、随机(例如，歌曲的随机选定或歌曲的随机顺序)或没有音乐。在块 865 中，系统可确定用户是否希望将锻炼信息公布在诸如 FACEBOOK 的社交网络站点上。替换地或附加地，系统可确定用户是否希望将锻炼数据同步至运动活动监测服务。如果是的话，则用户可被提醒输入各种标示或登录信息，从而系统可自动地访问用户账户，以及将信息同步或公布至其。用户还可被提醒输入公布或同步选项，包括信息是否对公众、选择的朋友或用户的组可用，全部数据是否被同步或仅特定类型的数据被同步(例如，卡路里、跑步的距离、路径)等。

[0148] 如果在块 870 中用户不希望公布或同步数据，或在用户已经完成了信息的同步／公布之后，在块 875 中，系统可允许用户限定锻炼在其中进行的环境。例如，用户可选择室内或室外锻炼。在一些布置中，用户可选择特定的位置或装备的类型。例如，用户可表示他或她希望在跑步机上跑步或使用椭圆机。根据限定的环境，系统可标示、选择和启动恰当的装置和传感器，以检测锻炼的结果，如关于块 820 和 825 所述的。在一些布置中，位置或环境的选择也可允许装置针对该特定的环境更准确地校准其传感器和装置。不同组的校准数据可存储用于不同的锻炼、锻炼的类型以及锻炼环境。

[0149] 也可在过程中提供其他运动活动类型设置选项。例如，设置可允许运动员表明是否将表现信息公布至社交网络站点或新闻汇总(news feed)、是否同步或发送数据至运动活动表现监测服务等。

[0150] 图 9 示出了另一示例性过程流程，通过其用户可限定和启动锻炼。图 9 的过程流程和图 8 中描述的类似，但包括附加的选项和特征。例如，图 9 的过程流程可包括在块 901-905 中允许用户选择基于其进行改进的过往跑步的改进选项。该系统可自动地选择用户将改进

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的锻炼参数，或用户可选择他或她希望改进的参数。替换地，用户可选择或期望在锻炼过程中的多个或全部参数（例如，卡路里和距离）上的改进。此外，过程流程可在块 907 中包括音频选项，其允许用户重叠各种环境噪音和声音，诸如城市噪音（例如，汽车鸣笛或驶过、警笛、孩童嬉戏等）、农村噪音（例如，蟋蟀、风声、农场动物噪声）等。环境噪声和声音可提供给用户，以和城市、位置和 / 或环境的列表相关联地选择。例如，列表可包括诸如纽约、华盛顿特区、波士顿、洛杉矶和芝加哥的城市以及诸如酒吧、俱乐部、公园、海滩等的位置。

[0151] 过程流程可包括其他选项，以在块 909 中允许用户选择他或她是否希望在锻炼中接收提醒，以进一步改进个人的锻炼。例如，在锻炼期间，系统可自动地产生和显示提醒，询问个人是否愿意将跑步时间增加额外的 5 分钟或是否愿意消耗额外的 50 卡路里。改进或附加的量可对应于未改进的目标 / 锻炼的百分比，该量将增加锻炼至在运动活动指标上超过个人最佳等。如果用户不希望接收该提醒或告示，则提醒可针对该锻炼被中止。替换地，如果用户选择接收提醒的选项，则用户还可被允许限定何时且在哪些条件下给出该提醒。例如，用户可表明该提醒仅在 1 小时跑步的最后的 30 分钟中给出，以及仅在用户的心率低于特定的量时给出。在另一示例中，用户可请求在个人处在将超过距离目标的步度上以及在以超过预计速度更快的速度跑步时提供该提醒。也可将各种其他类型的参数和条件用于限定寻求进一步改进个人的锻炼表现的提醒的触发器。

[0152] 根据一种或多种布置，用户可被提供有两种类型的改进锻炼选项。第一改进锻炼选项可被配置为提供基于在此前的锻炼之上的改进标准量（例如，不论个人，5% 的改进）而产生的改进锻炼选项。第二改进锻炼选项可被配置为基于用户的属性和 / 或过往锻炼统计数据产生改进锻炼。在一个示例中，合并进入用于第二改进锻炼选项的改进锻炼中的改进的量可被基于用户的此前的趋势动态地确定。替换地或附加地，为第二改进锻炼选项中的改进锻炼设置的改进的量可考虑用户的体重、身高、性别和 / 或以上的组合。例如，如果用户的趋势示出了在特定的时间框架上（例如，一个月）更慢的或更渐进的进步，则可设置更低的改进的量（例如，百分比改进），而如果用户的趋势示出了在特定的时间框架上更快的进步，则可使用更高的改进的量以产生改进锻炼。用于改进跑步或锻炼的推荐还可包括用于锻炼的特定的推荐路径、推荐的时刻或一周中哪天。在一个示例中，推荐可基于专用于由诸如 GPS 的定位系统确定的位置的天气预报。

[0153] 可产生各种类型的用户界面，以允许用户更方便地设置锻炼进程。例如，锻炼类型选择和限定、音频选择等可被图形化地示出。也可限定一系列用户界面，以逻辑地且高效地引导用户进行活动进程设置。

[0154] 图 10A 至 10G 示出了当个人开始初次跑步时可产生和显示的一系列用户界面。初次跑步可为此前没有记录的锻炼历史的个人的新的跑步。当用户创建初次跑步时，用户可初始地被显示以图 10A 的欢迎界面 1000。界面 1000 可显示用户和锻炼信息，包括此前跑步的次数 1001（例如，由于用户不具有此前记录的跑步其为 0）、平均速度 1003、持续期间 1005 和消耗的卡路里 1007。持续期间 1005 和消耗的卡路里 1007 测量值可分别为在进行的全部跑步上的总的持续期间以及总的消耗的卡路里，或可为每次跑步的均值。界面 1000 还可显示多个选项，其包括开始新的跑步的选项 1009 以及简介锻炼应用的特征的选项 1011。附加地或替换地，界面 1000 可包括访问锻炼应用的其他方面的选项，这包括用于显示此前记录的锻炼的历史选项 1013 以及设置选项 1015。选择设置选项 1015 可使得档案设置 / 编辑界

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面被显示。在一种布置中，如果该用户没有此前的跑步历史，则选择新的跑步选项 1009 也可使得档案设置 / 编辑界面被显示。

[0155] 在一个示例中，如果没有此前记录的跑步，则历史界面可为空。图 10G 示出了显示没有已保存的跑步的消息 1051 的历史界面（例如，在选择图 10A 的历史选项 1013 之后的显示）。界面还可包括跑步设置或启动选项 1053，以鼓励用户参与初次跑步。

[0156] 图 10B 示出了一档案设置 / 边界界面 1020，通过其用户可配置各种锻炼和锻炼记录参数。例如，界面 1020 可允许用户限定使用的测量单位以及设置用户的身高、体重和性别。档案设置 / 编辑界面 1020 可在用户选择开始新的跑步进程的选项（如在图 10A 中所示）和 / 或用户选择设置选项 1015（图 10A）之后被显示。可通过界面 1020 改变附加的或替换的参数。用户可被提供有选项 1021，以跳过档案设置 / 编辑功能。如果用户选择完成档案设置，则用户可使用选项 1023 保存档案信息。用户可通过选择主屏显浏览选项 1005 浏览至诸如主屏显 1000（图 10A）的其他界面和屏显。

[0157] 在用户完成设置他们的档案或在用户选择跳过档案限定菜单之后，用户可被提供有如图 10C 所示的跑步设置界面 1030。跑步设置界面 1030 可被配置为允许用户限定针对新的跑步的锻炼参数。例如，用户可定义跑步类型、在锻炼中将播放的音乐和位置，其每一个都将在下文中被详细描述。一旦这些参数已经被设置，则用户可使用选项 1031 开始跑步。

[0158] 图 10D 示出了跑步中途界面 1035，其中显示当前跑的距离 1037，以及速度 1038 和在锻炼中消耗的时间的量 1040。用户还可被提供有选项 1039，以控制音频内容的播放、改变被播放的音乐内容 1041 和结束锻炼 1043。

[0159] 在图 10E 中，在完成和结束跑步之后，界面 1045 显示了锻炼小结。例如，小结界面 1045 包括跑动的总距离 1051、速度 1052、跑步花费的总时间 1053 和消耗的卡路里 1055。如果跑步被使用 GPS 装置记录，则界面 1045 还可显示用于显示用户跑步的路径的选项。其他选项可包括使用用户的情绪或精神状态（例如，心情）标记跑步的选项 1056 和访问运动活动服务提供方站点的选项 1057。标记可涉及存储和活动数据的一个或多个参数或指标相关的元数据、属性或其他类型的信息。也可使用其他或附加的标签，包括标示在锻炼中使用的运动装备（例如，鞋）的标签和标明在锻炼中的天气的标签。通过使用使用的运动装备标记锻炼，系统可监测运动装备的磨损，或在达到用户的阈值量或磨损的阈值量（例如，使用该运动装备进行的运动活动的量）时推荐替换。在一个示例中，可通过跑动的距离测量磨损或用户的量 / 进行的运动活动。在其他示例中，可基于消耗的卡路里和 / 或速度确定进行的运动活动的量。标记运动装备还可提供关于产品如何且在何处被使用、期望的产品寿命时间、受欢迎度（例如，针对不同的体育项目）等的了解（例如，追踪）。因此，运动活动监测服务或产品提供方可使用该信息更好的针对、开发和 / 或改进产品。访问运动活动服务提供方站点可允许用户查看已经由用户的服务提供方采集的附加的锻炼信息。这可允许移动装置最小化移动装置中必须的存储器的量，而替代地将锻炼数据存储在服务提供方站点中。

[0160] 在用户完成他或她的初次跑步之后，诸如图 10F 的界面 1070 的历史界面可包括对应于初次跑步的条目 1075。可通过诸如跑步的距离的一个或多个锻炼统计数据在界面 1070 中标示锻炼条目 1075。附加地或替换地，诸如图标 1073 的各种图标或标签可和条目 1075 相关联地显示，以标示对于该条目 1075 可用的特定类型的信息。例如，图标 1073 可标

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示已为该锻炼记录了 GPS 路径。条目 1075 的选择可允许用户查看记录的 GPS 路径和关于该锻炼的其他细节(例如,消耗的卡路里、锻炼的持续期间、锻炼后用户的心情)。

[0161] 附加地或替换地,诸如图 10A 的界面 1000 的欢迎或主界面还可包括向用户提供激活或中止关于他或她的锻炼的反馈的能力的反馈选项。反馈可包括音频、视频、或触觉反馈,且可来自于其他运动员、好友、名人、家庭、服务提供方(例如,运动训练和监测服务)等。在一些示例中,反馈可包括配置为在用户达成特定的目标或达到具体的阈值之后在锻炼中被传输的音频、视频或触觉内容。反馈也可在用户达成了特定目标或达到了阈值时在锻炼之后被提供。在其他示例中,可基于诸如通过诸如 FACEBOOK 和 TWITTER 的社交网络出口从他人处接收到的评论的数量的其他触发事件而被提供。反馈选项还可包括各种粒度水平,以允许用户选择在锻炼中希望的反馈源以及不希望的反馈源。附加的反馈选项可包括是否在反馈中暂停在锻炼中播放的音频。

[0162] 反馈可为祝贺、鼓励或激励。例如,如果用户完成一定的目标,反馈消息可为祝贺。在一些示例中,如果用户不在完成目标的正轨上,则消息可为鼓励或激励。反馈还可包括关于改进的建议。因此,提供给用户的消息的类型可取决于用户的锻炼的结果或当前状态。监测装置或系统可被配置为取决于锻炼结果或状态自动地选择恰当的消息类型。

[0163] 在一个或多个示例中,设置锻炼可包括添加或限定希望的指导。指导可代表意图为指令性、管制性和结构性的反馈类型,且可在锻炼之前、之中和之后被提供,和可为专用于事件和 / 或专用于用户的。例如,指导可在用户已经选择马拉松作为锻炼事件的类型时提供专用于马拉松的指令。在另一示例中,指导可提供专用于间隔训练的指令(例如,跑步,减速至第一速度、加速至第二速度、放松、热身等)。间隔可基于包括身高、体重、性别、锻炼历史等的用户属性限定。因此,指令可基于专用于用户的间隔或专用于事件的将采取的动作而按照时间或按照距离被提示。可在用户限定希望的跑步之后选择恰当的知道(例如,指令),该用户限定可包括选择希望的跑步类型、距离、速度等。指导还可包括在锻炼之前、锻炼中和 / 或锻炼后提供至用户的建议或提议,且可被音频地、可视地和 / 或触觉地提供。例如,指令可通过使用振动、视觉标识或音频音调或语音指令而表明。

[0164] 指导还可专用于特定的位置和一天中的时刻。例如,如果给定的位置具有更显著的坡度分布(例如,旧金山),指导可包括用于改进斜坡跑步的推荐。在另一示例中,取决于代谢周期、用户偏好、用餐时间等,指导可在一天中早些时候或一天中晚些时候推荐较不耗力的锻炼。在此外的其他示例中,指导可提供关于各种类型的地形和 / 或在不同类型的天气状况中跑多快(诸如,速度)的推荐。

[0165] 在用户完成初次跑步之后,应用可提供反应记录的锻炼历史的不同用户界面。图 11A 至 11F 示出当用户完成和记录初次跑步后可产生和显示的一系列用户界面。图 11A 示出了可显示用于后续的跑步或锻炼的主界面 1100。替代于显示简介选项(例如,图 10A 中的 1011),主界面 1100 可显示允许用户进行在此前的锻炼基础上改进的锻炼。此前的锻炼可由用户选择或可被自动地选择。在一个示例中,选择的此前的锻炼可为最近的记录的锻炼。附加地,和图 10A 的界面 1000 中显示的通用图像不同,可在界面 1100 中显示总距离 1103 或用于全部记录的锻炼的其他指标。

[0166] 图 11B 示出了界面 1110,其可显示多种不同的锻炼 1111 或可由用户选择的锻炼类型。锻炼 1111 的每一个都可通过设置一目标而产生,该目标基于此前的锻炼量改进以预定

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的量。例如，在界面 1110 中，锻炼 1111 可通过将此前的锻炼的一个或多个参数增加 5% 或一些其他的百分比或预定的量而自动地产生。因此，用户能够挑战他或她自身跑的更远、更久、或更快。在一种或多种布置中，用户可选择此前的锻炼结果被增加的量，以限定建议的锻炼 1111。建议的锻炼 1111 的每一个可显示针对此前的锻炼 1113 记录的指标，以及关于当前的锻炼建议的指标或目标指标 1115。这允许用在选择每一个建议的锻炼 1111 时确定他或她希望实现的改进的量。

[0167] 作为通过图 11C 的界面 1120 选择改进锻炼的替换，用户可选择限定不基于此前的锻炼的跑步。和图 10C 的界面 1030 类似，界面 1120 允许用户限定跑步的各种参数，包括跑步类型、将在锻炼中播放的音频内容和位置。

[0168] 在一种或多种布置中，如果用户完成了改进跑步，则锻炼小结可包括附加的信息。例如，图 11D 的小结界面 1130 包括祝贺用户完成改进跑步的奖牌或其他标示 / 消息 1131。音频图标 1133 可提供一标示，标示音频消息对于用户可用。例如，音频消息可包括鼓励的言辞（例如，来自名人、好友或通用语音）。在下文中详细地描述喝彩或祝贺消息。在选择图标 1133 之后，消息可被播放。标识 / 消息 1131 也可在实现了其他预定的目标之后被显示，这些目标诸如进行了 50 此锻炼、跑了 100 英里总量（例如，在全部此前的锻炼上）、在一个进程中跑了 10 英里、在一个进程中跑了 26.2 英里、在单个进程中跑了 30 分钟、在全部进程上跑了 100 小时等。成就、目标和奖励可由用户、运动训练和 / 或监测服务提供方或由好友、家庭和认识的人限定。例如，如果用户在 5 天中跑了 10 英里，则好友可向用户提供折扣券。

[0169] 图 11E 示出了另一示例性历史界面 1140，其包括多个此前记录的锻炼的列表。列表中的每个条目 1141 都可通过跑步类型标签 1151 标明。例如，跑步类型标签 1151 可标示跑步是时间跑步、改进跑步、距离跑步和 / 或基础跑步。在路径标识 1143 之外，列表 1141 可包括用于每个条目的附加的标识，其可标示对应的锻炼的各个属性。例如，诸如图标 1145 的脸图标可标示对于锻炼标记了心情信息。此外，道路图标 1147 可标示锻炼在室外进行，而奖牌图标 1149 可标示在该锻炼中实现了成就。也可使用其他标识，包括用于标示在锻炼中使用的运动装备的类型的运动装备标识以及标明在锻炼中的天气的天气图标。历史界面 1140 可显示存储在装置上的全部锻炼的列表，或在一些情形中，仅显示预定数量的最近记录的锻炼。

[0170] 图 12A 和 12B 示出了可产生和显示的其他示例性主屏显界面。

[0171] 在跑步之前、跑步中途或跑步后提供至用户的消息可基于用户运动活动水平而被选定。因此，如果用户在预定的时间框架上表现出高水平的运动活动（例如，以在特定阈值之上的平均速度跑步或跑动了位于特定阈值之上的平均距离），则用户可被分类在第一运动活动水平中。如果用户表现出中等范围活动水平（例如，在平均速度或平均距离的两个阈值之间），则用户可被分类在第二运动活动水平中。如果用户表现出低范围活动水平（例如，在特定的阈值之下），则用户可被分类在第三运动活动水平中。附加地或替换地，活动水平可被按照需要或需求限定。消息、提议、信息、指导、建议等可继而被基于用户的运动活动水平分类选定。例如，如果用户被分类在低范围活动水平中，可更多指令性消息可提供至用户。此外，装置可在推荐产品至用户时更具体。

[0172] 在另一方面中，如果用户被分类在高范围活动水平中，则用户可能不被提供如和

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低活动水平用户一样多的指令或一样实质性的指令。例如，磨损警告（例如，没有产品推荐）可提供至高活动水平而具有具体产品推荐的磨损信息以及说明磨损产品的危害的信息可提供至低活动水平用户。中范围活动水平用户可提供有在提供至高活动水平和低活动水平用户的那些之间的水平的信息。在一个示例中，具有产品推荐的磨损警告可提供至中范围活动水平用户，而没有说明信息。

[0173] 消息也可取决于用户的活动水平而在音调、言辞、期望等上有所区别。例如，高活动水平用户可接收更强烈地挑战用户以达到特定的目标或超过设置目标的消息。对于低活动水平用户，消息可更鼓励而不是更挑战。例如，消息可提供鼓励言辞，即使在用户被预计不能达到特定的目标时。在另一示例中，消息可标明下用户可达到的下一活动水平，以及到达下一水平所需要的运动活动的量。因此，这样的信息可能是专用于活动水平和用户的。也可基于不同的用户活动水平应用消息中的其他类型的区别。

[0174] 限定跑步－跑步类型选择

[0175] 如在图 10C 中所示，跑步设置界面可允许用户限定跑步类型。例如，用户可能希望进行其中目标是达到特定的距离的距离跑步、其中目标是跑特定量的时间的时间跑步和 / 或没有设置目标的基础跑步。如果用户已经完成和记录了至少初次跑步，则用户还可能能够选择其中目标为从前的锻炼改进至少一个指标的改进跑步类型。该后一选项可在此前的跑步已经被完成和记录时可用且被显示。

[0176] 图 13A 和 13B 分别示出了当用户没有此前的跑步历史时用于显示的跑步类型选择界面 1300，以及当用户具有记录的跑步历史时可显示的跑步类型选择界面 1350。界面 1300 和 1350 可类似，除了在图 13B 的界面 1350 中引入“做得更多”或改进跑步选项 1353 之外。当前选择的跑步类型可通过诸如复选标记 1303 的标识标明。

[0177] 图 14A-14G 示出了用于定义时间的一系列用户界面。在图 14A 中，用户已经选择了时间选项。因此，时间跑步类型可被不同于其他可用的跑步类型地显示。继而，用户可被显示有图 14B 的时间选择界面 1400。时间选择界面 1400 可包括多个预定时间（例如，5 分钟、15 分钟、30 分钟、45 分钟和 60 分钟）以及定制时间选项。当前选择时间（例如，30 分钟）可通过选择标记 1403 标示。在用户已经选择时间之后，用户可返回至其中选择的跑步时间被和事件跑步类型选项相关联地显示的跑步类型选择界面。图 14C 示出了跑步类型界面 1430，其在用户选择时间跑步类型且选择对应的时间量（例如，通过图 14B 的界面 1400）时显示。

[0178] 图 14D 示出了界面 1440，其中用户选择定制时间选项。在图 14E 中，用户可被显示有界面 1450，通过其用户可手动地限定跑步时间的量。例如，滚轮 1453 和 1455 可被提供，以分别允许用户限定小时数和分钟数。当前选择时间可显示在部分 1457 中。如图 14C 一样，图 14F 可显示诸如界面 1460 的界面，其中选择的时间可和选择的跑步类型相关联地显示。在另一示例中，图 14G 示出了跑步设置主菜单，其标明诸如 30 分钟跑步的跑步类型。通过使用“30 分钟”标签标明跑步，应用和装置可向用户表明，当前限定的跑步类型是时间跑步且当前的时间设置是 30 分钟。

[0179] 图 15A-15F 示出了可在用户选择距离跑步类型时显示的一系列用户界面。和时间选择类似，用户可选择图 15A 的界面 1510 中的距离选项，且继而被显示有图 15B 的界面 1520 中的跑步距离选项的列表。例如，列表可包括 1K 跑步、5 英里跑步、5K 跑步、10K 跑步、

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半马拉松、马拉松和定制距离。选择诸如 5K 跑步的预定距离中的一个可使得 5K 预定距离包括选择标识。替换地，且如图 15C 和 15D 所示，用户可选择图 15C 的界面 1530，且后续地手动在图 15D 的界面 1540 中限定定制距离。在距离已经被限定之后，用户可返回至跑步类型选择界面，其中距离选项显示具有选择标识，如在图 15E 和 15F 中示出的。选择的距离也可和距离跑步类型选项相关联地显示。例如，在图 15E 的界面 1550 中，“5K”可显示在距离跑步类型选项中，以表明 5K 距离已经被限定为该跑步的目标。在另一示例中，图 15F 示出了界面 1560，其显示诸如 4.25 英里的定制跑动距离。

[0180] 用户可使用选项 1563 确认跑步类型和跑步类型设置是正确的且返回至主设置界面 1563。在返回到主跑步设置菜单之后，用户可查看当前限定的跑步参数。例如，图 15G 示出了界面 1570，其显示具有跑步类型参数的 12.3 英里的距离。和时间相对的英里数的标识可标明该跑步是距离跑步而不是时间跑步。

[0181] 图 16A-16F 示出了可在用户选择改进跑步类型时产生和显示的一系列用户界面。如在图 16A 的图 1600 中所示，“做得更多”或改进跑步选项可在用户选择改进跑步类型之后以交替的状态显示（在和时间跑步类型、基础跑步类型以及距离跑步类型比较时）。图 16B 和 16C 示出了改进选项列表和选择界面 1605 的部分 1610 和 1620。例如，在部分 1610 中，用户可从最后跑步选项（例如，为了超过此前的跑步的一个或多个统计数据）、最远的跑步、最久持续时间跑步和最快 1K 跑步中途选择。部分 1620 可包括最快 10K 跑步、最快半马拉松、最快马拉松和历史选择选项。改进跑步的目标可自动地限定为超过此前的跑步（例如，最久的跑步、最远的跑步或最快的 1K 跑步）以预定的量。在一个示例中，目标可为超过此前的锻炼以 5%。改进量可标示在图 16B 的部分 1607 中。改进量可为用户定义的、由装置或应用自动地设置、由运动活动监测服务提供方限定等。

[0182] 如果历史选项被选择（例如，从图 16C 的部分 1620），用户可被显示有记录的跑步的列表。图 16D 示出了显示记录的此前的跑步的列表的历史界面 1630。用户可继而从一个此前的跑步中选择，以改进。例如，用户可选择在此前的 14.7 英里跑步的基础上改进 5%。在选择了此前记录的 14.7 英里跑步之后，用户可被显示有图 16E 的界面 1640，其中用户可选择在其上进行改进的 14.7 英里中记录的统计数据或指标。系统和应用可通过添加的改进量而自动地计算目标。例如，用户可选择跑得更远、跑更长时间的量、以及以更快的速度跑步的选项。

[0183] 在希望的改进被选择和限定之后，用户可返回至诸如图 16F 的界面 1650 的跑步设置界面，其中选择的目标被和跑步类型相关联地显示。

[0184] 在一种或多种布置中，一旦希望的跑步类型被限定，则装置可进一步基于限定的跑步参数产生指导。在一个示例中，如果意图的跑步是更长的距离（例如，10 英里）而不同于此前的跑步为较短的距离（例如 3 英里）时，指导可建议更长的时间段用于热身。替换地或附加地，可取决于希望的速度或距离推荐不同的热身活动。指导可提供为来自运动员或名人的音频。在特定的示例中，用户可选择名人或周知的教练。每一个教练可对应于不同的训练难度和激进度水平。例如，一个教练可挑战用户超过他或她限定的目标以 10%（例如，通过在锻炼中提示用户跑得比平均步度更快）。其他教练可挑战用户超过他或她限定的目标以 30%（例如，通过在锻炼中更多次地提示用户跑得比平均速度快，和 / 或跑得更久）。一些教练可对应于不同类型的锻炼。例如，教练可能偏好间隔训练，而另一教练可能相较于更

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久更慢的跑步面偏好短程冲刺。

[0185] 附加地，提供至用户的建议和提示还可包括关于运动装备、服务和其他产品的推荐。例如，在确定用户正在计划新的锻炼时，如果用户的当前的鞋将达到阈值磨损状态，则装置可推荐购买一双新鞋。装置还可推荐各种类型的服饰，诸如压缩袜、护腿、T 恤、短裤、长裤等、用于大风区域的防风上衣、用于更冷的位置的保暖内衣、更热的气候中的头带或吸汗带等。根据一个或多个方面，可基于用户对于此前的锻炼的描述产生产品推荐。例如如果用户表明锻炼是疲惫的，装置可在开始下一次锻炼之前推荐购买体育饮料。在另一示例中，此前的一次或多次锻炼中标明的天气或地形可影响推荐的产品类型。例如，可推荐一种鞋的类型用于道路跑步，而可推荐另一种鞋的类型用于跑道跑步。在此外的另一示例中，可推荐吸湿服饰用于更暖的气候，而可推荐保暖服饰用于更冷的气候。

[0186] 多种其他类型的推荐和推荐因素可结合此处描述的方面一起使用。例如，推荐的产品可为数字的或服务相关的。特别地，装置可在完成跑步之后推荐访问路径地图应用或服务，以允许用户更好地将和路径的地形图相关的跑步的各个属性可视化。在另一示例中，指导或其他类型的提示和信息可包括位置专用装置。如果移动装置检测到用户即将开始特定的路径，则装置可提供关于沿该路径的各种地形的建议。在特定的示例中，装置可取决于位置专用信息或属性（包括地形、天气、坡度、海拔等）而提供指导（例如，跑多快、在哪跑的更慢或更快、在路径的特定部分中消耗多少能量）。如本文所述，可使用 GPS 装置或通过使用经纬度、邮编、区号、城市名、和 / 或以上的组合手动地标明位置而检测位置。其他类型的位置信息可包括用户在特定的区域中（国家的地区、全世界、特定的路径、城市、州、邮编、区号等）跑步的次数。位置专用信息还可在锻炼中在用户达到或来自至一位置的限定量的距离之内时提供。

[0187] 限定跑步 - 训练音频和环境选择

[0188] 结合选择跑步类型，用户还可选择在锻炼中播放的音频内容。用户还可选择没有任何在锻炼中播放的音频内容。图 17 示出了从界面 1700 选择音乐选项的用户。音乐选项可包括关于当前选择的音频选项的屏显。例如，如果没有已经选择的音频内容，则单词“None”可显示在选择按键中。替换地，可显示选择的播放列表名或选择算法 / 参数（例如，随机、音乐类型）。

[0189] 图 18A-18E 示出了在用户选择音频内容定义选项之后可产生和显示的一系列音频内容选项界面。例如，在图 18A 中，界面 1800 可包括多个预定的音频内容选项，其包括播放列表选择选项、随机选项、正在播放选项和没有音乐选项。随机选项可允许用户从全部可用的歌曲中随机地选择歌曲。在一些布置中，随机选项也可以随机的顺序播放音频内容（例如，不必须根据其中音频内容存储的顺序或列出在全部可用歌曲的数据库中的顺序）。选择现在播放选项可使得当前的播放列表或音频内容分类、艺术家、专辑等被选择。如果当前未在播放音频，则现在播放选项可选择最近播放或选择的音频内容。图 18B 示出了跑步设置界面 1810，其中现在播放选项的用户选择反映在音乐选择选项中。

[0190] 在另一方面，如果用户选择播放列表选项（如在图 18C 中所示），用户可被显示有播放列表界面。图 18D 示出了示例性播放列表选择界面，即，界面 1830，其中用户可创建新的列表、选择最喜欢的跑步混合播放列表、包括全部购买的音乐的播放列表以及包括最常播放的 25 个音频条目的播放列表。最喜欢的跑步混合播放列表可由装置基于音频内容或音

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频内容列表在锻炼中播放的频率而自动产生。因此，最喜欢的跑步混合播放列表可不同于最常播放的 25 个音频项，这是因为最常播放的 25 个音频项可基于锻炼和非锻炼时间中的总频率，而最喜欢的跑步混合播放列表可能仅基于在锻炼中播放的音频内容而产生。

[0191] 通过选择列表创建选项，用户可被在图 18E 的歌曲选择界面 1840 中提供有音频内容列表 1841。用户可能能够使用选项 1843 对音频内容项分类。例如，用户可通过列表成员、艺术家、歌曲和视频来对列表分类或查看列表。用户可通过从列表选择每个希望的项而添加音频内容项至列表。添加 / 移除标示 1845 可取决于对应的音频内容是否当前存在于正在创建的播放列表中而改变外观。例如，如果音频内容项不在播放列表中，标识 1845 可显示为加号，而如果音频内容在播放列表中，标识 1845 可显示为减号。一旦用户已经完成了添加音频内容至播放列表，则用户可选择选项 1847 以继续跑步设置。

[0192] 替换地，用户可通过选择取消选项 1849 而取消播放列表的创建。在一种或多种布置中，可基于在这些音频内容项中的用户的此前的锻炼表现而推荐或建议音频内容至用户。例如，如果用户在特定的音频内容项中以平均速度之上的速度跑步或跑步平均距离之上的距离，则该装置可建议该音频内容项被添加至播放列表。可将相同的过程用于自动地产生建议的列表。例如，可通过选择在其中用户表现出最佳锻炼表现的 25、30、40、50 或其他数目的歌曲（例如，如由诸如消耗的卡路里、距离、速度和 / 或以上的组合所限定的）产生播放列表。

[0193] 根据一种或多种布置，移动装置和锻炼监测应用可基于锻炼的持续期间而选择和 / 或建议音频。锻炼的持续期间可为用户限定的，或可基于相同长度或类型的此前的锻炼而估计 / 预估。例如，如果用户此前在 45 分钟跑了 5 英里，移动装置或训练应用可预计将进行的 5 英里跑步锻炼的用时。一旦已经确定了用时，则移动装置或应用可继而基于期望的用时为将进行的锻炼选择一个或多个音频内容项，诸如音乐、音频书、喜剧、网络广播等。因此，在上述示例中，移动装置可选择内容以匹配 45 分钟用时的跑步。在一些构造中，移动装置可在每个内容选择之间增加预定的间隔（例如，1 秒、2 秒、3 秒、5 秒、10 秒等）。间隔可计入音频内容的总用时中。视频内容或视频和音频内容的混合可被以类似的方式选择。

[0194] 用户可按照需要接受或拒绝建议的播放列表，或可编辑播放列表。播放列表可显示具有总用时的标识（具有和 / 或不具有在内容项之间插入的间隔）。相应地，在用户变动播放列表时，用时可实时地更新。附加地，内容用时可对照锻炼用时显示出，以用于更方便的视觉对照。例如，锻炼用时可显示为第一条，而内容用时被显示为重叠第一条的第二条。可使用其他视觉标示（例如，饼状图）。

[0195] 在音乐选择和跑步类型定义之外，用户可进一步限定锻炼的位置。图 19A-19C 示出了一系列位置限定界面。在用户选择了位置设置选项之后，用户可被显示有图 19B 的界面 1900 中的多个可用预定位置 1901。位置 1901 可包括室外环境和室内锻炼环境。可限定其他位置和其他类型的位置，诸如城市、地标和其他分类的位置（诸如公园）。如此处注意到的，特定位置或位置类型的选择可影响可用于运动活动监测的传感器或装置的类型。附加地或替换地，用于测量运动活动的算法也可受选择的位置的影响。

[0196] 图 20A-20Z 以及图 21A-21D 示出了可显示用于设置跑步的附加的示例性界面。例如，图 20N 示出了一界面，其允许用户重复此前的跑步（例如，具有相同的目标、路径、装备、音乐）。图 20P、20Q、20S 和 20T 示出了示例性用户界面，通过其用户可手动地限定用于改进

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跑步的目标。用户可改动用户希望完成该跑步的速度。界面可提供由选择的速度反映的改进的量的标识。例如，8:00/mi 可代表在 8:15/mi 的最快速度上 3% 的改进。在另一示例中，3.5mi 可代表在此前的最远的 3.2 英里的跑步上的 10% 的改进。在又一示例中，16mi 目标的设置可代表在此前的最远的 14.7mi 的跑步上的 9% 的改进。

[0197] 图 20X 和 20Y 示出了在用户达到目标或目标后可显示的示例性界面。路径跑步可包括用户希望选择具体的路径的跑步。路径可被列出，如在图 20Y 中示出的，其具有相应的路径信息，诸如该路径的此前的跑步时间，或该路径的距离。跑步时间可对应于对于该路径实现的最快时间，或可对应于最近完成的时间。其他路径信息可包括用于该路径的运动装备的标识、路径的平均、最低和 / 或最高速度、已经跑过该路径的用户的数量等。

[0198] 跑步中途

[0199] 图 22A-22D 在用户的锻炼中可显示至用户的不同的示例性界面。例如，图 22A 和 22B 示出了横屏模式中的跑步中途界面，而图 22C 和 22D 示出了竖屏模式中的跑步中途界面。在图 22A 和 22C 中，界面 2200 显示了当前的锻炼进度 2203（例如，距离、时间和速度）、正在播放的音频内容、以及音频内容暂停时显示跑步类型 2207。界面 2200 还可包括播放选项 2209（例如，继续或开始播放音频内容）。在音频暂停时，界面 2200 可提供选项 2211 和 2213，以分别改变改变音乐或结束锻炼。界面 2200 还可提供附加的标示，诸如 GPS 标识 2215，以标示 GPS 信息 / 数据何时可用，以及锁定标识 2217，以标示装置是否被锁定输入（例如，阻止意外的输入）。在一种或多种布置中，背景颜色或界面 2200 的一个或多个可视元件的其他可视外观特征可取决于当前的速度、距离、朝向目标的进度等而变动。在一个示例中，颜色或其他视觉特质可取决于用户是否被预计超过目标、用户是否位于满足目标的正轨上和 / 或用户是否被预计不能满足目标而变动。例如，绿色背景可标示用户预计超过目标以特定的量，而黄色可标示用户预计超过目标（例如，达到目标，但不超过目标以特定的量）。红色可表示用户预计不能满足目标。

[0200] 图 22B 和 22D 中的界面 2250 在音频内容仍在播放的同时显示进度信息。界面 2250 可包括与图 22A 和 22C 的界面 2200 中显示的那些类似的信息，但与显示改变音乐选项和结束锻炼选项不同，界面 2250 可包括动力歌曲选项 2251。动力歌曲 2251 允许用户激活他或她可能觉得特别激励的歌曲。因此，如果用户感觉他或她正在减速，或替换地，感觉他们具有很多能量，则用户可激活动力歌曲以将在该锻炼段中的表现最大化。在一种或多种布置中，界面 2250 可包括指导用户如何锁定界面以阻止意外的输入的指令性消息。消息可示例性地包括敲击或以其他方式与锁定标识 2253 交互。

[0201] 在一些布置中，可能尚未选择动力歌曲或没有动力歌曲可用。因此，界面可能不提供动力歌曲选项。图 23A 和 23B 示出了示例性跑步中途界面，其显示不具有动力歌曲选项的锻炼信息。

[0202] 图 24A-24F 示出了根据此处描述的一个或多个方面的在用户锁定界面（例如，为了阻止输入）或在在其中没有检测到用户输入的时间周期过去之后可显示的示例性锁定界面。例如，图 24A-24C 示出用户可通过将锁定符号 2401 从左方位置移动至右方位置而解锁界面。解锁过程可不仅由符号 2401 的位置标示，且也通过填充诸如图像 2403 的轮廓图像而标示。即，装置可在图像 2403 被完全填充之后被解锁用于接收输入。填充图像 240 可通过将符号 2401 从左方位置移动到右方位置而完成。可将各种不同的动作、图样和图像用于

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解锁装置。例如，图 24D-24F 示出了界面 2410，其中解锁符号由加号 2413 代表，且其中用户必须沿从 2415 起的弯曲的复选标记路径移动符号 2413。移动路径可对应于图像（例如图像 2417）或其部分的形状或外观。

[0203] 在一些实施例中，锁定图标或图像可预定，以及可从锁定图标或图像的菜单中选择。例如，可用的锁定图标和图像可从联机站点下载。因此，用户可定制在锻炼训练应用中使用的锁定图标或图像。附加地，在一些示例中，用于训练应用的锁定图标或图像可不同于当应用未在装置上使用时使用的锁定图标或图像。

[0204] 图 25A-25E 示出了可用于传输 GPS 可用性和状态的不同的示例性用户界面。例如，图 25A 示出了在信号搜索模式中的 GPS 标识 2501。图 25B 使出了如果没有信号可用或被检测到时的 GPS 标识 2501。特别地，GPS 标识 2501 的外部环可以第一状态显示出（例如，作为轮廓线，或基本为透明的）。图 25C 和 25D 示出了处在第二和第三状态中的 GPS 标识 2501，其分别标示弱和强信号。信号强度可由标识 2501 的各个方面代表，包括透明水平（例如，信号越弱则越透明）、颜色、图样、动画（例如，旋转、闪烁、渐入渐出等）和 / 或以上的组合。

[0205] 在一种或多种布置中，如果 GPS 信号弱，则可显示信息，将其告知用户。例如，图 25E 的界面 2520 显示消息 2521，其标示 GPS 信号弱，且跑步的时间和内容仍然被追踪。例如，替代在其不可用时使用 GPS 数据，装置可激活和 / 或开始记录加速度器数据。在一种或多种布置中，加速度器或其他传感器（例如，蜂窝三角定位）的使用也可在界面中可视地标示（例如，使用图标、词等）。

[0206] 附加地，用户可选择图 25A-25D 的 GPS 标识 2501，以查看标明用户的当前位置的地图。其他选项或标识也可显示，以允许用户访问地图模式。图 25F 示出了地图 2530，其中用户的位置由标识 2533 标明。

[0207] 用户可在检测到多种事件之后在跑步过程中被提供有多种警报。例如，在图 26A 的界面 2600 中，用户可被提供有标示跑步被暂停的消息。消息还可包括关于如何继续锻炼的指令（例如，敲击以继续）。在另一示例中，图 26B 的界面 2650 可在检测到电池将耗尽时显示消息。消息可建议用户在电池耗尽之前保存锻炼。当电池被预计将在特定的时间量中耗尽时（例如，5 分钟、10 分钟、15 分钟、30 秒等），显示该消息。

[0208] 图 27A-27H 示出了在用户进行跑步时可显示的附加的或替换的用户界面。例如，图 27C 示出了界面，其显示提供用于中止按键和激活手势命令的指令的告示消息。手势可包括对应于各种命令的触摸敏感动作。例如，可将将用户的手指滑动至右方用于转至此前的音频内容项，将将用户的手指滑动至左方用于转至下一音频内容项。在另一示例中，用户可轻弹或向下滑动（例如，相对于装置的取向）以接收语音反馈。语音反馈可包括当前进度量（例如，当前跑的距离、时间的量、速度、消耗的卡路里）的语音化。此外，敲击一次可对应于暂停跑步和 / 或音频内容，而敲击两次可自动地激活动力歌曲。因此，用户可能不需要查看显示屏以控制装置。此外，对于用户恰当地调节应用和装置的功能和特征可能不需要显示包括视觉选项和按键的信息。

[0209] 在图 27G 中，显示了用于当用户在锻炼中接到语音来电的界面。可自动地显示界面，替代在图 27C 和 27D 中显示的跑步中途锻炼界面。如果用户接通来电，则锻炼和音频内容的播放可被自动地暂停。替换地，如果用户拒接来电，则锻炼可自动地继续，而没有中断（例如，图 27C 和 27D 的界面可再次被显示）。

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[0210] 在选择音频内容之外，健身监测装置和应用可播放其他的音频内容，其被配置为鼓励和告知用户特定的事件或情形。例如，诸如喇叭声、掌声、炮竹或其他总体地鼓励性的音频可在用户达到特定里程碑或目标时播放，该里程碑或目标诸如完成每英里、跑了 1K、针对特定的距离设置了新的更快的速度等。在其他示例中，用户可被提供有鼓励或指令性消息，诸如，“你比目标速度速度落后 5 秒，加速”或“你比目标速度提前 20 秒，保持”。其他消息可包括“你达到了你的目标的中途，且你比目标速度（领先 / 落后）”和“即将抵达，能再跑一支歌曲的长度么？双击以接受！”。在后一示例中，用户可被挑战以在跑步中途在跑步上改进。用户可接受挑战，此时锻炼可根据挑战自动地延长（例如，将跑步延长多一支歌）。

[0211] 图 28A 和 28B 示出了根据此处描述的一个或多个方面，可实质为文本且可伴随有相应的音频消息的附加的示例性警报。例如，在图 28A 的界面中，用户被提供有警报，挑战他或她超过特定路径的最佳时间（例如，如果该路径在此前跑过的话）。在图 28B 的界面中，用户可被提供有挑战警报，以保持当前的速度，继而达成最佳路径时间。在每一个情形中，可使用各种类型的手势或其他的交互以接受挑战。这些交互可包括敲击装置的屏幕、做手势、说出语音命令、按压装置上的物理按键等。

[0212] 音频消息也可提供建议或警告。例如，消息可标示即将在路径上（例如在 0.25 英里内、在 0.5 英里内等）存在山地。

[0213] 附加地，装置可提供跑步中的建议，以帮助用户实现特定的目标。建议或信息可例如包括指导用户开始慢速以预定量的时间，且在第二时间量的过程上加速至希望的或目标速度。如所述，提示和建议可由真人运动员 / 或其他健身名人提供。在一些布置中，提示和建议可为位置专用的。例如，移动装置可基于 GPS 信息检测在路径上跑步的其他用户，且提供标示用户相对于其他用户的表现的标识。在其他示例中，移动装置可提供关于地标、地形、天气、坡度等的信息。在特定的示例中，用户可在达到路径的一部分的预定量的时间之前被提供关于路径的该部分的建议。系统可基于当前的速度和距离计算用户到达路径的该部分之前的时间的量。

[0214] 在另一示例或布置中，位置专用信息可在跑步过程中提供给用户。例如，基于 GPS 或其他定位系统信号，运动监测装置可确定即将经过地标或兴趣点。装置可因此获取和地标或兴趣点相关联的音频或视频信息，并在跑步中途提供至用户，且在一些情形中，在用户经过兴趣点时提供至用户。例如，可基于用户的当前检测到的速度和距离兴趣点的距离确定产生音频和视频信息的时刻。

[0215] 跑步后

[0216] 在用户完成他或她的跑步之后，用户可被提供有锻炼小结。附加地，装置可选择、产生和 / 或显示用户已经达到目标或里程碑的鼓励言辞或标识。例如，用户可在用户记录了他或她的最长跑步（持续期间或距离）或最快的跑步（例如，对于 1K、10L 或其他预定的距离）时接收到掌声或激励消息。该消息可实质为文本的，包括音频输出、提供触觉反馈和 / 或以上的组合。锻炼小结可取决于锻炼的位置（例如，室内或室外）而包括不同的信息或选项。例如，室内锻炼的锻炼小结可包括校准功能，以确保记录的数据的准确性，而室外锻炼小结可能不包括校准功能。锻炼小结功能的不同可对 GPS 装置能够追踪的距离和 / 或速度的准确性有贡献。

[0217] 图 29 示出了室内跑步的锻炼小结。在诸如跑步的距离、速度、时间和消耗的卡路

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里的统计数据之外，界面 2900 包括校准跑步选项 2901、心情标签选项 2903 和服务提供方站点选项 2905。选择校准跑步选项 2901 可允许用户确保记录的跑步的统计数据是准确的。例如，如果装置确定用户已经跑了 4 英里，而用户实际跑了 4.25 英里，则用户可通过校准选项 2901 调节该量。

[0218] 图 30A-30C 示出了一系列用户界面，其中用户可校准距离跑步。例如，在图 30A 的界面 3001 中，锻炼小结标示装置检测到用户跑动了共 4.03 英里。如果该值不准确，则用户可选择校准选项 3003。图 30B 示出了校准界面 3010，其中用户可使用滚轮 3011 和 3013 选择实际跑的英里数。一旦用户已经完成校准，则用户可返回至诸如图 30C 的界面 3020 的锻炼小结界面。界面 3020 可继而包括经校准的距离，而不是由装置检测到的原始距离。

[0219] 图 31A-31C 示出了附加的示例性界面，通过其用户可校准加速度器或非 GPS 跑步。

[0220] 图 32A-32D 示出了示例性用户界面，通过其用户可基于各种类型的信息和参数标记跑步，这些信息和参数包括位置专用属性。例如，在图 32B 的界面 3201 中，用户可通过选择心情标识 3203 而标示他或她在跑步之后的感受、通过选择天气选项 3205 而标示天气状况、通过选择地形选项 3207 而标示地形类型以及在记录框 3209 中输入备注。天气在一些情形中可使用 GPS 功能自动地标记。即，移动装置可自动地使用 GPS 装置获取检测到的给定位置的天气，并使用该获取的天气数据标记该锻炼。地形选项 3207 可包括诸如跑步机的锻炼装置、诸如直路、土路、弯路的室外地形等。地形还可基于接收到的 GPS 信息被自动地记录。在一些情形中，用户可能不被要求输入任何标签。尽管一些标签可自动地记录或输入，用户可能被允许编辑这些条目。因此，用户可如他或她所希望的标记一个、两个或全部标记选项 3203-3209。

[0221] 也可使用其他标签，且用户也可限定他们自己定制的标签。例如，在图 32C 中，用户可被允许选择运动装备标签，以标示在锻炼中使用或佩带的运动装备的类型。在特定的示例中，用户可标示在跑步过程中穿的鞋的类型或特定的那双鞋。特定的鞋可由用户限定，且存储至装置或远端系统。运动装备的标记可允许应用、装置或远端系统追踪运动装备的磨损或使用（例如，进行的运动活动的量）以及其他信息。当磨损达到特定的阈值时（例如，英里数或锻炼次数），装置可警告用户，推荐更换。装置还可基于例如用户的当前的鞋类型或其他运动装备、身高、体重、性别、鞋码、步态特质等推荐更换装备。推荐可在任意时间进行，而不被限制于更换条件。例如，系统可在匹配用户或基于当前或过去的运动装备、进行的活动、用户经常跑步的地形、常见的天气状况等被确定为适用于用户的新产品推出时提供推荐。

[0222] 附加地或替换地，用户可通过在进程中使用的一个或多个装置（例如，传感器、音乐装置、运动活动数据采集装置等）标记锻炼。例如，用户可标示使用了 GPS 装置和 / 或使用了心率传感器或加速度器。在一些布置中，在锻炼中使用的装置可自动地记录在标记菜单中。用户可继而按照需要或需求编辑自动填写的装置。

[0223] 监测和训练应用可进一步为用户提供标记或以其他方式记录好友以及和锻炼进程相关联的其他个人的能力。由此，如果用户和好友一起跑步，则用户可使用好友的信息标记跑步。在特定的示例中，用户可在应用的标记菜单中选择用户名或其他和好友相关联的标识。用户名或标识可对应于使用运动追踪和监测服务记录的标识、社交网络站点、电话号码、在用户的电话本中标明的昵称等。多个好友或锻炼搭档可在给当时被标记至单个锻炼

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进程。在一些布置中，装置可自动地通过相同时刻跑相同路径的已知的个人标记锻炼进程。装置可仅通过具有和用户经确认的关系的个人标记锻炼进程。例如，仅彼此互相确认了关系的个人可被标记在彼此的锻炼进程中。

[0224] 标签的使用可允许用户通过一个或多个被标记的参数分类。用户可继而基于一个或多个过滤参数限制他或她关于锻炼历史以及其他锻炼相关信息的视场至希望的组，这些过滤参数诸如天气、使用的装置的类型、锻炼搭档、使用的装备等。

[0225] 在用户已经完成输入希望的标签后，装置可将用户返回至锻炼小结界面。图 32D 示出了小结界面 3210，其在锻炼小结中显示由用户限定的标签。特别地，标签图标(例如，用于好心情的笑脸以及用于雨天状况的雨伞)可显示在标记选项框 3213 中。标签图标可替代在标记完成之前此前显示的文本(如在图 32A 的界面中所示的)。在一种或多种布置中，选择、悬停于其上、或以其他方式和标记的图标交互可使得详细的信息被显示(例如，在信息泡中)。

[0226] 图 33A-33C 示出了用于室外跑步的锻炼小结。图 33A 示出了用于基础跑步(例如，没有任意目的或目标的跑步)的锻炼小结，而图 33B 示出了用于距离跑步的锻炼小结，且图 33C 示出了用于时间跑步的锻炼小结。跑步类型可由图标 3301 标示。如注意到的，室外锻炼小结可能不包括校准功能，这是因为 GPS 可被视作较用于确定室内锻炼的传感器(例如，加速度器)更可靠和准确。因此，图 33A-33C 的界面中的每一个都可包括路径信息选项，其显示在跑步过程中由用户采用的路径。例如，在选择路径信息选项之后，用户可被提供有具有标示采用的路径的线的地图。

[0227] 图 34 示出了路径信息界面显示地图 3401，以及代表用户的跑步路径的线 3403。里程标记 3405 也可显示在线 3403 上，以标示跑步的各个里程点。附加地，开始和结束标识 3407 以及 3409 可各自设置在界面中。此外，用户的最快和最慢速度点可分别通过标记 3411 和 3413 标示。其他信息也可取决于用户的偏好显示至用户。例如，用户可请求显示时间标记(例如，每 5 分钟、每分钟、每 10 分钟、每小时)。选择、悬停于其上或以其他方式和标记 3405-3413 交互可提供附加的细节信息，包括在标记标示的点处播放的歌曲、速度、距离、时间、用户的心率和 / 或其他信息。其他标记也可添加至地图 3401，包括标示海拔点的标记。例如，路径的最高和最低海拔可在地图 3401 中标示。在另一示例中，50 英尺的海拔变化可标示在地图 3401 上。海拔标记也可布置在用户记录最高和最低速度的点处。

[0228] 替换地或附加地，用户可基于 GPS 检测的位置输入标签。例如，用户可能希望记录标示他或她在沿路径的特定点处感觉疲惫的备注。该备注可继而自动地记录具有对应于该记录输入的位置的特定的 GPS 坐标。替换地，备注可在跑步之后输入，且位置由用户使用 GPS 坐标手动地标示。诸如关于著名地标等的位置专用描述的其他信息也可基于检测到的 GPS 位置而自动地记录。

[0229] 图 35A-35C 示出了示例性路径小结界面，其中如果跑步被使用 GPS 或其他定位系统记录则可显示地图，而非 GPS 记录的跑步可能不包括地图。例如，在图 35A 中，地图 3501 可与代表用户在跑步中途采用的路径的线 3503 一起显示。小结屏显 3505 也可显示具有用于命名路径的选项 3507。通过命名路径，用户可能能够更方便地标示和选择用于后续锻炼的路径。根据一种或多种布置，界面还可包括告示 3509 以及选项 3511，告示标示用户已经接收到消息、掌声或鼓励项，而选项用于访问这些消息、掌声和鼓励项。在一个示例中，可通

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过链接至用户的运动活动监测装置和 / 或账户的社交网络站点提供消息或激励项。

[0230] 图 36 示出了示例性路径命名界面。在一些示例中，仅在用户的锻炼被使用 GPS 信息记录时可提供路径命名界面。否则，可能没有足够的信息来识别被命名的路径。替换地，用户可能能够命名全部路径。例如，如果 GPS 信息未被添加，则用户可手动地在地图上标示路径。替换地或附加地，用户可按照需要或需求改动使用 GPS 自动地检测到的路径。通过命名和存储用户已经跑的路径，当路径匹配此前存储的路径时，系统可在后续的锻炼中识别。系统可继而自动地和识别出的路径相关联地存储该后续的锻炼。

[0231] 图 35C 示出了地图 3521，其包括仅使用 GPS 装置部分地记录的跑步的路径小结。因此，路径 3523 的部分可由于用于跑步的这些部分的 GPS 数据的缺乏而缺失。附加地或替换地，路径和锻炼信息可和一个或多个其他用户、好友、社交网络站点等共享。例如，共享选项 3523 可由用户显示和选择，以共享该信息。共享锻炼和路径信息、成就等将在下文中更详细地讨论。在一种或多种布置中，如果 GPS 数据不可用，移动装置可切换至蜂窝三角定位以确定当前的位置。该信息和加速度器数据可提供替代的锻炼信息以填充任意缺失的 GPS 信息。例如，蜂窝三角定位可基于预定的时间表（例如，持续的、每 30 秒、每 5 秒、每 15 秒、每分钟、非周期性时间表）提供跑步者的位置，而加速度器可提供速度和距离信息，以验证使用三角定位数据确定的用户位置。使用蜂窝三角定位和加速度器系统测量的路径的部分（例如，路径 3523）可和使用 GPS 数据记录的路径的部分不同地显示（例如，不同的颜色、不同的图样）。

[0232] 当用户完成改进跑步时，用户可在锻炼小结中被提供有附加的信息。例如，如果用户在该改进跑步中完成目标设置，则用户可被提供有用于该成就的奖牌或其他标识。在图 37A 中，小结界面 3700 显示了用于设置新的距离记录的里程奖牌。奖牌可添加为用于锻炼历史中的该锻炼条目的标识或标签。

[0233] 但是，如果用户未达到该改进跑步的目标或目的，则装置可显示图 37B 的界面 3710，其鼓励用户再次尝试该改进跑步（例如，具有相同的目标或目的）。例如，界面 3710 可提供选择菜单，其请求用户设置用于再次尝试该改进跑步的时间（例如，3 天内、一周内、两周内等）。

[0234] 不论用户是否完成该改进跑步，提醒可提供至用户。提醒可用于激励用户实现附加的改进，或提醒用户重新尝试他或她此前尝试过但未完成的改进跑步。图 37C 示出了示例性提醒界面。在界面 3720 中，用户可选择启动或计划跑步或消去提醒。

[0235] 图 38A-38B 示出了可显示至用户的附加的示例性警报和提醒消息。该警报或消息可由移动装置触发和产生，或可接收自远端网络服务器。例如，移动装置可从远端健身监测服务提供方接收推送告示。告示还可包括来自用户、好友、系统管理员、教练等的消息。

[0236] 如此处所述，用户可将锻炼数据和运动活动监测服务提供方同步。如果用户已经完成他或她的初次跑步，则装置可显示各个界面以及锻炼小结，该界面允许用户将他或她的数据和服务提供方同步。图 39A 示出了界面 3901，其可在用户为由健身监测服务提供方提供的服务的会员时显示。另一方面，图 39B 示出了锻炼小结界面 3903，其包括向服务提供方注册的选项 3905。

[0237] 锻炼数据可在锻炼小结阶段中同步，或在查看锻炼历史时同步。图 40A-40C 示出了一系列界面，通过其数据可和服务提供方同步。例如，在图 40A 的界面中，界面可标示正

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在同步的消息，而图 40B 的界面标示成功同步的消息。在另一示例中，图 40C 的界面标识不成功的同步的消息，其具有用于重新尝试同步的选项 4001。

[0238] 同步也可在诸如图 41A-41C 中示出的那些的路径小结屏显中进行。例如，每一个路径小结界面都可和标示数据正在被同步、已经被同步或连接不可用的半透明消息叠置。

[0239] 附加地或替换地，同步消息可包括请求用户注册或登录，如图 42A 所示。用户可继而分别通过图 42B 和 42C 的界面登录或创建账户。

[0240] 根据一个或多个方面，如果跑步超时而不是被完成，则用户可被提供有具有该告示的警报消息。图 43 示出了具有该消息的界面。如果运动活动未在特定的量的时间中被检测到，则跑步可超时。例如，如果用户未在持续的 5 分钟、持续的 10 分钟、持续的 30 分钟等中进行任意运动活动，则装置可自动地结束跑步并产生具有警告超时状况的警告消息的锻炼小结。根据一个或多个方面，如果跑步被使用 GPS 或其他定位系统追踪，则跑步超时的点可显示在路径地图上。其他定位系统可包括使用蜂窝信号的三角定位、Wi-Fi（例如，用户的位置换算为 Wi-Fi 服务提供方的位置）、确定网络服务提供方位置等。

[0241] 可提供其他类型的跑步后消息至用户，包括指导。在一个或多个示例中，可产生跑步后消息以挑战用户在后续的锻炼进程中超过新近完成的跑步的一个或多个指标。消息还可标示实现成就所需要的距离、速度、时间的量。附加地或替换地，消息可提供基于完成的锻炼中用户的表现产生的改进提示。例如，如果用户在山地中表现出显著更慢的速度（例如，低于平均速度 30%），则装置可提供用于改进坡地表现的提示。在另一示例中，如果用户在第三英里之后表现出急剧的速度下降（例如，10%、20%、30%、40%、50%、60% 或更多的下降），则装置可提供保持第四英里之前的速度的建议和 / 或在锻炼中保持更规则的速度的建议。

[0242] 在可视消息（例如，文本消息和 / 或图形消息）之外，也可在完成跑步之后提供音频消息。例如，用户可被祝贺完成了最长的锻炼（例如，距离或持续时间）。可为了接受跑步中途挑战和满足该挑战而提供其他消息。音频消息可由自动语音或由名人或好友提供。

[0243] 历史

[0244] 在历史列表视图中，用户能够查看此前进行且及记录的锻炼的细节和小结。附加地或替换地，数据可在历史视图中和服务提供方同步。图 44A-44C 示出了示出了同步进程的一系列界面。同步可以是自动的，或由用户命令触发。如果同步失败，则同步可通过用户命令重新尝试，或基于预定的条目日程而自动重新尝试。同步可在每次历史视图被加载或从前次同步时间起有新的锻炼被添加时进行。同步历史可被存储，以便于后续同步的安排。

[0245] 用户可进一步编辑历史列表，以删除任意不想要的锻炼记录。例如，在图 45A 的界面 4500 中，用户可选择编辑选项 01。在选择编辑选项 4501 之后，界面 4500 可改变，以提供删除选项。图 45B 示出了删除界面 4503，通过其用户可删除一个或多个条目。用户可使用选项 4505 选择他或她希望删除的条目。用户可被要求通过后续地选择第二删除选项 4507 而确认删除。替换地，用户可选择选项 4505 来标记将被删除的条目。在选择完成或确认选项 4509 之后，标记的条目可被自动地删除。用户可被要求在任一情形中确认删除。

[0246] 图 46A-46C 示出了可被显示以传输历史信息至用户的附加的示例性界面。在图 46B 和 46C 中，示例性地，界面可显示标识或消息，其标示是否有任一跑步信息已和服务提供方同步。如果没有，则界面可提供同步选项以允许用户立刻同步数据（如图 46C 所示）。替换地或附加地，用户可安排同步用于将来的日期或时间。

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[0247] 设置

[0248] 用户可限定各种设置，其可影响锻炼的监测、数据的记录和数据同步。图 47A 和 47B 示出了多个设置界面的示例性部分。图 47A 上包括允许用户限定距离指标(例如，英里、英尺、米)、反馈频率、屏幕是否应被锁定、校准选项和服务提供方账户信息(例如，允许数据同步)。在图 47A 中，用户尚未限定或和服务提供方注册。因此，可包括简介选项，以允许用户在用户注册时浏览由服务提供方提供的特征或服务。

[0249] 选择简介选项可向用户提供关于底层应用和装置的健身监测和激励特征和功能的附加信息。例如，图 48A-48F 示出了简介界面，其提供描述可用特征和功能的详细信息。

[0250] 图 47B 示出了如果用户已向服务提供方提供了账户信息则可显示的设置界面部分。通过限定服务提供方账户信息，用户可被提供有用于限定是否应该自动进行同步的额外的选项。图 47A 中包括的简介选项可不包括在图 47B 的界面中。用户还可被提供有退出服务提供方的选项。通过退出，界面可变动至图 47A 的界面。替换地，附图提供方账户信息可被存储且退出选项替换登录选项。

[0251] 图 49A-49E 示出了一系列界面，通过其用户可向服务提供方注册。可能需要一些信息或其为可选的，这包括用户名、电邮、密码、生日等。

[0252] 用户可被请求或允许选择动力歌曲。动力歌曲可对应于用户觉得特别激励的音频内容。图 50A 和 50B 示出了一系列界面，其中用户初始地选择动力歌曲选项且继而从歌单中选择歌曲。歌单可为由用户已经拥有的歌单，或可包括通过音频内容提供方可用的歌曲。在图 50A 中，如果动力歌曲未被选择，则动力歌曲选项可标示如在选择按键的部分中一样多。相反地，如果动力歌曲被选择，则动力歌曲的名字可显示在选择按键的部分中。

[0253] 图 51A-51C 示出了允许用户分别设置距离指标、反馈频率、和锁定屏幕取向的界面。例如，图 51A 示出了界面，通过其用户可选择英里或公里作为测量单位。另一方面，图 51B 允许用户限定多频繁地提供反馈(音频地或视觉地)。频率可基于距离或基于时间。图 51C 示出了一界面，其允许用户限定锁定界面的取向。例如，用户可选择竖屏取向或横屏取向。选择可基于用户偏好、跑步中途的装置取向和 / 或以上的组合进行。

[0254] 图 52A-52H 示出了用于限定可允许对运动活动统计数据准确的监测和追踪的各种用户属性和偏好的示例性校准界面。通过校准菜单(例如，如在图 52B 中所示)，用户可选择测量单位、用户身高、用户体重和用户性别。例如，测量单位可从包括英制和公制的选项中选择。可使用滚轮或其他滚动方法限定身高和体重，且可允许选择选定的测量单位的数值。装置可使用该数据更好地确定用户的运动活动的结果。例如，加速度器读数可被使用用户体重、身高和性别换算或转换成消耗的卡路里或跑步的距离。

[0255] 图 53A-53V 示出了通过移动健身监测装置可产生和显示的替换性或附加的设置界面。在一个或多个示例中，图 53A-53C 的界面可配置用于入门用户，而图 53D-53F 的界面可配置用于更进阶或更具能量的用户。进阶或能量用户可包括以已经和健身监测服务提供方注册的用户。因此，图 53E 可包括附加的账户和监测设置信息，其不能显示给未注册用户。附加地，用户能够在图 53F 的界面中选择隐私设置。如果用户选择隐私设置，其他用户可能不能够找到用户或查看用户信息。另一方面，选择了公开设置，其他用户可能能够公开地搜索用户，且查看关于用户的各种类型的消息。公开设置也可允许在诸如社交网络站点或新闻汇总的其他站点上共享信息。

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[0256] 在其他方面中，用户可限定信息共享设置。例如，图 53S-53V 示出了各个设置界面，其可用于配置信息账户和共享设置。图 53S 示出了锻炼信息，其可在用户登录至新闻汇总(news feed)服务之后自动地直接发送至新闻汇总。登录至新闻汇总服务可对应于批准自动共享特征。

[0257] 另一方面，图 53V 可允许用户设置关于在诸如比如 FACEBOOK 的社交网络站点的网络站点上信息共享的各种设置。特别地，用户可能能够允许或中断活动广播。活动广播可包括完成的跑步、目标和挑战的自动共享。附加地或替换地，用户可允许或中止一功能，该功能在用户跑步或进行其他锻炼时告知其他用户(例如，在用户的网络站点页面上发布帖子或状态更新)。这可允许其他用户发布鼓励的消息和追踪用户在跑步过程中的进度。锻炼数据也可在跑步中途且实时地发布至社交网络站点和社交网络汇总。各个其他特征和功能也可由用户配置，以共享信息。

[0258] 锻炼共享

[0259] 用户可选择和一个或多个其他用户、好友或通过社交网络站点共享锻炼信息或其部分。图 54A-54C 示出了通过其用户可在社交网络站点和新闻汇总上共享锻炼信息的示例性界面。在图 54A 中，用户可被提供有共享菜单 5401，其包括多个共享出口，包括 FACEBOOK 和 TWITTER。菜单 5401 还可包括将锻炼信息与健身监测服务提供方同步的选项。

[0260] 如果用户选择通过诸如 FACEBOOK 的社交网络站点共享锻炼数据，则可显示图 54B 的界面 5410 的界面。界面 5410 可包括自动地产生的锻炼更新消息 5413，且允许用户在表格 5415 中引入附加的信息或记录。在批准消息后，用户可通过选择公布选项 5417 面公布该数据至社交网络站点。

[0261] 通过诸如 TWITTER 的新闻汇总服务共享锻炼数据可通过诸如图 54C 的界面 5420 进行。特别地，界面 5420 可要求用户的登录和密码信息，以自动地访问新闻汇总服务。新闻汇总信息可为自动产生的消息，包括锻炼和 / 或路径信息。用户可被允许编辑消息和 / 或创建他或她自己的消息。

[0262] 图 55A 和 55B 示出了用于共享锻炼 / 跑步信息的其他示例性界面。例如，图 55B 中的界面 5501 允许用户输入社交网络站点或其他信息出口的登录信息。登录信息可被存储，且和健身监测服务提供方相关联地使用，以自动地同步和发布数据至信息出口。在用户登录后，系统可通过信息出口自动地共享新的跑步信息。在一些布置中，信息可仅响应于接收用户命令或确认而被共享。

[0263] 锻炼信息可通过其他渠道共享，渠道包括健身监测服务提供方站点、个人主页等。在一些布置中，用户可能能够通过单个共享界面同时或非同时地发布锻炼信息至多个站点或服务。

[0264] 图 56 示出了其中可公布和传输锻炼信息的示例性社交网络站点界面。界面 5600 可对应于用户的个人页面，且包括标示用户即将跑步且鼓励其他用户提供支持性评论的状态消息 5601。

[0265] 图 57 示出了允许好友或其他用户在文本输入表 5701 中输入鼓励消息的示例性消息输入界面 5700。用户还可从预定声音 5703 的列表中选择音频内容。

[0266] 图 58 示出了通过图 57 的界面 5700 提交且显示在用户的移动装置上的消息。

[0267] 根据一种或多种布置，用户还可通过移动健身监测装置访问远端健身监测服务站

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点和接收数据。例如，界面可由移动监测装置基于通过网络从远端健身监测站点接收的数据而产生。用户可通过诸如图 59 的界面 5900 的界面登录和 / 或和远端健身监测服务珠注册。

[0268] 在用户已经输入用户信息和 / 或登录信息之后，用户可浏览显示用户运动活动记录、成就、时间表、进度等的各个用户界面。图 60A-60D 示出了可用于浏览和查看可从远端健身监测站点至少部分地接收的锻炼信息的示例性界面。在图 60A 中，用户可被告知尚未和远端站点同步的一些跑步或锻炼。装置可使得装置和远端站点的数据库之间的数据一致，以标示仍然需要被同步的那些锻炼或跑步。同步消息可显示为用户已经实现或赚取的奖励和荣誉的数量的小结的一部分。跑步的同步可自动地启动或通过手动命令启动。

[0269] 在图 60B 中，界面 6010 可包括各个锻炼和用户数据的小结，包括好友邀请 6013、每日进度标识 6015 和目标标识 6017 以及 6019。好友邀请 6013 可允许运动活动监测站点的用户彼此交互。好友可被相对于非好友提供有不同水平的特权。例如，好友可以能够查看关于用户的照片、详细锻炼信息和其他个人数据，而非好友仅可被允许查看诸如名字、性别和总体活动水平的通用档案数据。因此，用户可通过确认或接受好友请求而控制被分类为好友的人员。每日进度标识 6015 标示完成诸如每日目标 6019 的每日目标仍然必须完成的附加的运动活动的量（例如，英里数）。在每日目标之外，可限定目标 6017。目标 6017 可对应于用户希望达成的其他成就。替换地或附加地，目标 6017 可对应于预定健身水平的提高或改善用户在多个健身用户中的排名。

[0270] 图 60C 示出了界面 6020，其显示可至少部分地从远端健身监测服务接收和 / 或由其产生的其他示例性锻炼数据小结。例如，小结 6021 可包括最后一次跑步的小结（例如，跑步的英里数），以及好友邀请的数量、好友汇总的更新次数以及奖励查看选项。替换地或附加地，小结 6021 可包括已经跑的总英里数以及进行运动活动花费的时间的总量。好友汇总标识可标示已经为用户的一个或多个好友发布的更新的数量。例如，如果好友已经完成了新的跑步，且好友的档案已经被使用该信息更细，则好友汇总标识可反映该附加的更新。汇总还可在自动更新和发布之外包括手动发布（例如，用户的评论或消息）。用户可使用奖励查看选项，以查看用户在他的跑步历史中累积的掌声、成就、成绩和目标。通过访问来自远端健身监测站点的数据，用户可能能够查看此前没有存储在移动监测装置上的锻炼信息和历史。因此，用户可能能够在移动装置上查看完整的锻炼历史，而不是仅查看其时的锻炼。

[0271] 目标

[0272] 尽管用户可限定改进跑步以设置即将的跑步的目标，用户还可被允许选择跨多个跑步的长期目标。图 61A-61C 示出了示例性目标限定界面。在图 61A 和 61B 中，用户可分别选择改进选项，以及后续地选择距离改进选项。在图 61C 中，用户可继而通过选择用户希望跑的距离的量以及跑该距离的时间段而限定距离改进目标。用户还可选择用户希望跑步的天，以实现限定的目标。在已经选择了各个参数后，用户可设置或开始该目标。可为其他类型的目标限定类似的界面和选项，包括时间目标、速度目标、卡路里目标等。用户还可限定每日目标。例如，用户可说明他或她希望如何基于每天而完成总体目标（例如，在 4 周里完成 40 英里）。因此，用户可说明他或她希望在周一跑 3 英里，且在周三跑 5 英里。目标也可被组合。例如，用户可表示他或她希望在 4 周中跑 40 英里，且实现 8.5 英里 / 小时的速度。

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[0273] 可以多种方式追踪朝向一个或多个目标的进度。示例性地图 60D 示出了一目标追踪界面，其显示目标的列表以及和其相关联的进度。例如，月度目标表示该月还剩余 6 次跑步。距离目标可表示还剩余 30 英里要跑，而卡路里目标或任务可表示用户仍然需要消耗 2766 卡路里以达成目标。

[0274] 图 60E 和 60F 示出了附加的示例性目标追踪界面。例如，在图 60E 中，可能直到已经选择了目标类型或目标或用户已经设置焦点于其上时才显示进度条。在图 60F 中，界面可显示目标和目标进度的细节。例如，界面 6030 示出用户需要 26.3 英里以完成该目标，且标示目标是到 12 月 1 号为止跑 40 英里。因此，用户可被提供有选项 6033，以直接跳转至下一锻炼(例如，跑 2.2 英里)。

[0275] 用户可被通过各个界面提醒用于实现目标的目标和锻炼。图 62A 和 62B 示出了用于提供该提醒的示例性界面。在图 62A 中，界面 6200 提供用户必须跑 2.2 英里以达到他或她的预定目标的告示。在图 62B 中，界面 6210 可在跑步过程中提供各种语音告示。语音告示可向用户表明朝向目标已经进行的进度。例如，用户可被提供表明目标的当前部分已经完成以及已经朝向总体目标所进行的进度的消息。替换地或附加地，消息可实质为文本，且还可包括诸如“你的下次跑步时周六的 3 英里”或“你在完成目标之前还有 5 次每次 2.2 英里的跑步”的提醒信息。

[0276] 激励 - 祝贺和喝彩

[0277] 当用户完成目标、达成里程碑、完成任务、取得进度或完成改进跑步时，用户可被提供有鼓励或祝贺消息。替换地或附加地，可在跑步前或跑步中途提供鼓励的言辞和 / 或其他消息。这些消息可包括音频、视频、图像、动态图像、可触碰或触觉反馈(例如，振动)等。在一种或多种布置中，祝贺消息可包括来自诸如周知的运动员的名人的音频和 / 或视频消息。用户可被允许配置何时产生该消息以及传输至用户。例如，用户可能不希望跑步中途的祝贺消息，且由此，可标示全部消息在锻炼之后或在非锻炼时间中播放的偏好。因此，用户也可表明何时消息不被传输。附加地或替换地，祝贺消息可包括音效，诸如人群喝彩、扩音器声、牛铃声、呜呜祖拉(vuvzela)声、爆竹爆炸声、老虎机中奖声等。

[0278] 图 63A-63C 示出了其中一个或多个祝贺或激励消息可在列表中显示的示例性祝贺界面。一些消息也可由移动装置产生，而其他消息可接收自其他用户。在一个或多个示例中，消息可被使用文本至语音系统转换，且通过音频输出装置播放。替换地或附加地，其他用户可发送音频和 / 或视频消息。消息的发送者可表明何时消息被传输至用户的触发事件。例如，发送者可表明消息在用户在单次锻炼中达到 5 英里标记时被显示或播放。

[0279] 在一些示例中，用户可被名人祝贺。图 64A-64E 示出了示例性祝贺界面，其包括名人消息。消息可包括音频和 / 或视频。消息可被传输用于各种成就，诸如完成改进跑步、达到里程碑(例如，一周内 25 英里)、创造最快速度、最远距离和最快时间等。在一种或多种布置中，成就可包括达到不同的健身水平。例如，在一周内跑 5 英里或更少可被视作第一健身水平，而一周内跑超过 5 英里但少于 10 英里可被视作第二健身水平。附加的健身水平可被限定，且各种奖励或特权可和其相关联。例如，用户可获取至不同的锻炼的访问权、接收各种奖励(例如，音乐、产品、服务等)、通过各种公开渠道(例如，在健身监测站点的主页面上)获取认可等。

[0280] 根据一些方面，可基于通过在线社区(诸如远端社交网络站点)从其他用户接收的

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评论或其他交互的数量而选择用于传输(例如,发送、编译、回放)至用户的名人消息的类型。例如,其他用户可评论或表示他们"喜欢"由用户在锻炼进程之前或之中发布的锻炼公告。其他用户也以其他方式和锻炼公告交互,包括转发该公告至他人、将公告链接至其他站点、使用其他标签(例如表情符号)标记公告等。运动活动监测应用或服务可继而确定通过与公告相关的社交网络站点接收的交互的数量。不同类型的祝贺消息(例如,不同的音效或不同类型的消息)可继而被取决于确定的交互的数量而被选择和触发。例如,更大或更显著或独特的音效或消息可由于交互的数量的增加而被被选择和触发。在一些布置中,仅来自其他用户的正互动可被计入。因此,用户的锻炼公告的"不喜欢"或不赞同的表达可不被计入朝向用于选择或触发祝贺消息的交互总量。

[0281] 在一些情形中,每一个音效或祝贺消息可对应于反馈量和/或反馈的内容的范围。例如,第一至第三评论或其他类型的反馈可触发第一消息,而第四至第七评论可触发第二消息。可设置不同的阈值、触发器和范围用于不同的消息。可按照需要限定任意数量的范围。

[0282] 图 65A 示出了示例性锻炼进程公告,其可在锻炼之前、之中或之后发布或以其他方式提供至在线社区(诸如用户的社交网络站点)或通过诸如社交网络服务(例如,TWITTER)的在线社区传输。公告 6500 可标示用户致力于的锻炼的锻炼类型(例如,马拉松训练跑步)和鼓励其他用户(例如,好友和家庭)留下评论或表示对锻炼的赞同(或不赞同)。评论 6501 或赞同的标识 6503 的数量可和公告一起显示。在一些布置中,多种反馈类型和/或来自多个不同和/或差异在线社区或远端网络站点的反馈可被累加,以确定接收的反馈的量。例如,一些评论的数量可添加至接收的赞同标识的数量。在其他布置中,反馈的每个类型可被单独计算。附加地或替换地,仅正反馈或匹配一个或多个预定规则或参数(例如,内容的类型、在反馈中使用的词、字、符号、作者/评论者的身份等)的反馈可被计入反馈的量。在此外的其他示例中,选择用于传输至用户的内容或消息的类型可不是基于反馈的量,而基于匹配一个或多个预定参数或规则,或在基于习惯的量之外基于匹配一个或多个预定参数或规则。例如,该参数或规则可包括内容的类型、在反馈中使用的单词、字、符号、作者/评论者的身份等。

[0283] 确定接收的反馈的量可包括从在线社区(例如,社交网络站点)接收评论,以及计接收的反馈的量(例如,评论的数量)。在另一示例中,确定反馈的量可包括接收响应于发布的锻炼信息接收的评论或反馈的数量的标识。在其他示例中,确定反馈的量可由其他装置进行。该其他装置可继而提供确定的反馈的量至运动监测系统。该其他装置还可被配置为选择提供至用户的内容(例如,音效、视频、文本、触觉反馈)。提供确定的反馈的量也可从装置(例如,运动表现监测装置)的一个软件或硬件模块至该相同装置的另一软件或硬件模块进行。提供确定的反馈的量还可包括确定的反馈的量在存储器中的存储。

[0284] 根据一些布置,确定反馈的量和内容的选择可由不同的装置进行,诸如运动监测服务和运动表现监测装置。替换地,确定和内容选择可由相同的装置进行。在此外的其他布置中,确定反馈的量和/或内容的选择可通过在线社区(例如,社交网络系统)进行。

[0285] 图 65B 和 65C 示出了可在用户完成锻炼之后显示的示例性锻炼公告。这些示例性示例中的锻炼公告可提供和完成的锻炼相关的统计数据和指标。例如,跑步的距离、跑步的时间和/或速度(例如,平均速度、最快速度、最慢速度等)可显示在锻炼公告中。其他用户

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可被允许评论该公告，且祝贺消息可提供至用户，如上所述。

[0286] 图 65D 示出了具有相关的好友或其他用户反馈的另一示例性锻炼公告。替代于或在响应于锻炼公告提交文本评论和 / 或赞同标识之外，好友和其他用户也可录制播放给用户的音频和 / 或视频消息。在公告 6511 中，示例性地，好友已经响应于公告 6511 录制了音频消息 6513。音频消息 6513 可立即播放给用户，或可根据由音频消息 6513 的创建者选择的触发器（例如，锻炼的完成、达到特定的距离、时间或速度目标、接收特定数量的总评论或其他类型的反馈等）而播放。替换地或附加地，进行锻炼的用户可选择用于接收由好友和其他个人留下的音频消息的触发事件。

[0287] 音效可用作提醒用户他们已经接收到特定数量的正反馈的高效的方式，而不需要用户听或查看长的音频或可视消息。

[0288] 运动活动数据的显示

[0289] 运动活动信息和由其产生的信息（例如，统计数据、趋势、推荐等）可显示在此处描述的一个或多个界面中。在一种布置中，用户可访问远端站点，该站点向对运动活动监测服务注册的用户产生和显示运动活动信息。在一种或多种布置中，信息屏显和界面可通过移动装置和 / 或在其上运行的健身监测应用访问。替换地，用户可通过其他计算装置访问信息屏显。因为在一些布置中，信息屏显由远端健身监测服务器产生和提供，用户可从多个位置和装置访问锻炼信息，而不需要同步和传输数据的这些装置或位置中的每一个。

[0290] 图 66A 和 66B 示出了包括锻炼回顾的示例性界面。锻炼回顾可包括在选定的跑步的全部跑步距离上的用户的速度的图 6601。用户可选择不同的跑步，以从诸如列表 6605 的锻炼列表查看。列表 6605 可包括预定数量的最近的锻炼。图 6601 可包括标示对应于诸如 1 英里、1 公里、0.5 英里等的距离增量的跑步中途的点的标识或标记 6607。锻炼回顾界面还可包括锻炼属性标识，诸如 GPS 标识 6609。GPS 标识 6609 可表明锻炼通过 GPS 信息记录。因此，用户的路径可已经记录为锻炼信息的一部分。因此，用户可添加附加的属性或参数至该锻炼。例如，用户可选择心情选择器选项 6611，以输入用户在跑步之后的心情。心情可包括用户在完成锻炼之后的心理和 / 或生理感受。其他信息可包括在锻炼回顾中，包括新闻或消息汇总、上次跑步的简介、目标进度（达成目标剩余的量）、挑战进度或位置等。

[0291] 图 66C 和 66D 示出了输入跑步和 / 或锻炼的属性的界面。例如，在图 66C 中，界面 6620 包括用于标明用户的心情、天气状况和 / 或地形的输入窗口 6623。窗口 6623 还可提供文本输入表，其配置为接收关于锻炼的附加的用户评论。在一种或多种布置中，如果锻炼被使用诸如 GPS 装置的定位系统记录，则窗口 6623 可显示标识 6625。

[0292] 图 66E 和 66F 示出了多次锻炼的锻炼小结的日历或时间线视图。每天都可包括条状图，其标示在该天（或诸如小时、周、月等的其他时间单位）上跑的距离。悬停于每个条状图上或以其他方式和其交互可使得诸如图 66E 中的窗口 6631 的细节窗口显示具有关于该跑步的附加的信息。例如，窗口 6631 可标示跑步之后用户的心情、天气状况、地形和该锻炼是否包括位置和路径信息。如果用户已经输入了手动或定制标记，标记图标 6635 可和代表对应的锻炼的条状图相关地显示。也可显示小结数据 6637，以标示在当前显示的时间框架中的全部锻炼的时间、锻炼、距离和消耗的卡路里的总量。

[0293] 在选择特定的锻炼以查看和 / 或分析之后，用户可被提供有一界面，该界面提供关于选择的锻炼的细节。图 66G 和 66H 示出了示例性跑步细节页面，其提供针对该跑步记

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录的统计数据的小结。在图 66G 中示出的示例性示例中，用户可被允许使用编辑选项 6641 编辑为锻炼存储的各个参数。在一些布置中，一些参数可能不能改变，诸如跑步的距离和事件和 / 或消耗的卡路里。如果跑步被使用 GPS 装置或其他的定位系统记录，则跑步的细节界面可包括 GPS 标识 6643。附加地，如果跑步被使用位置信息记录，则界面可显示路径视图选项 6645。路径和路径信息将在下文中详尽地描述。

[0294] 图 66I 和 66J 示出了用于改动记录的锻炼信息的一个或多个参数的编辑界面。例如，用户可被提供有用于改动跑步后用户的心情、天气状况、地形和 / 或备注的选项。其他参数也可取决于用户偏好、服务提供方要求和规则等被改动。

[0295] 图 66K 示出了示例性锻炼数据界面 6660，其显示关于锻炼进程的统计数据。界面 6660 可包括跑步曲线 6661，对应于时间 - 距离、距离 - 速度、时间 - 速度和 / 或以上的各种组合。在一些布置中，跑步曲线 6661 可包括一个或多个视觉特征，以代表锻炼的指标。例如，可使用不同的颜色以代表在锻炼上有用户表现出的不同速度。在另一示例中，可使用不同的图样或跑步曲线的透明度以代表不同的心率。界面 6660 还可提供附加的锻炼数据粒度，其包括分时和区间时间和速度。在一些布置中，该附加信息仅可在用户选择记录锻炼或查看锻炼数据的特定模式时被提供或记录。在其他布置中，附加的信息可能可用，而不论记录模式。

[0296] 锻炼数据视觉标识的其他类型可包括显示对照或位于平均速度曲线之上的当前跑速度度曲线（例如，用于诸如全部跑步或特定时间段中的全部跑步的一组跑步、相同路径的全部跑步等）。附加地或替换地，跑步曲线或其他锻炼数据视觉标识可显示具有在该锻炼中使用的音乐播放列表。

[0297] 路径追踪、显示和创建

[0298] 如此处所述，在一些布置中，用户的锻炼可通过定位系统记录。因此，用户的路径可已经记录和存储为锻炼数据的一部分。在获取锻炼数据后，路径可被显示，以供用户查看。

[0299] 图 67A-67G 示出了一系列路径细节界面，其中可显示路径信息。例如，在图 67A 的界面 6700 中，用户的路径 6701 可以动画的方式在地图上画出。代表用户的图标 6703 可为活动的，且根据跑步的路径而移动。路径由主路径线 6705 以及在图标 6703 穿过路径的一部分之后由主路径线后的辅助路径线 6706 标示。图标 6703 可根据用户沿路径的速度而移动。例如，图标 6703 可在其中用户表现出较慢的速度的路径 6701 的部分中移动的较慢，而在其中用户表现出较快速度的路径 6701 的部分中移动的较快。移动动画可和用户的速度成比例，且可使用基于用户的速度的算法计算出（例如，每小时英里数可转换成每秒像素数）。界面 6700 还可包括沿路径的距离标记 6709，以标示距离增量（例如，1 英里、1 公里、0.5 英里等）。速度标记 6711 也可被包括，以标示路径上用户表现出最快速度和最慢速度的点。海拔信息也可被使用海拔标记 6713 提供，以标示最高海拔或更高海拔的点。

[0300] 在部分 6715 中，界面 6700 可包括用户的速度和海拔相对于时间的图 6717。线 6719 和 6721 可随着使用图标 6703 的用户跑步的动画的进行而变动外观（例如，以动画的方式）。例如，线 6719 的部分 6723 可看上去更宽，标示动画已经经过路径的该部分。标记 6725 标示路径中动画的当前位置。也可提供关于该位置的详尽的信息，包括距离、时间、速度和海拔。重播选项 6727 可被选择，以重新播放该动画。在一种或多种布置中，重播可以和

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跑步和路径细节的初始加载上动画示出的速度相比以更慢的速度播放动画。图例 6729 可提供用于每一个标记 6709、6711 和 6713 以及对应的锻炼数据的说明。例如，最佳和最差里程数的速度可被显示，而也可提供最快速度和最慢速度的信息。对应于最高海拔标记 6713 的海拔数据也可被显示。用户还可手动地创建他们自己的标记，以帮助将沿跑步或锻炼的特定位置和一组表现统计数据相关联。

[0301] 和一个或多个标记 6709、6711 和 6713 的交互可使得对应的锻炼数据被显示用于用户的锻炼的该特定点。图 67C 示出了用户选择标记 6713 时的示例性界面。响应于该选择，图 6717 可被相应地改动，以显示对应的数据。在一种或多种布置中，用户的图标（例如，图 67A 的图标 6703）可立刻被移动至选择的位置。附加地或替换地，显示的路径也可被改动，以反映用户的图标的位置（例如，直至选择的点的路径的部分可被改动，以反映经过）。未标记的部分也可被选择，以查看锻炼数据。图例 6729 也可在选择了路径上的标记或其他点之后被更新。

[0302] 根据一个或多个附加的方面，地图下拉菜单选项 6713（图 67A）可显示底层地图的各个选项。例如，用户可能能够变动地图的外观，以显示卫星图像、计算机生成标示物（如图 67A 所示）、地形图像和 / 或结合了卫星和地形的混合图像。图 67F 示出了卫星图像模式中地图上的路径。

[0303] 附加地或替换地，路径或锻炼的各种类型的特质可被使用视觉属性视觉地传输。例如，路径可包括标示用户在跑步过程中表现出的不同速度或速率、心率等的多种颜色。在特定示例中，其中用户表现出位于第一阈值之上的速度的路径线的部分可以绿色显示，而其中用户表现出位于第二阈值之下的速度的路径线的其他部分可以红色显示。其中用户表现出在第一阈值和第二阈值之间的速度的路径线的此外的其他部分可以黄色显示。可使用各种颜色梯度和特质来标示速度、速度、心率、海拔、地形、天气等。可使用其他的视觉属性来示出各个锻炼属性，视觉属性包括图样、透明度、阴影、加点等。

[0304] 图 67G 示出了如果心率信息可用，其中心率选项卡 6751 显示出的路径信息界面 6750。心率选项卡 6751 的选择可使得图显示和时间或距离或速度相对的心率。如果心率信息可用，则路径信息和细节也可被使用该数据补充。例如，最高心率标记和最低心率标记可显示在路径上。

[0305] 图 68A 示出了另一示例性路径细节界面 6800。界面 6800 可包括诸如跑步感觉的附加消息或建议，诸如建议 6801，其推荐为最后的 0.25 英里播放动力歌曲，以创造该路径的新的时间记录。建议可基于不同的算法和参数产生，且在一个示例中，可包括标示用户具有最慢速度的跑步的部分以及建议播放激励歌曲以增加该速度。在另一示例中，如果用户看上去在跑步 / 路径的第一部分中进行了显著的努力（例如，基于心率信息），则系统可建议用户在第一部分中以较慢的速度跑步，以不在路径的剩余部分中变得筋疲力尽。

[0306] 路径信息可通过选择公布选项 6803 而公布在一种或多种布置中。用户可公布信息至各个出口，包括 FACEBOOK、TWITTER 和 / 或其他社交网络站点和新闻汇总服务。用于标示账户信息和公布选项的菜单（未示出）可在选择公布选项 6803 之后被显示。

[0307] 界面 6800 还可包括用于相同或类似路径的此前的锻炼的列表 6805。列表 6805 可包括一个或多个条目，且可包括锻炼细节的简述，包括例如跑步时间和是否记录有任何成就。例如，如果用户在 1 月 21 号以最快时间跑了该路径，则条目可包括荣誉图标 6807，作

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为该成就或要事的标识。此外，界面 6800 可在部分 6809 中提供改进跑步建议。特别地，界面 6800 可显示在当前路径上改进了预定量的距离的其他路径。路径建议可基于用户过去跑的路径或其他用户已经跑的路径而产生。

[0308] 图 68B 示出了其中用户可保存路径和添加路径细节的界面。界面 6810 包括提醒 6811，其中路径名可在关键词和描述之外被标明。关键词可包括一个或多个词，其可被用作搜索项，从而用户或其他用户可更方便地从路径的数据库找到该路径。描述可包括关于路径的更详细的讨论，包括风景、地形、难度、天气、交通、噪声等。用户还可使用选项 6813 选择路径的隐私性。例如，通过设置路径为隐私的，其他用户可能不能找到或查看该路径。可提供附加的隐私参数和设置，包括选择被允许搜索和 / 或查看路径的特定的个人或个人的组的选项。其他选项可包括限定对于每个个人或个人的组允许哪些查看和访问特权。

[0309] 图 69A 示出了列出了用户已经跑、创建和 / 或保存的各个路径的保存路径界面。例如，路径列表 6901 包括由用户保存的 4 个不同的路径。使用 GPS 创建 / 记录的路径（诸如路径 6903）可包括一个或多个标识或可以不同的方式显示。例如，距离标识 6905 可看上去不同于诸如路径 6915 的非 GPS 创建的路径的标识。保存路径列表 6901 可对照地图背景显示。地图可包括一个或多个标记，其标示路径的位置，且列表 6901 中的路径可被编号或以其他方式标示，以对应于标记。路径还可由用户或已经跑过该路径的用户评价。评价可通过诸如评价标识 6907 反映或标示。界面中的其他选项卡可包括搜索选项卡 6909 以及创建选项卡 6911，分别用于搜索数据库或路径列表，以及用于创建路径。附加地，可使用快速搜索条 6913 用于关键词搜索，而搜索选项卡 6909 可提供高级搜索选项，诸如距离、地形、天气等。

[0310] 图 69B 示出了路径界面 6920，其可在用户从路径列表（例如，图 69A 中的路径列表 6901）选择路径（例如，图 69aA 中的路径 6905）之后显示。在选择了路径之后，路径列表 6921 可仅显示选择的路径，且提供显示在包括多个路径的路径列表（例如，图 69A 的路径列表 6901）中显示的内容之外的附加的细节。附加的细节可包括和路径以及描述相关联地存储的关键词。信息还可标示路径的创建者。底层地图 6923 还可改变用于以其中路径的每个部分可分辨的比例显示路径。在一个示例中，地图 6923 可显示较路径的边界大预定的量的区域。例如，地图 6923 的显示区域可被限定为使得路径占据显示区域的 60%、75%、90% 或其他百分比。

[0311] 图 70A 示出了路径创建界面，通过其用户可限定新的路径。为了创建新的路径，用户可通过表格 7001 限定开始位置。替换地，用户可使得路径基于记录的 GPS 路径。用户还可标明名字、关键词（例如，用于搜索）、描述和该路径是否被共享。在选择了开始位置之后，可显示结束位置表格（未示出）。开始和结束位置可通过和地图 7003 交互或通过输入地址而选择。在一种或多种布置中，用户还可标明跑步过程中用户希望经过的中间点。用户还可标明他或她希望跑的距离以及该跑步是否应该沿道路。基于这些参数，系统和界面可产生建议的路径且在地图 7003 上显示该路径。用户可通过可在地图 7003 上显示的路径线交互、引入附加的中间点、调节距离、改动开始和结束点等而改动路径。用户还可使用选项 7005 以移除此前采用的一个或多个步骤。例如，如果用户在创建界面为活跃的时通过初始地跑或走该路径而创建路径且用户在他或她的路径上犯了错，则用户可暂停以移除路径的最后的部分。

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[0312] 替换地，用户可通过从数据库获取此前记录的GPS路径而创建路径。例如，用户可选择选项7007以获取GPS路径。图70B示出了选择菜单7010，其中多个此前记录的路径显示在列表7011中。小地图7013可被显示，以提供关于路径的形状和位置的总体概览。列表7011可以时间倒序、通过字母顺序、通过距离等显示。

[0313] 如果用户选择此前记录的GPS路径，路径创建界面中的多个框可被自动地填充。例如，在图70C中，创建界面7050已经预填写了路径的开始地址、距离和名字。如果关键词或描述被关于选择的路径存储，这些框也可被自动地预填写。由于路径被使用GPS装置产生，最后的步骤和后续的道路选项可被中止。替换地，选项可保持活跃，以允许用户改动由GPS装置记录的路径。

[0314] 图71A和71B示出了用于查看路径信息的其他示例性界面。在图71A中，路径信息屏显7100可包括好友选项卡7101，其允许用户查看正在跑或已经跑过相同或类似路径的好友的列表。图71B示出了好友列表屏显7110，其中好友7111以标示和路径相关的挑战的当前排名的顺序显示。例如，可为路径限定速度挑战，且由此列表屏显7110可以最快至最慢速度的顺序列出好友。没有速度数据的那些可以字母顺序列在底部。好友也可根据其他顺序显示，包括字母顺序、年龄顺序、用户已跑过该路径的次数、速度等。

[0315] 图72A-72F示出了其他示例性路径追踪和查看界面。在一种或多种布置中，路径追踪可包括使用个人信息、自动确定的信息和/或用户输入的信息标记路径的选项。例如，用户可使用他或她在沿路径锻炼时的感受、路径的名称、路径评价(例如，有多少用户享受该路径、风景评价、噪声评价、地形评价)、音乐建议、天气、地形、沿路径的地标或令人感兴趣的地点等。信息可继而和寻求用于使用的路径的其他个人共享。不同的用户可标记该路径，从而路径可显示具有多个标签。

[0316] 通过追踪和存储用户路径，运动活动监测和追踪系统可进一步相对于也已经跑过相同路径的其他用户评价用户在该路径上的表现。因此，系统可基于相对于其他用户的用户表现限定各个成就。成就的示例包括对于在限定的时间段中以最多次数跑该路径的喝彩、和/或对于在预定的时间段中最快地跑该路径的喝彩。预定的时间段可对应于全部时间、特定数量的最近的周、月、年等。

[0317] 图73示出了示例性界面7300，其中路径计分板7301和7303被显示用于特定的路径。路径可显示在地图区域7305中。计分板7301根据用户已经跑过该路径的次数列出了已经跑过该路径的用户。另一方面，计分板7303根据最快速度列出了已经跑过该路径的用户。在一些布置中，计分板7301和7303可分别一直显示当前用户和对应的跑步次数和速度，以允许用户将每一个计分板7301和7303的领先者进行比较。在用户达到了计分板上的一定位置时，例如，第一、第二、第三、前10、前10%、前20%等时，可提供告示至用户。在一个示例中，告示可为传输至用户的便携式装置的推动告示，从而用户可立刻被告知该成就。在其他示例中，告示可通过电子邮件、短消息、多媒体消息、语音邮件、电话等传输。

[0318] 在一些情形中(诸如图73中示出的)，系统还可追踪沿路径或跑动的各个距离跑步。例如，计分板7301示出了已经跑过标明的距离最多次数的用户。这些类型的计分板可用于诸如跑道，其中跑道提供允许特定距离跑步的不同距离标记。

[0319] 路径可显示或标示在地图上，以帮助用户将他或她已经进行过锻炼的位置可视化。在标示用户的锻炼之外，地图还可标识诸如好友的其他和热门的锻炼的位置。在一些

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布置中，地图仅可显示用户的好友的当前锻炼或最后记录的锻炼。在其他布置中，地图可显示在特定量的时间上（例如，全部时间、特定数量的月、日、周、年、小时等）用户的好友的全部记录的锻炼。在此外的附加的或替换的布置中，用户可表明用于在地图显示锻炼的过滤器。这些过滤器可包括诸如距离、速度、海拔、坡度、天气、地理区域（例如，州、郡、大陆、半球、时区、邮编等）。选择其他用户的路径位置标识，用户能够查看路径的明细、该其他用户在该路径上的锻炼进程等。

[0320] GPS 和其他定位系统的使用提供了更多的粒度以及附加的功能，用于追踪和监测运动表现。此外，位置检测向用户提供了和其他用户比较表现，以及确定他们可能跑的其他可能的位置的能力。位置确定和路径追踪的各个其他优点和特征也可使用此处描述的方面实现。

[0321] 实时挑战

[0322] 根据一个或多个附加或替换的方面，监测装置和 / 或服务提供方可便于在实时挑战环境中用户和竞争者的匹配。图 74 示出了用于产生和处理实时挑战的示例性方法。例如，在步骤 7400 中，用户可选择诸如 1K 跑步的锻炼。锻炼可被通过诸如移动健身监测装置的装置限定和启动。用户可选择预定的跑步类型 / 配置或可定制他或她自己的跑步。后续地，在步骤 7405 中，用户可启动对一个或多个其他用户的 1K 跑步挑战。在步骤 7410 中，挑战匹配系统可确定用户是否已经指定用于挑战的特定用户。例如，用户可已经选择了好友用于挑战。如果这样，则系统可在步骤 7415 中确定选定的用户是否当前和与匹配系统相关联的运动活动服务联机。例如，如果用户未登录该服务，则用户可被确定不在线。替换地，如果用户在线，则用户可被认为在线。在一种或多种步骤中，在线还可包括和用户的活动数据通信连接。因此，如果和选定的用户的活动数据连接不可用，则用户可被认为不在线。如果选定的用户被确定不在线，则系统可在步骤 7420 中传输表示选定的用户不可用的消息。系统可继而在步骤 7425 中显示允许用户挑战其他用户或直接跳转至跑步的界面。如果用户选择挑战其他用户，则系统可返回至步骤 7410。替换地，系统可转至步骤 7430，其中可启动跑步而不具有挑战组件。

[0323] 如果用户尚未选择用于挑战的特定的用户，则系统可自动地识别且选择一个或多个用户。例如，在步骤 7435 中，系统可识别启动该跑步的该用户的一个或多个属性。属性可包括年龄、体重、身高、体能水平、静息心率等。在步骤 7440 中，系统可搜索可能具有和该用户类似的阈值水平的联机用户。系统可继而在步骤 7445 中传输挑战邀请至每一个匹配的联机用户。在一些布置中，匹配系统可滤去当前正在进行运动活动的用户（例如，以不打断这些用户）。在其他布置中，匹配系统可标示在该相同的道路或路径或类似的路径的邻近范围中的用户。可使用各个其他匹配参数和算法以寻找用于挑战的其他用户。例如，在一些情形中，搜索范围可被限制至用户的好友的列表，而不是服务的全部用户。

[0324] 在步骤 7450 中，匹配系统可确定被邀请的用户是否已经接受了该挑战。如果没有，则系统可在步骤 7455 中告知用户用户的挑战邀请已经被拒绝。系统可继而显示诸如在步骤 7425 中产生和显示的那样的菜单。如果一个或多个被邀请的用户已经接受了该挑战，则当前用户可被在步骤 7460 中告知该接受。锻炼可继而在步骤 7430 中启动，作为在接受的参与者之间的挑战。

[0325] 在一种或多种布置中，参与者可通过在挑战中（例如，跑步中途）选择增加目标量

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(例如,距离、消耗的卡路里、速度)的选项面增加挑战。通知可继面传输至其他参与者,询问他们是否同意挑战中的改动。如果预定数量的参与者同意,则该挑战可继面自动和即刻地动态地改动。例如,挑战仅可在大部分参与者同意或至少 75% 的参与者同意或全部参与者同意(或一些其他的阈值或规则被满足)时被改动。在其他示例中,挑战可对于同意的参与者改动,而不对那些不同意挑战中的改动的参与者改动。在这样的情形中,可在跑步中途创建两个分立的挑战 :一个对应于初始目标 / 挑战,而另一个对应于改动后的目标 / 挑战。如果改动后的目标 / 挑战大于初始的目标 / 挑战,则改动后的目标的 / 挑战的参与者也可保留初始目标 / 挑战的参与者。

[0326] 在挑战结束时,用户的结果可被进行比较,且将宣布获胜者。在一些布置中,服务提供方可奖励获胜者以赊彩、虚拟奖牌、虚拟货币或其他奖励。附加地或替换地,系统可提醒挑战参与者在其他安排的时间处参与其他的跑步,以进一步鼓励参与者参与运动活动。

[0327] 锻炼前和锻炼后挑战

[0328] 为了进一步激励用户参与运动活动和保持兴趣,训练应用和装置可在锻炼前和 / 或锻炼后提供附加的挑战。例如,训练应用可要求用户在被允许使用应用限定新的跑步(例如,时间跑步、距离跑步或基本跑步)或在被允许开始限定的锻炼之前完成锻炼前挑战。

[0329] 图 75 示出了示例性界面,其配置为挑战用于在参与锻炼进程之前完成热身锻炼。界面 7500 可包括诸如可旋转轮 7501 的互动选择机构,其填充有多个预定热身活动。使用预定的热身活动预填充选择机构 7501 还教导或告知用户恰当和有效的热身程序。用户可通过将手指划过界面屏幕或按压"旋转"按钮(未示出)而和轮 7501 交互(例如,旋转该轮)。装置可具有随机或假随机地从在轮 7501 中填充的那些选择一种热身活动。可使用指针 7503 虚拟地示意旋转,且确定选择的热身活动。在一些布置中,装置和应用可能在允许用户启动锻炼进程之前要求完成选定的热身活动。例如,应用可锁定热身活动界面,直至其已被完成。完成可由装置(例如,使用 GPS 或加速度器算法)监测,或可自己报告。在一些布置中,轮 7501 可被填充具有从热身活动的数据库选择的热身活动。因此,轮 7501 可在不同的时间(例如,对于不同的锻炼进程)填充具有不同的热身活动。

[0330] 和图 75 中描述的锻炼前热身活动选择机构类似,运动训练应用还可提供放松活动选择机构。例如,图 76 示出了放松活动选择界面,用于选择锻炼后的放松活动。应用可提供该界面,以告知用户在锻炼之后的放松的重要性,以及这样做的有效的方式。界面 7600 的选择机构 7601 可以和图 75 的轮选择机构 7501 类似的方式操作。特别地,轮 7601 可填充具有放松活动的任意数字(例如,1、2、5、10、15、20 等),且包括指针 7603,以示意旋转和确定选择的任务。在一些环境中,轮 7601 可填充具有至少两项放松活动。放松任务可包括拉伸、步行、慢跑等,以帮助降低酸痛和增加柔韧性。在一些情形中,可能要求放松活动,且通过如果放松未进行则不为相关的锻炼记录或提供点数面执行。例如,锻炼可用于赚取虚拟货币或指标。因此,如果用户不进行放松,他或她可能不赚取对应量的虚拟货币或虚拟运动表现指标。

[0331] 也可在图 75 和 76 的示例性轮选择机构之外或替代其使用其他选择机构。例如,可提供老虎机选择机构,其中用户拉一杆,以确定将进行的热身或放松活动。在另一示例中,应用可模拟滚动一个或多个骰子,其中骰子的每一个面列出不同的放松或热身活动。

[0332] 其它特征

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[0333] 附加的特征可包括作为此处描述的运动训练应用、装置和系统的一部分。例如，运动训练应用或系统可产生用户可在锻炼进程中竞争的虚拟竞争者。虚拟竞争者可为用户提供额外的激励。在一个示例中，用户可表明虚拟竞争者的希望的平均速度，以及意图的锻炼的距离或持续期间。应用或系统可继而基于该特定的平均速度模拟虚拟竞争者的进度，且将虚拟竞争者的模拟进度和用户的实际进度进行比较。该比较可继而传输至用户。在一个示例中，诸如“加速！你的竞争者即将超过你！”或“保持住，你领先你的竞争者”的音频消息可被提供至用户，以提供相对表现的标识。在其他示例中，相对于用户的进度的虚拟竞争者的进度可沿路径图显示。在此外的其他示例中，虚拟竞争者的表现的量化指标可对照用户的表现显示。也可使用其他类型的表现标识。

[0334] 结论

[0335] 提供具有此处描述的一个或多个特征的活动监测系统和环境向用户提供一种沉浸式体验，其将鼓励和激励用户参与运动活动并改进他或她的健身。通过鼓励用户超过在其他跑步中途创造的此前的统计数据，用户可被他或她能够产生的改进而激励。附加地，用户可能能够将单个装置用于室内和室外锻炼两者，且由此能够将锻炼数据累积在单个装置上。此外，用户可被能够发出至其他用户的实时挑战而激励进行锻炼。因此，用户可觉得他们在和其他用户一起锻炼，即使他们在物理上是自己在跑步。

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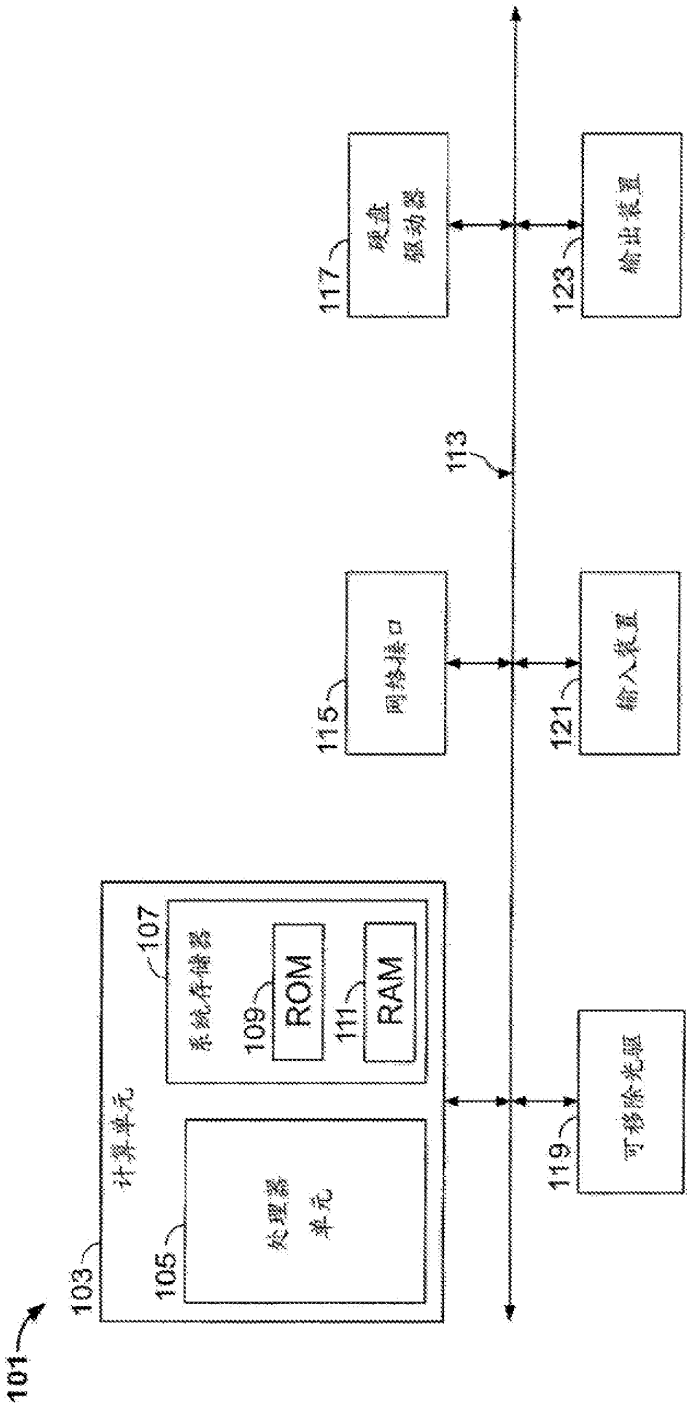


图 1

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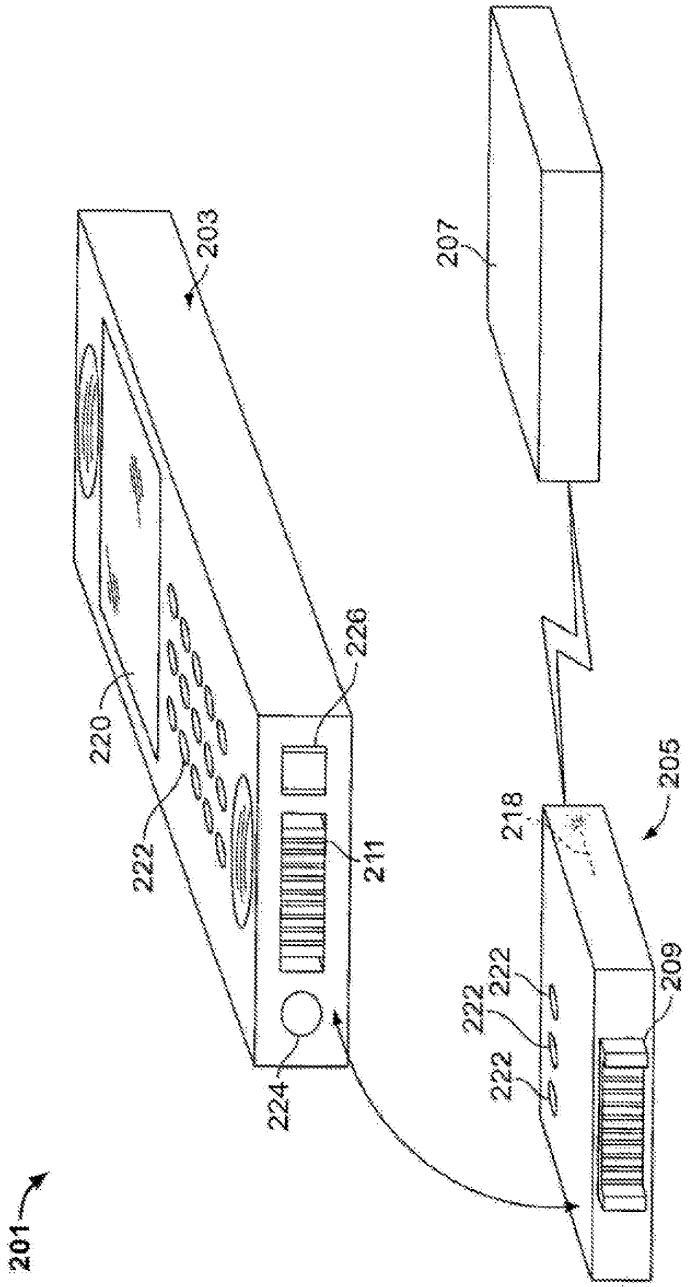


图 2

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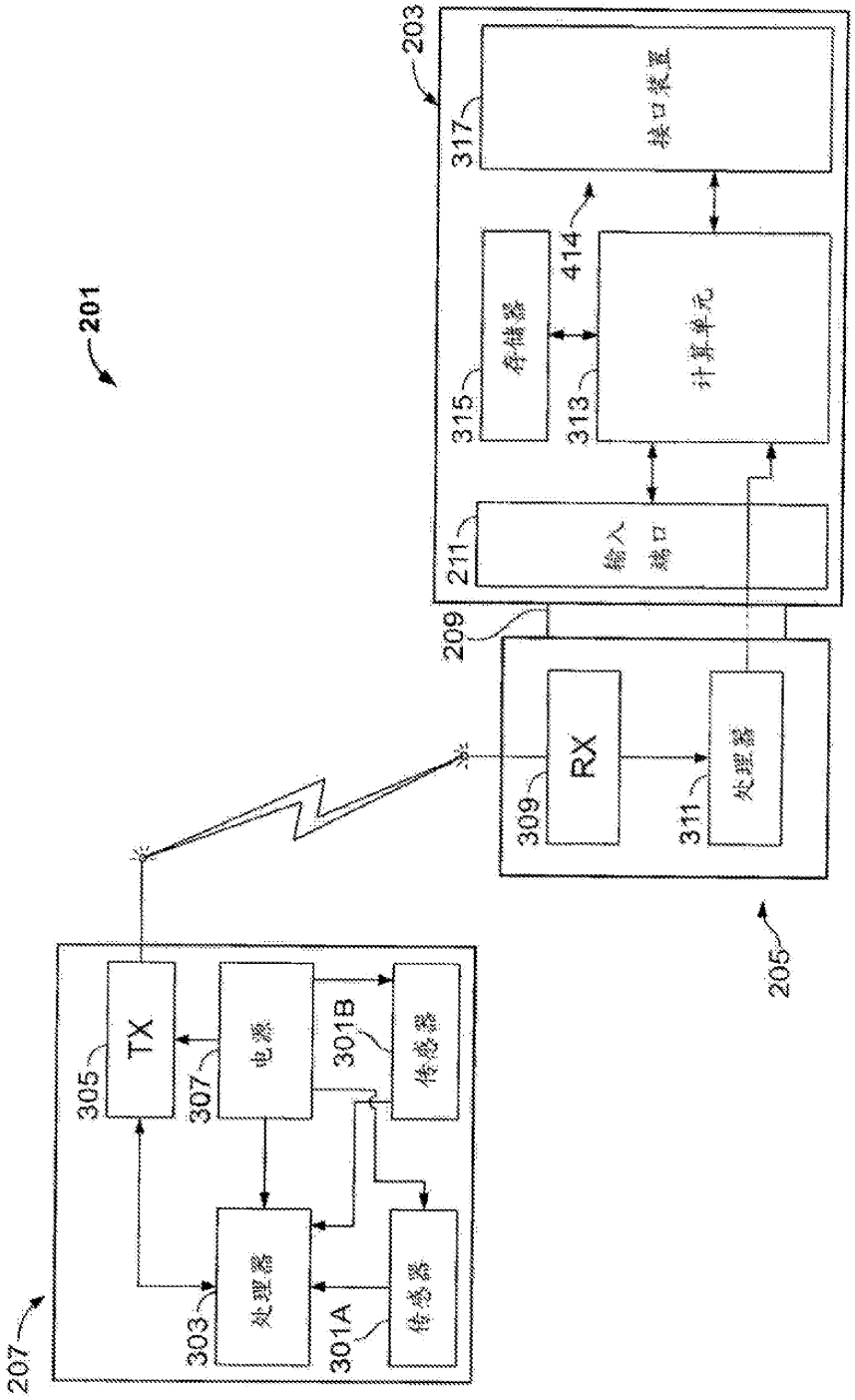


图 3

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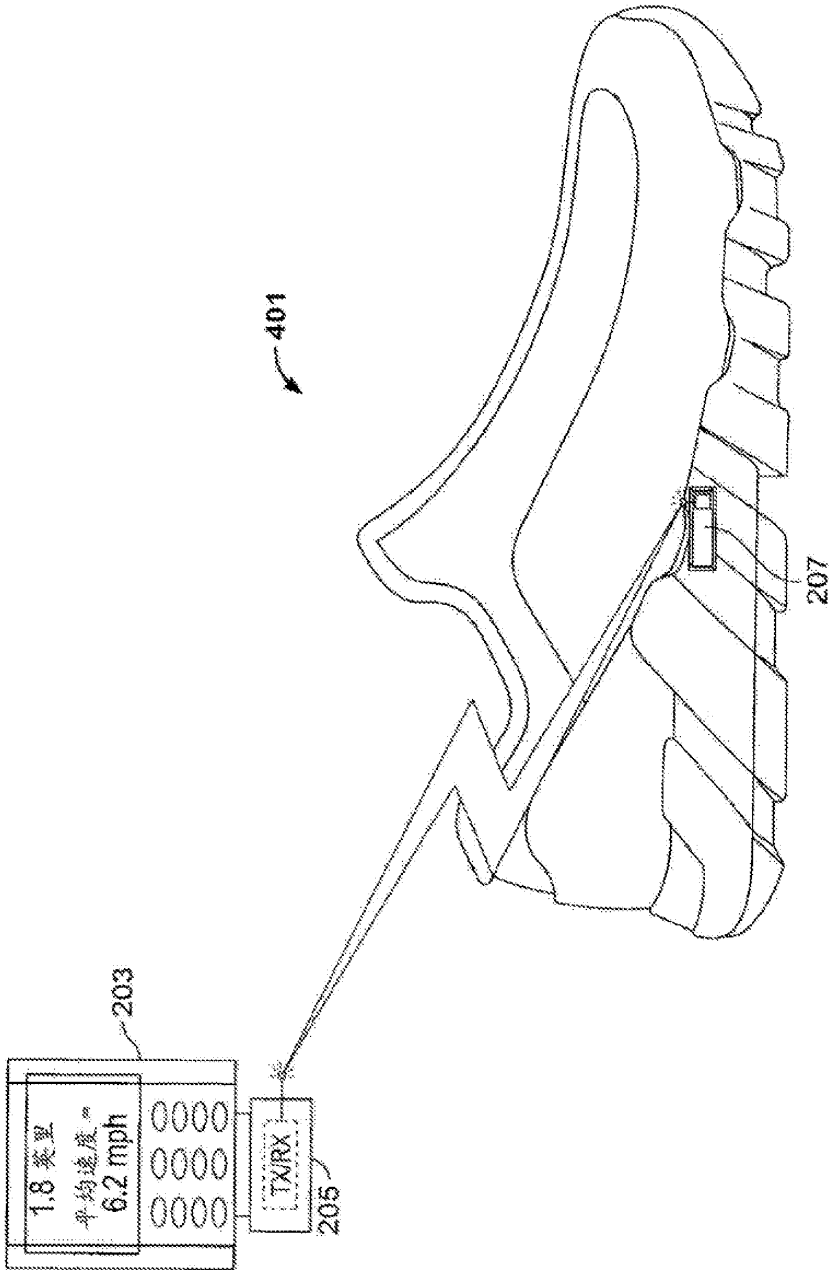


图 4

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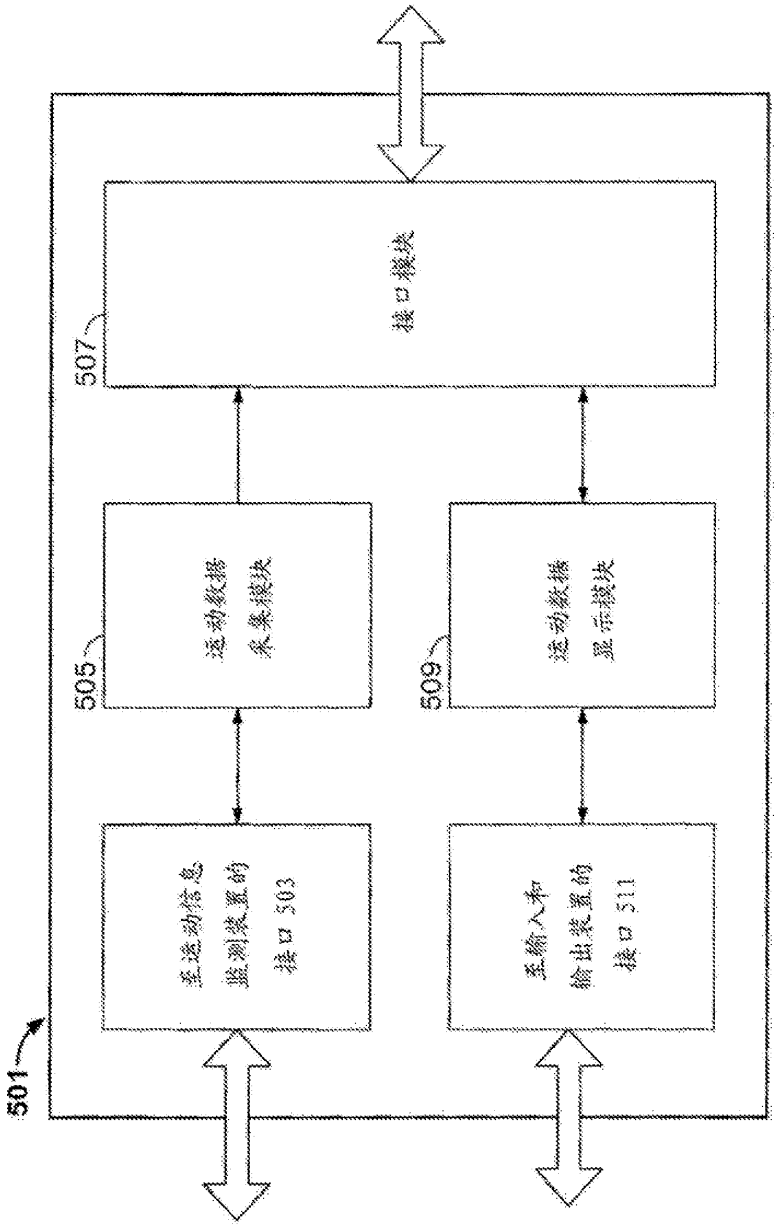


图 5

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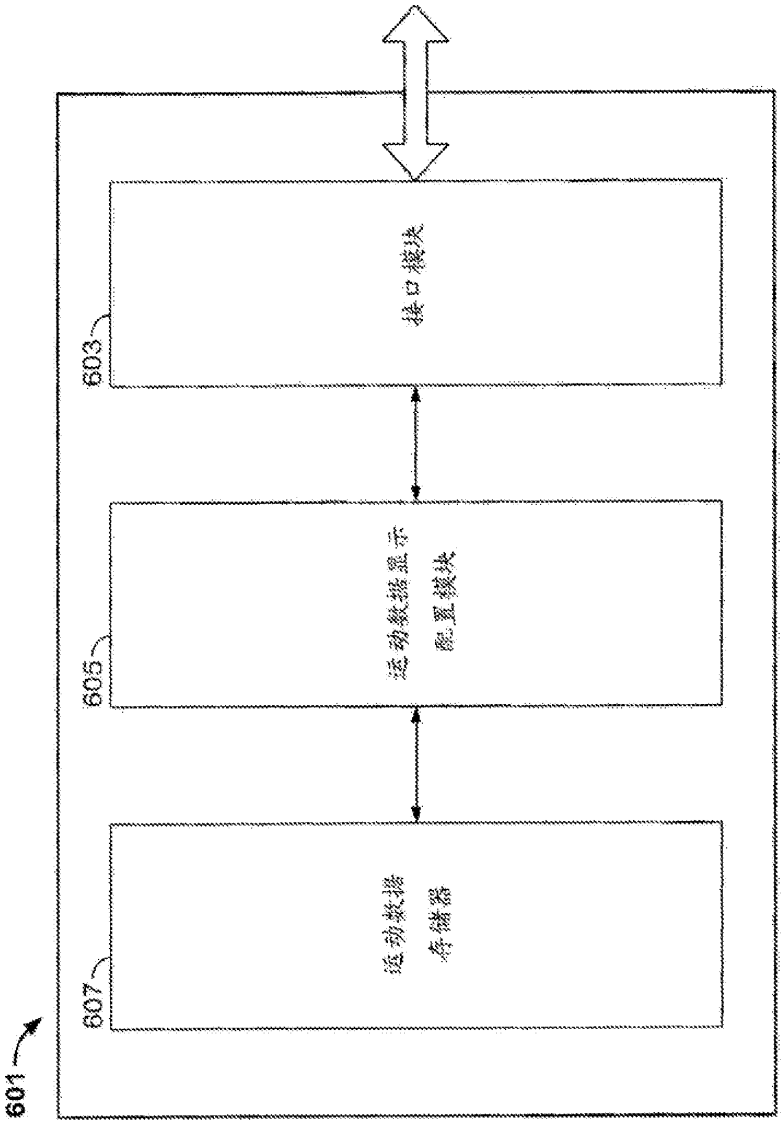


图 6

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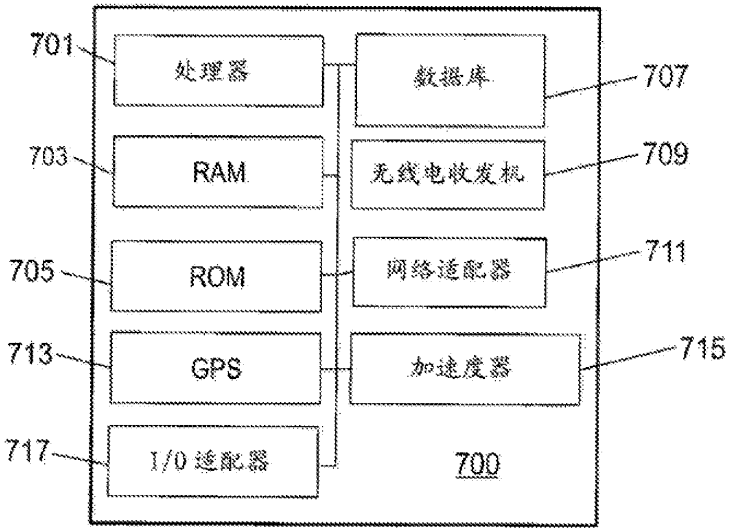


图 7

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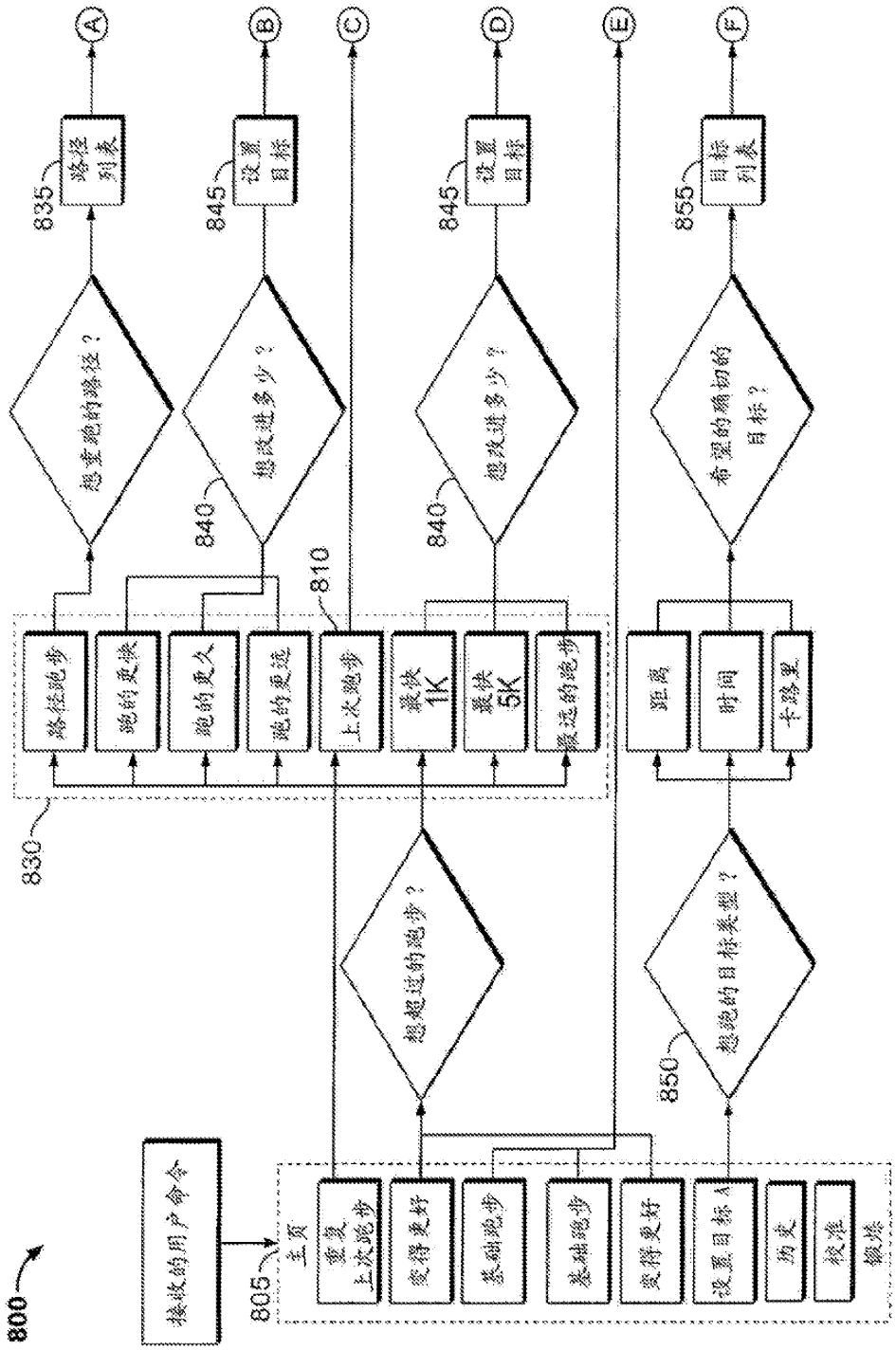


图 8

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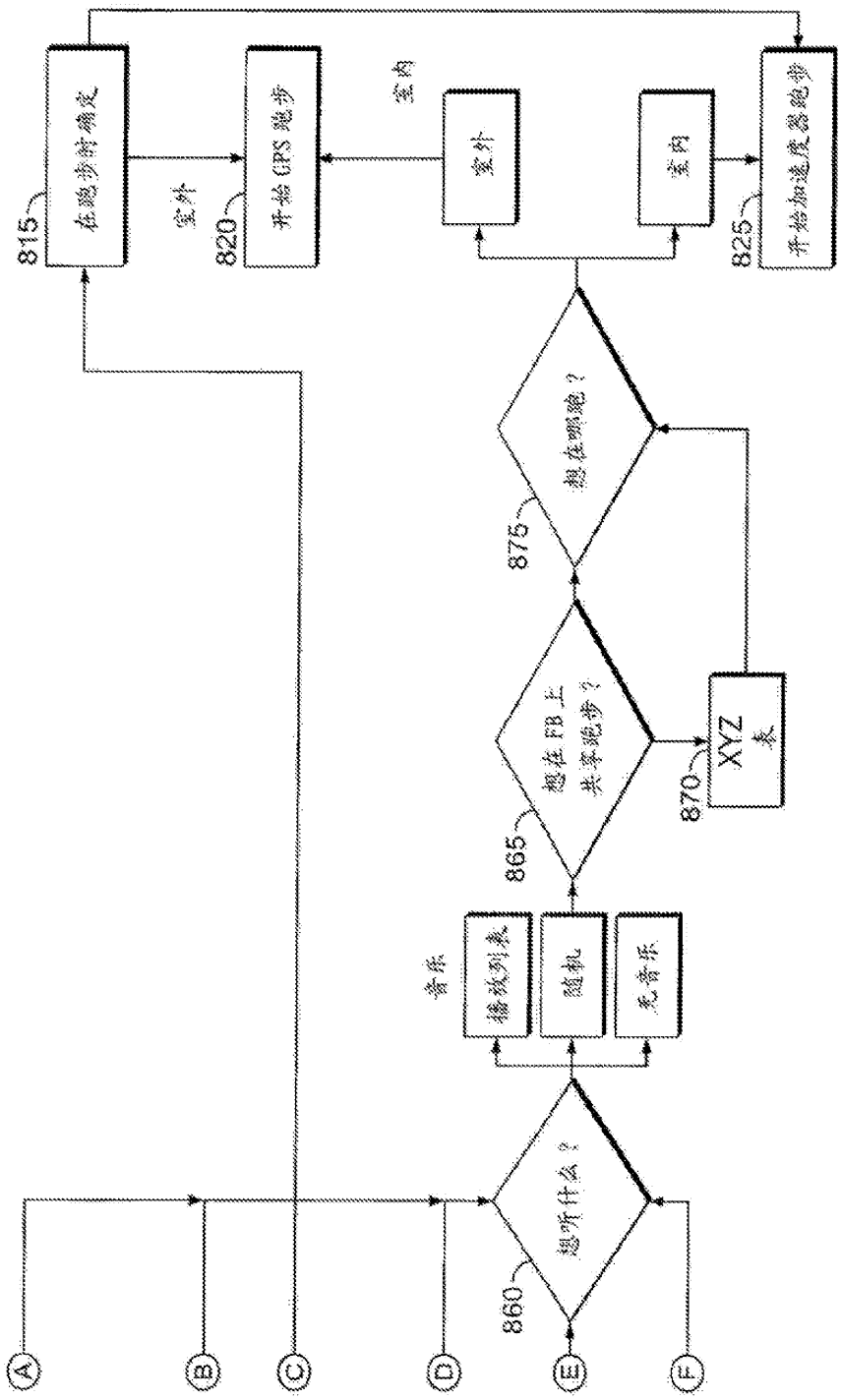


图 8（续）

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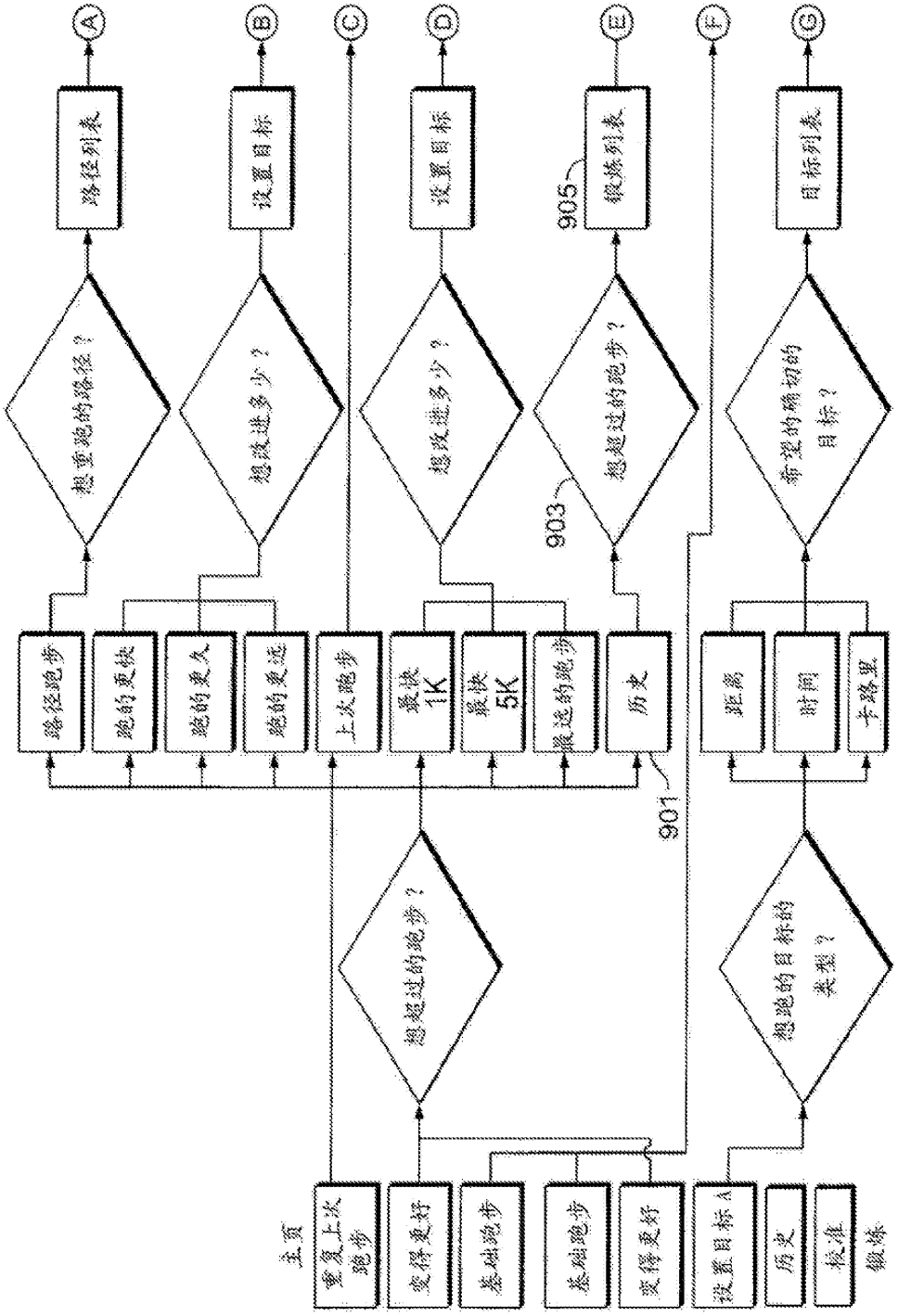

A
B
C
D
E
F
G
路径列表
设置目标
设置目标
锻炼列表
目标列表
905
想重跑的路径？
想跑进多少？
想跑进多少？
想超过的跑步？
希望的锻炼目标？
903
路径跑步
跑的更快
跑的更久
跑的更远
上次跑步
最快1K
最快5K
跑过的跑步
历史
距离
时间
卡路里
901
想超过的跑步？
想跑的目标的类型？
主页
重复上次跑步
变得更好
基础跑步
基础跑步
变得更好
设置目标A
历史
校准
锻炼

图 9

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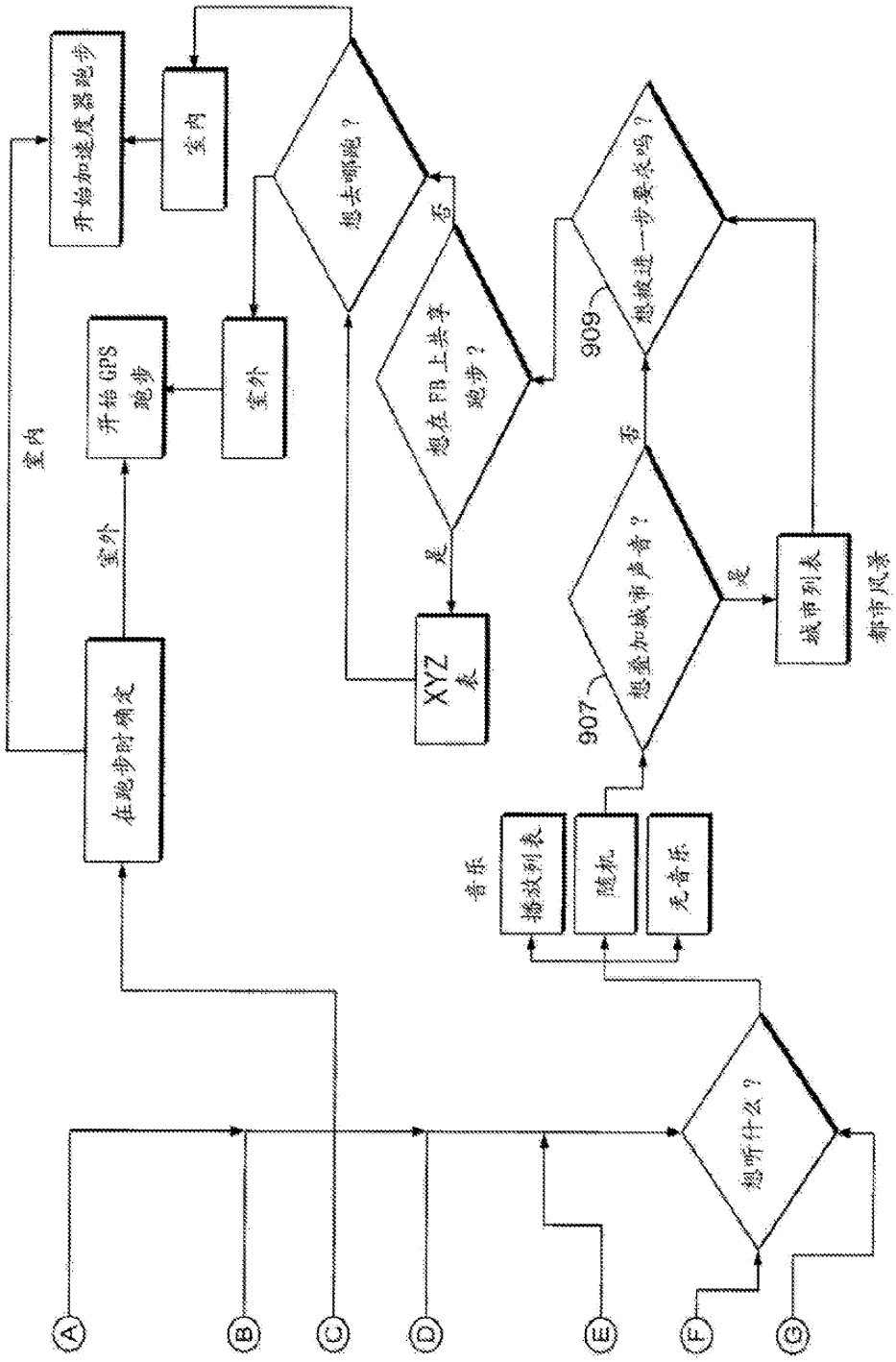


图 9（续）

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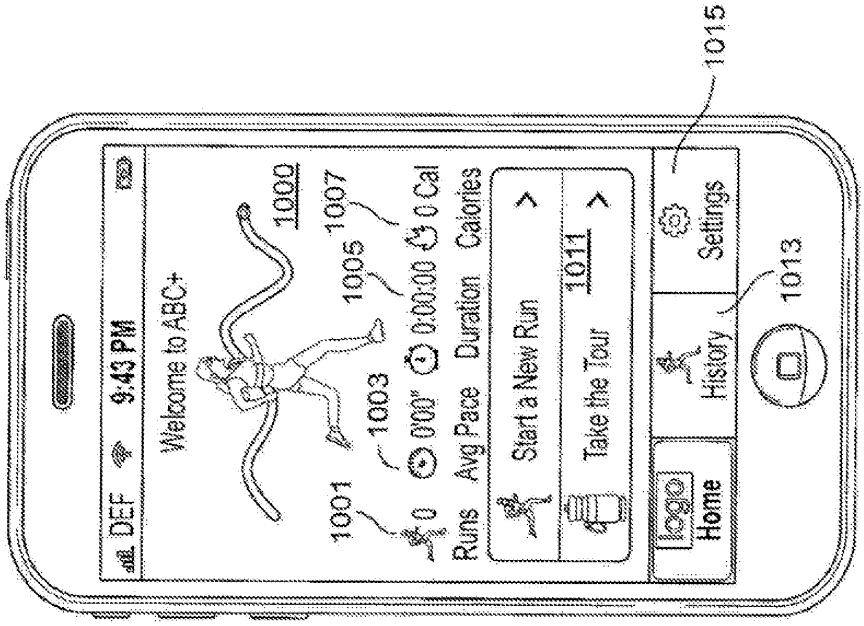


图 10A

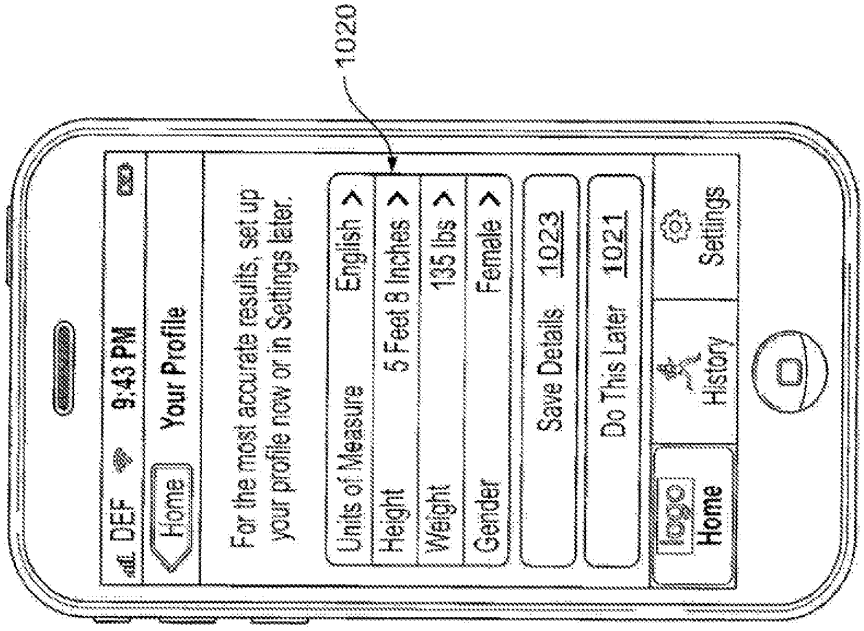


图 10B

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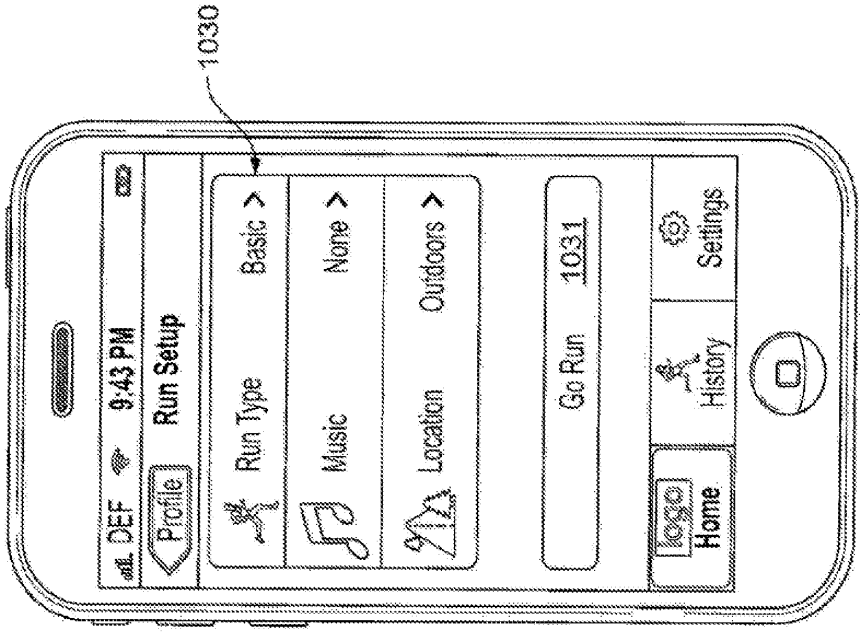


图 10C

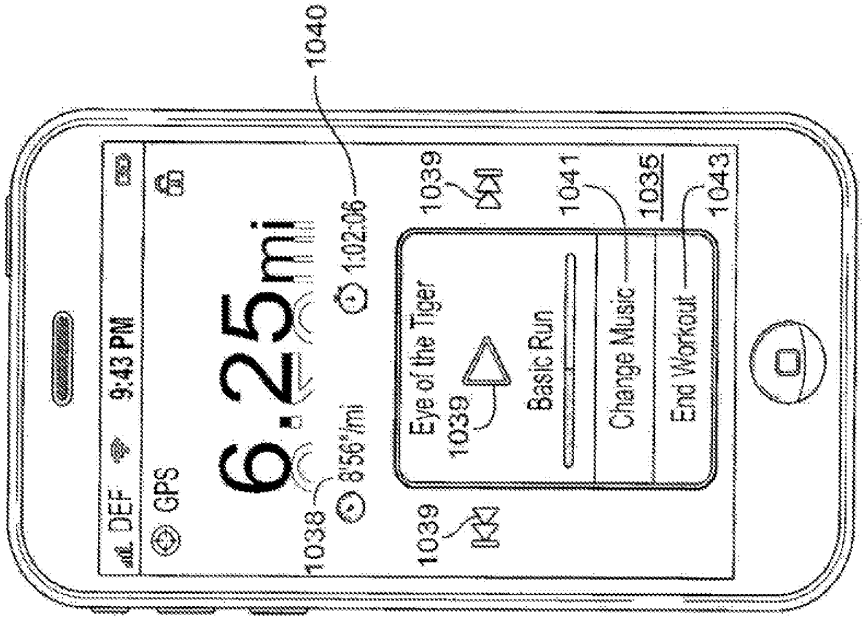


图 10D

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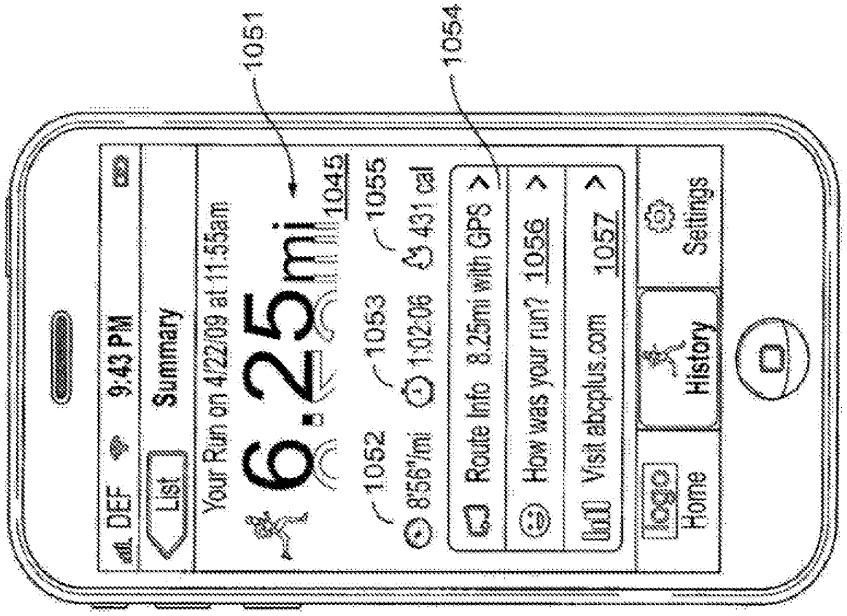


图 10E

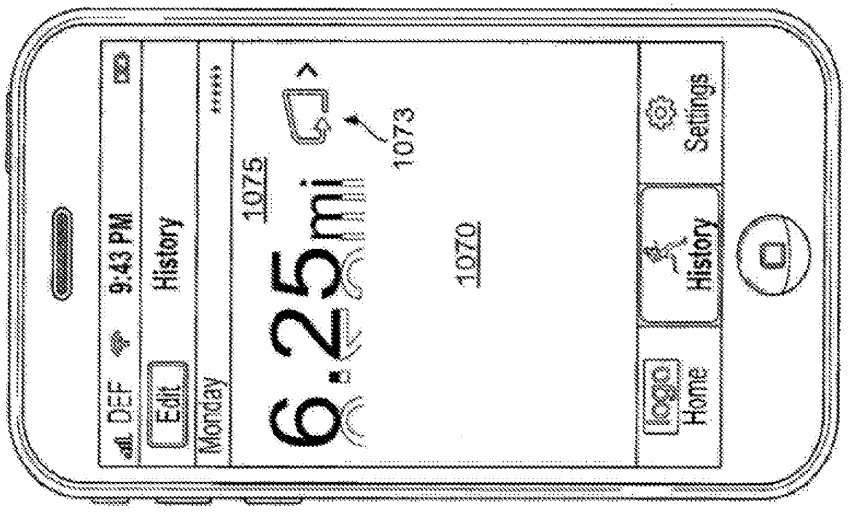


图 10F

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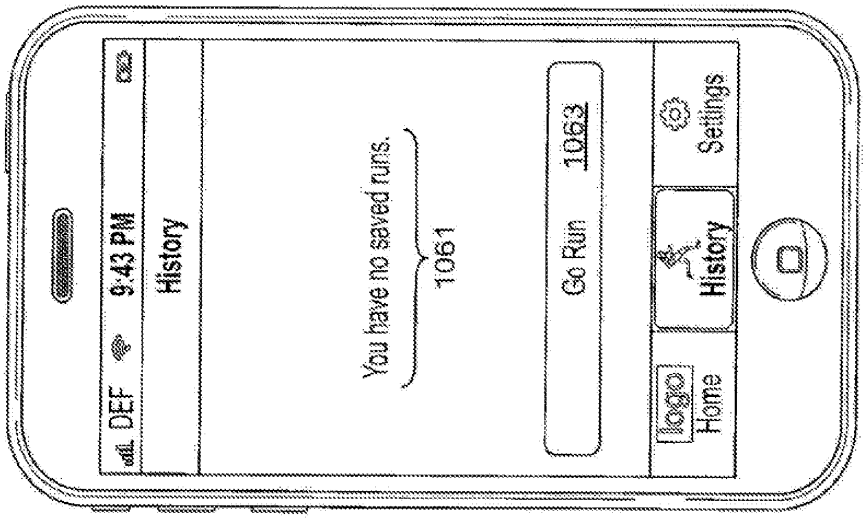


图 10G

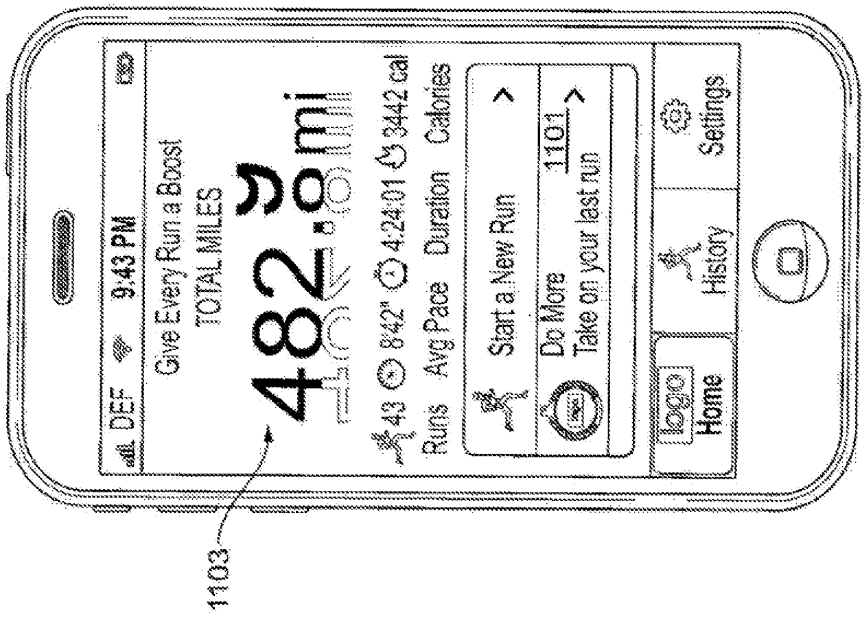


图 11A

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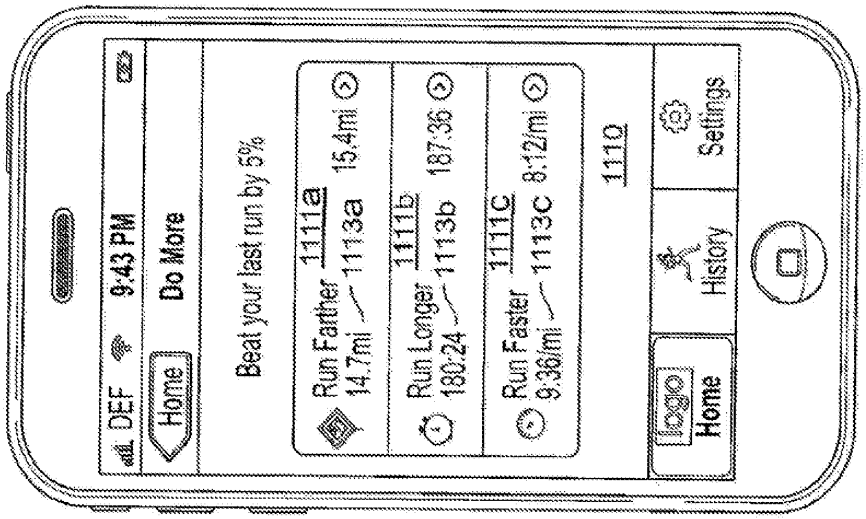


图 11B

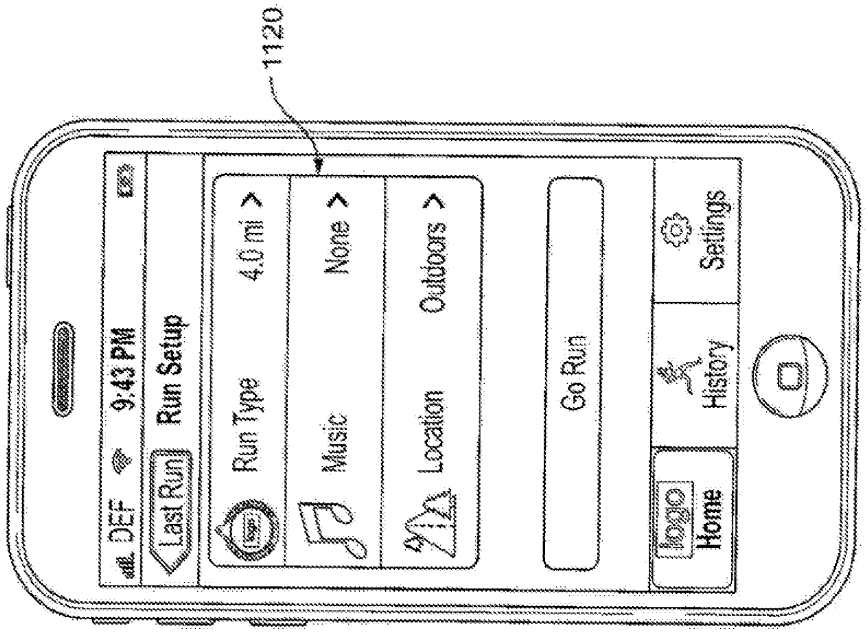


图 11C

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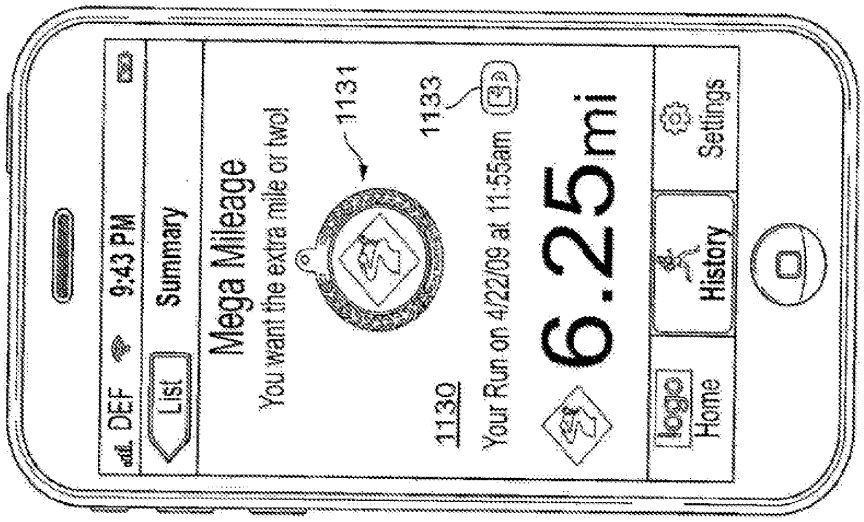


图 11D

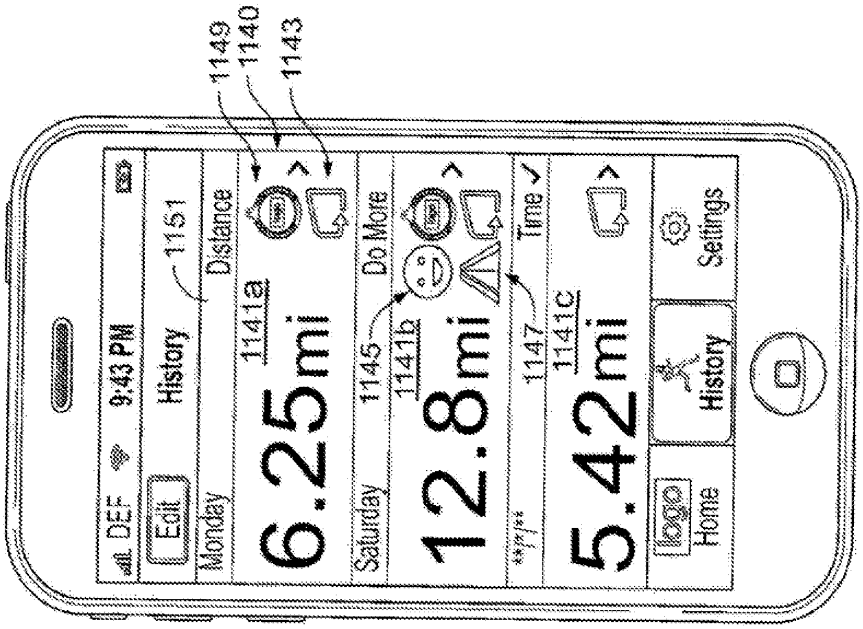


图 11E

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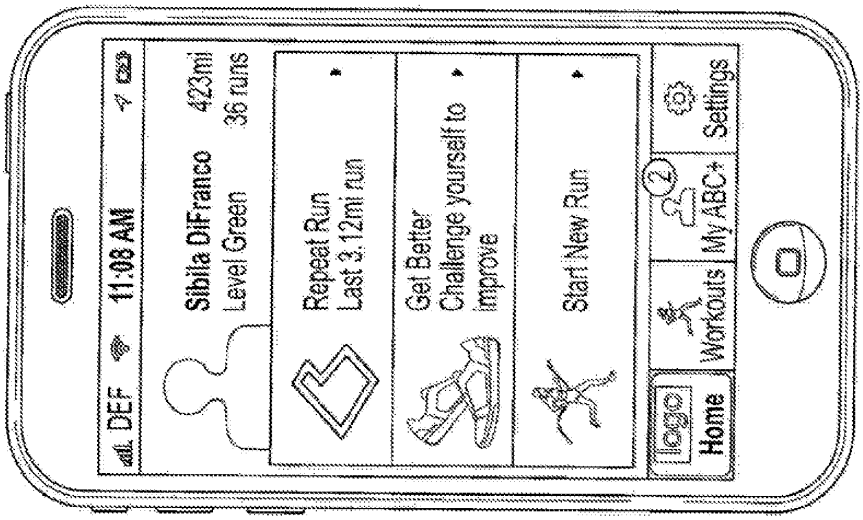


图 12A

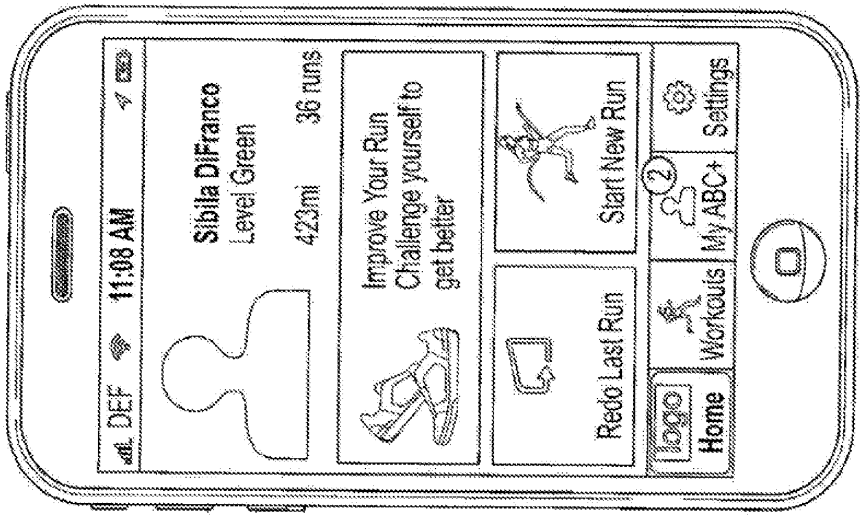


图 12B

AliveCor Exhibit 1002
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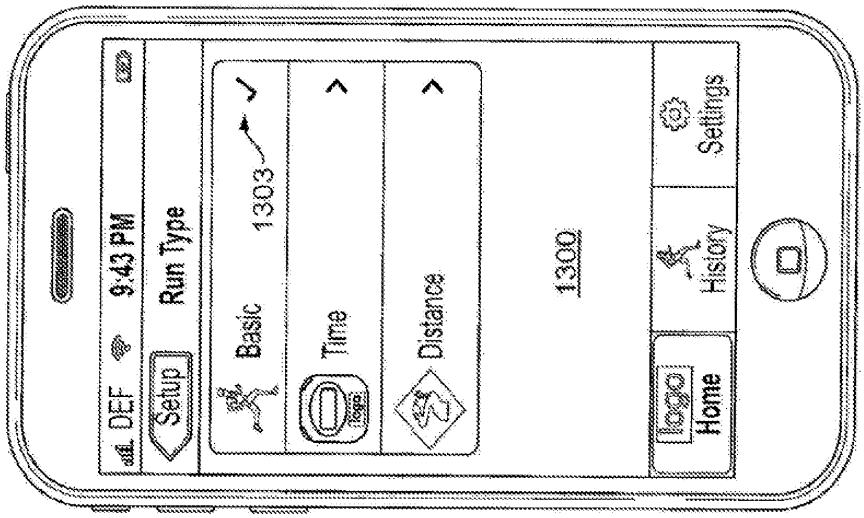


图 13A

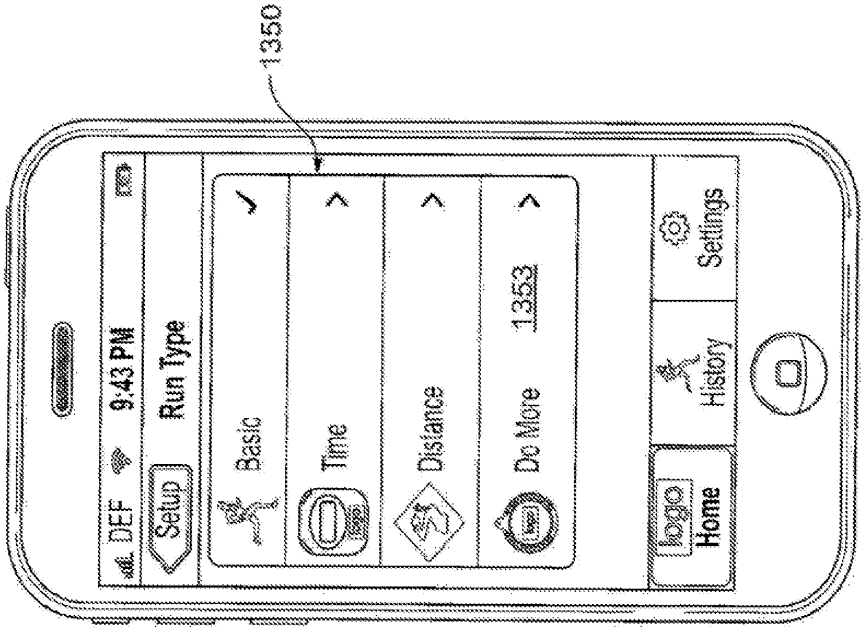


图 13B

AliveCor Exhibit 1002
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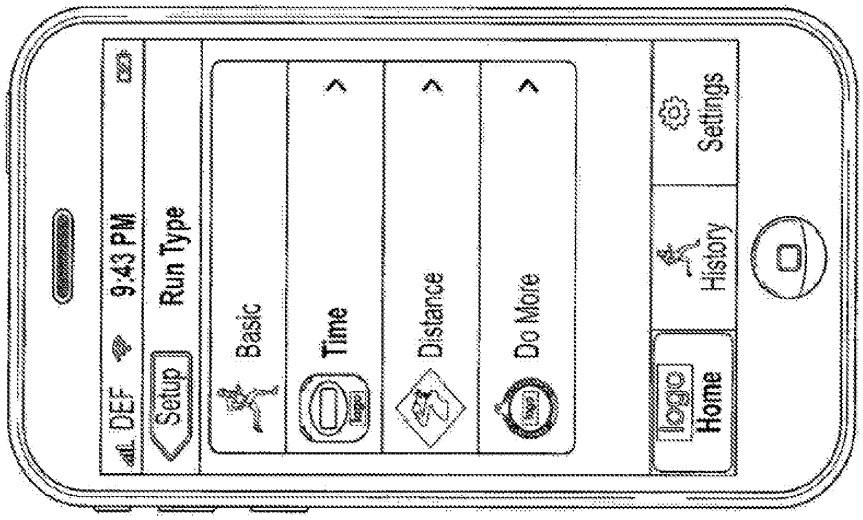


图 14A

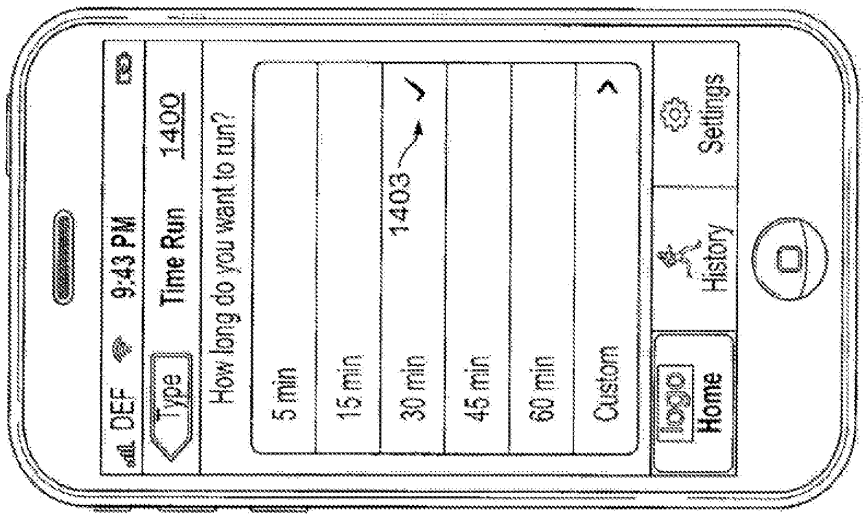


图 14B

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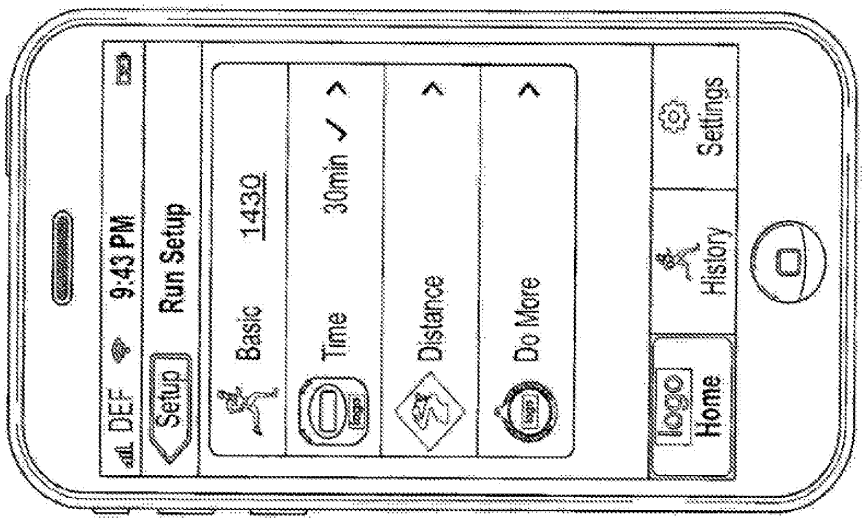


图 14C

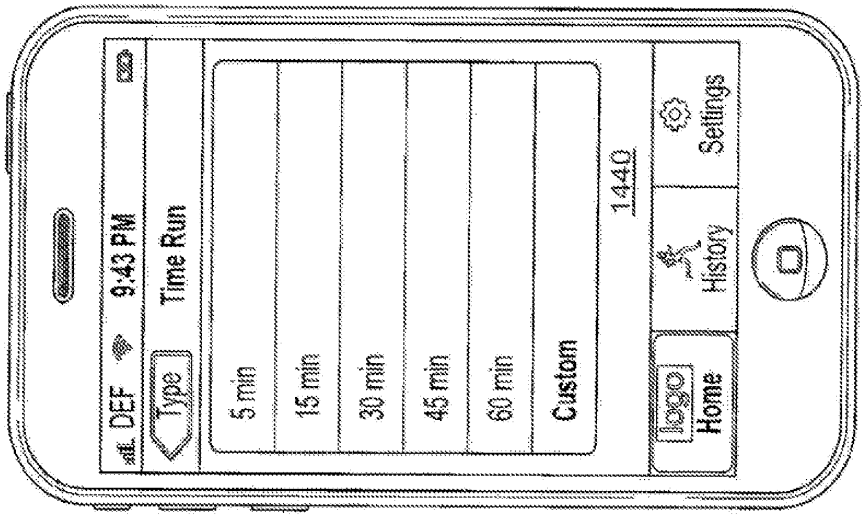


图 14D

AliveCor Exhibit 1002
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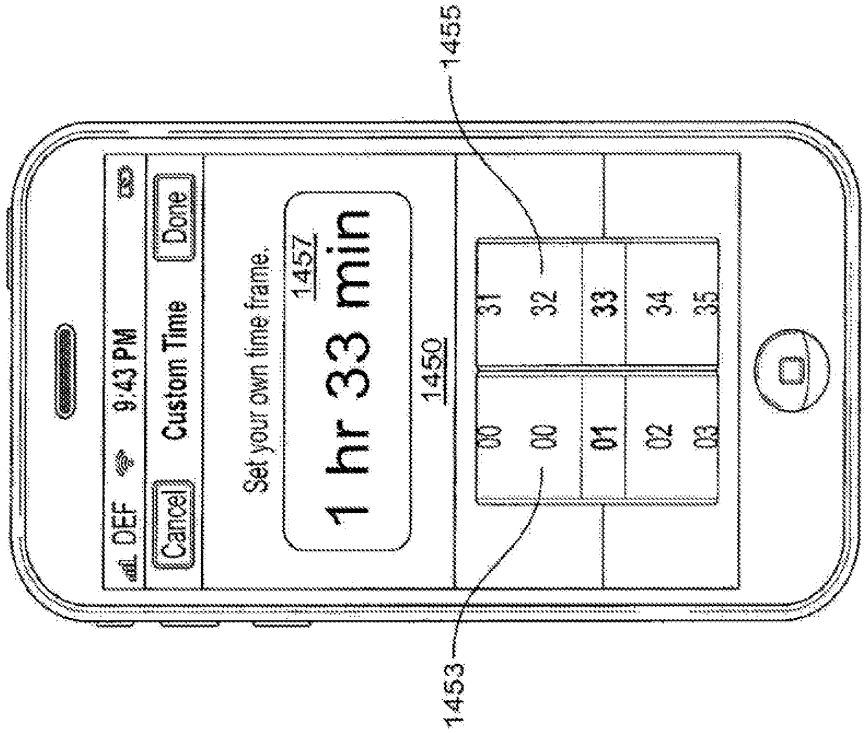


图 14E

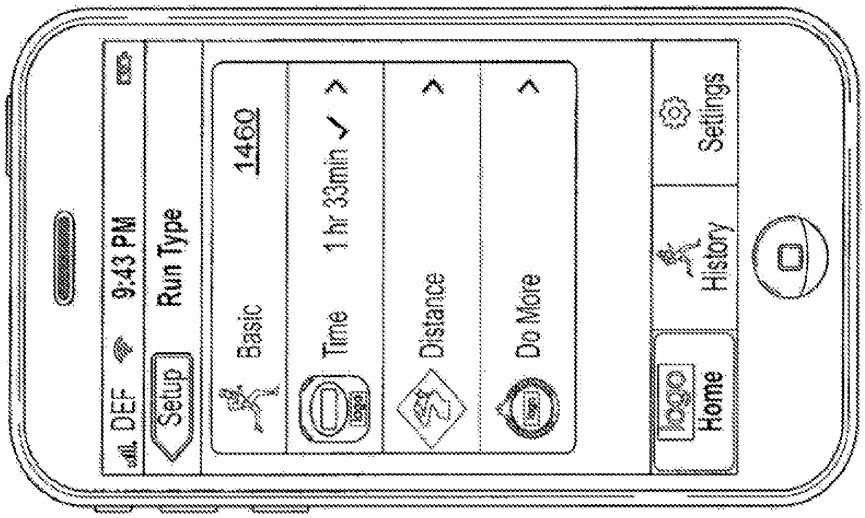


图 14F

AliveCor Exhibit 1002
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IPR2023-01434, U.S. Patent No. 10,270,898
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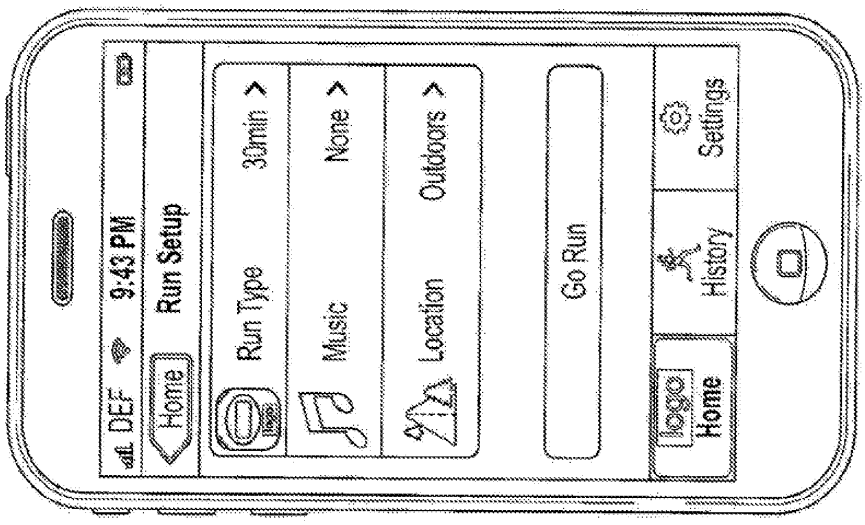


图 14G

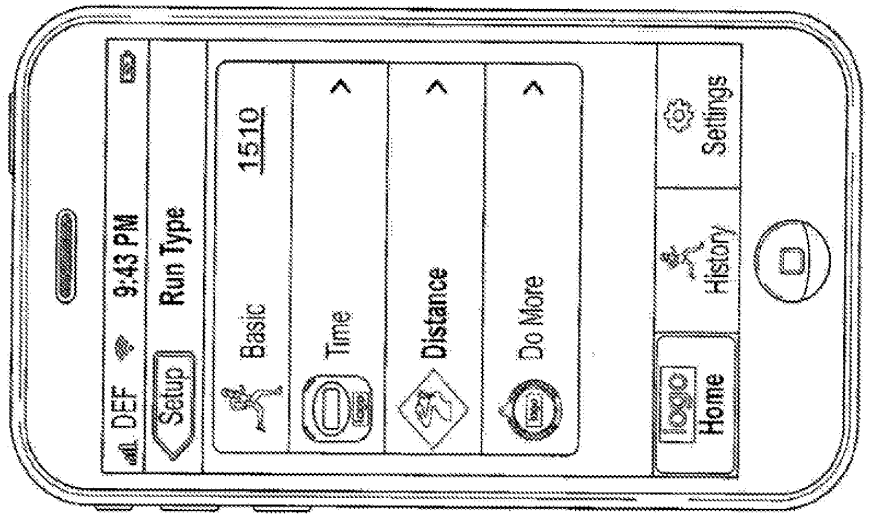


图 15A

AliveCor Exhibit 1002
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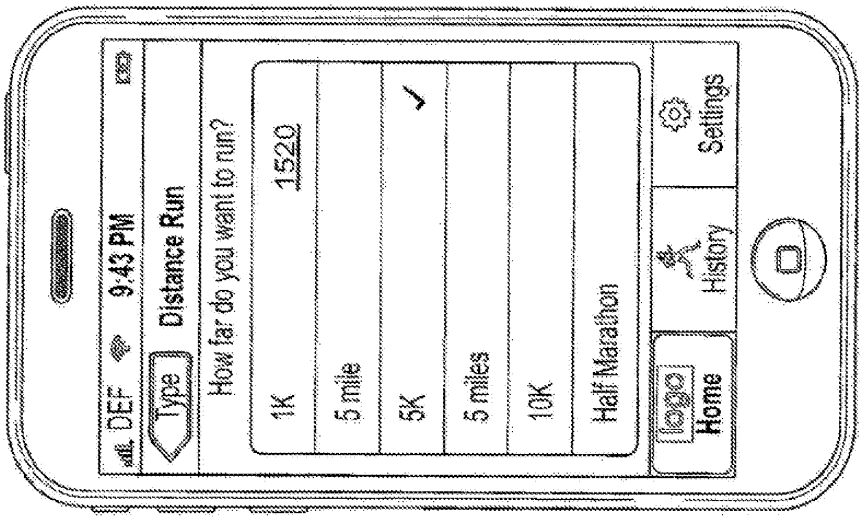


图 15B

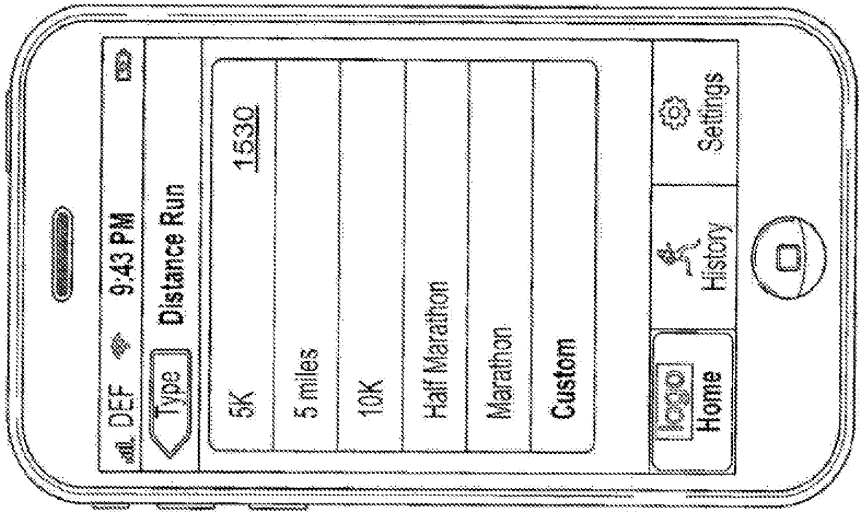


图 15C

AliveCor Exhibit 1002
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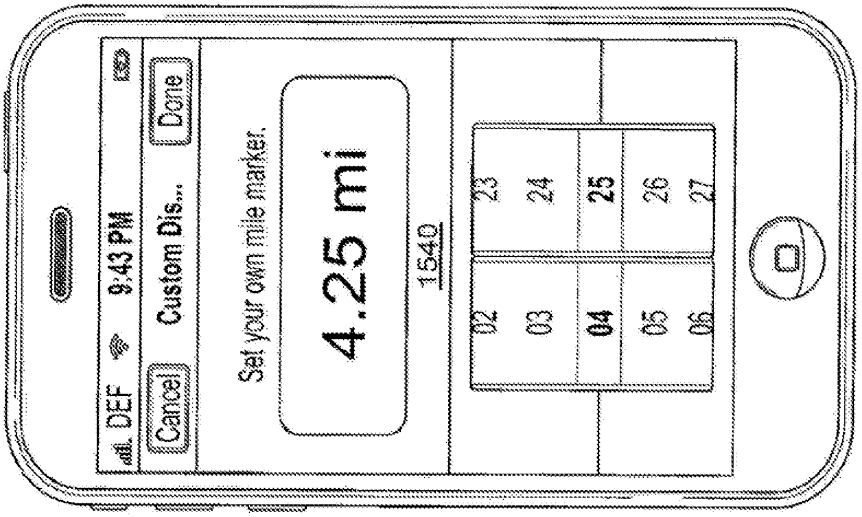


图 150

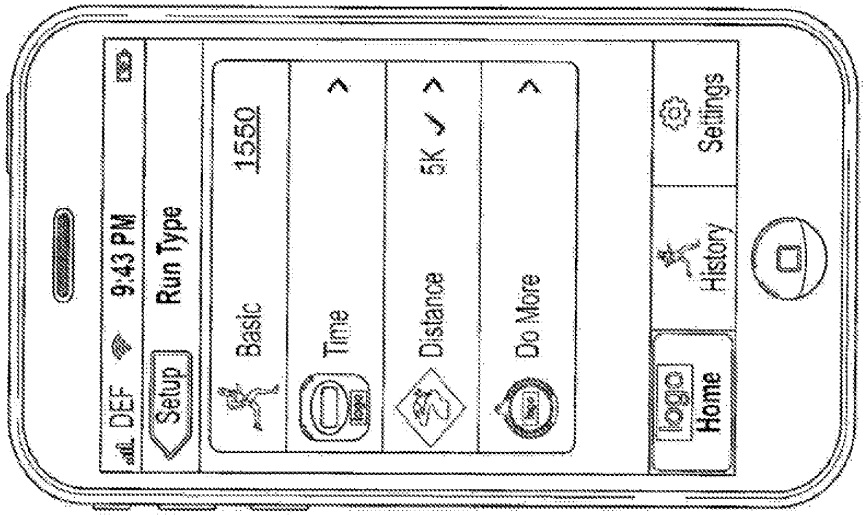


图 150

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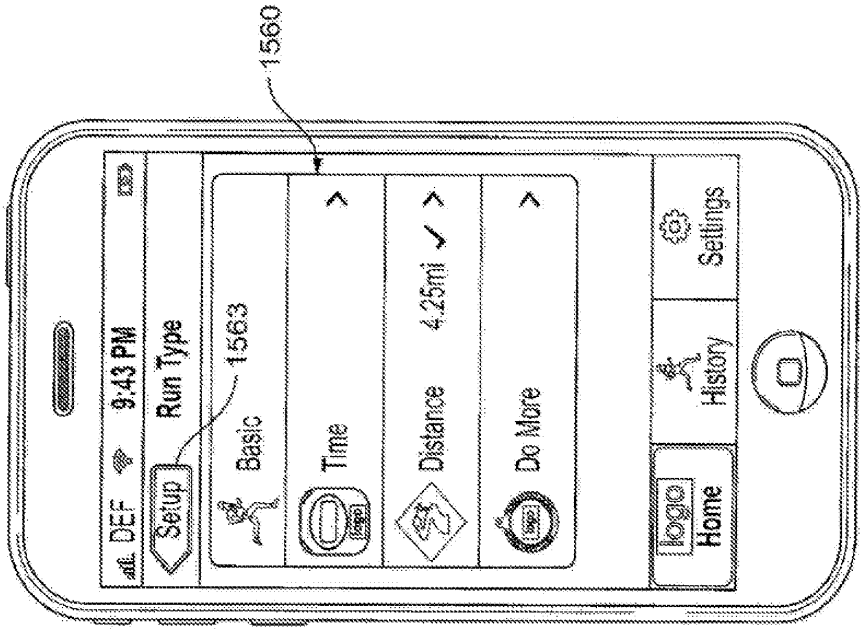


图 15F

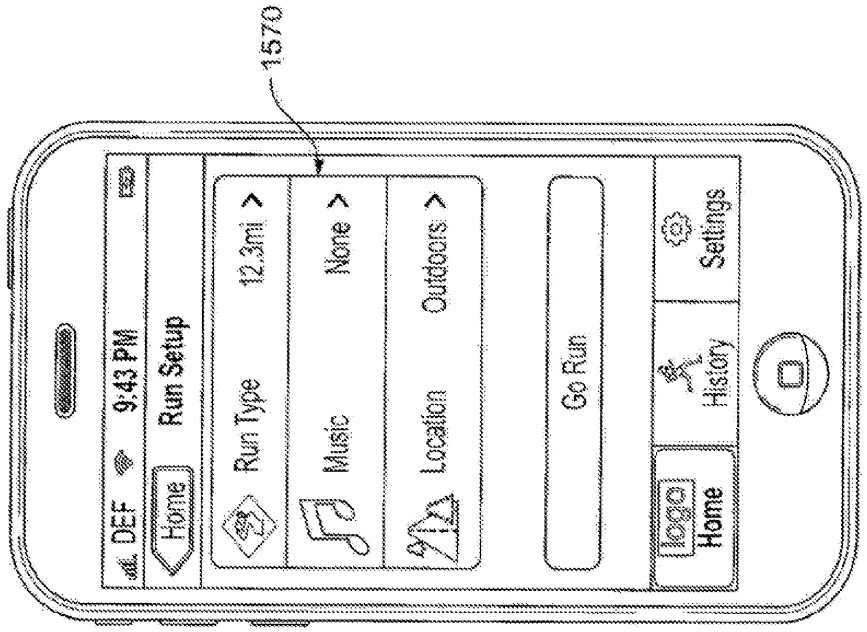


图 15G

AliveCor Exhibit 1002
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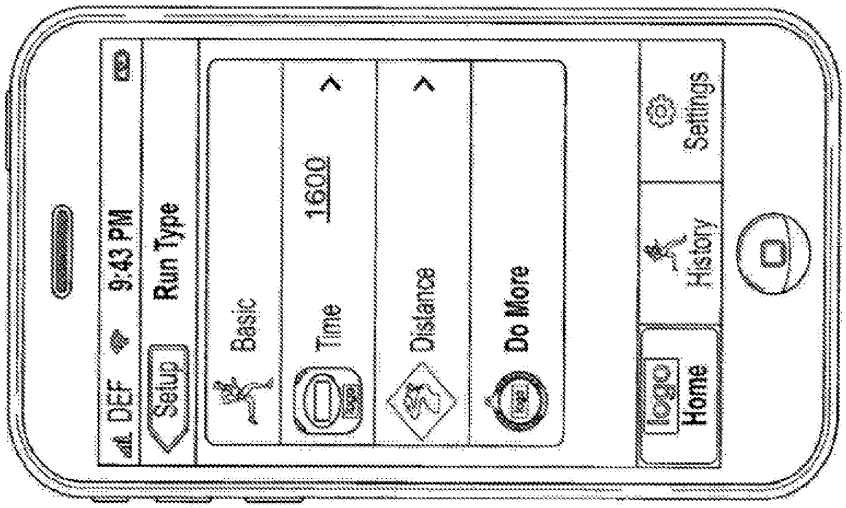


图 16A

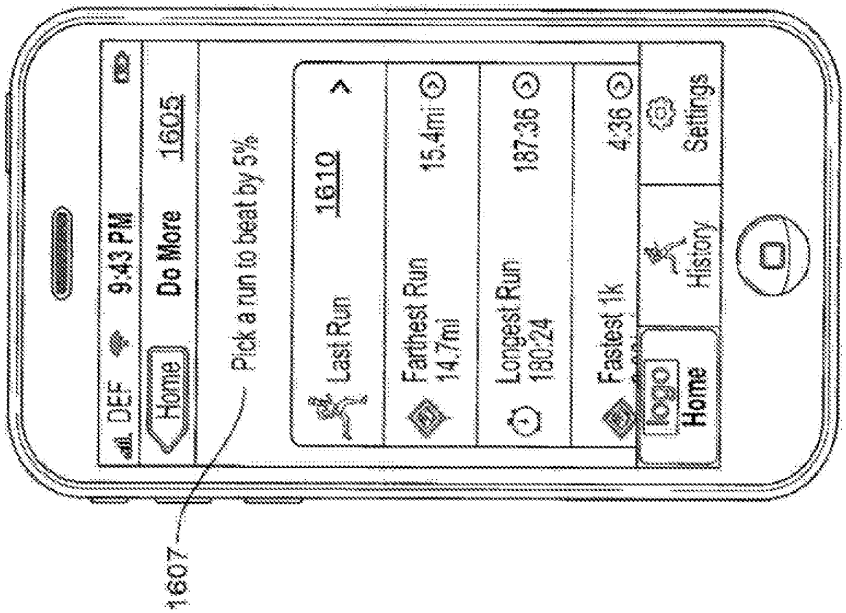


图 16B

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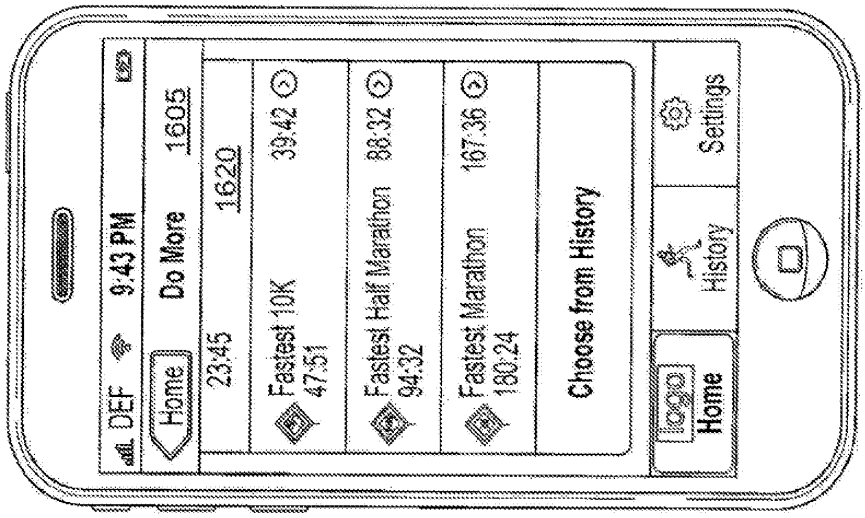


图 16C

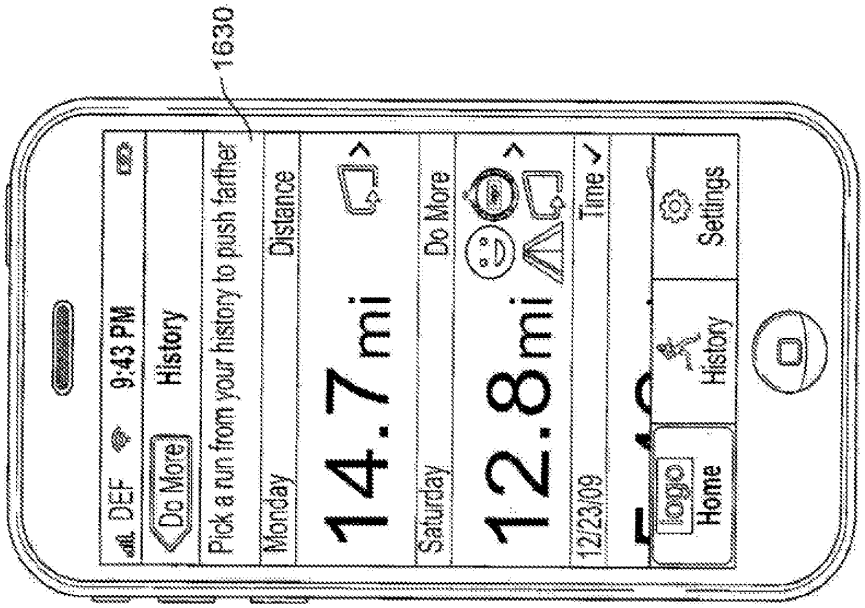


图 16D

AliveCor Exhibit 1002
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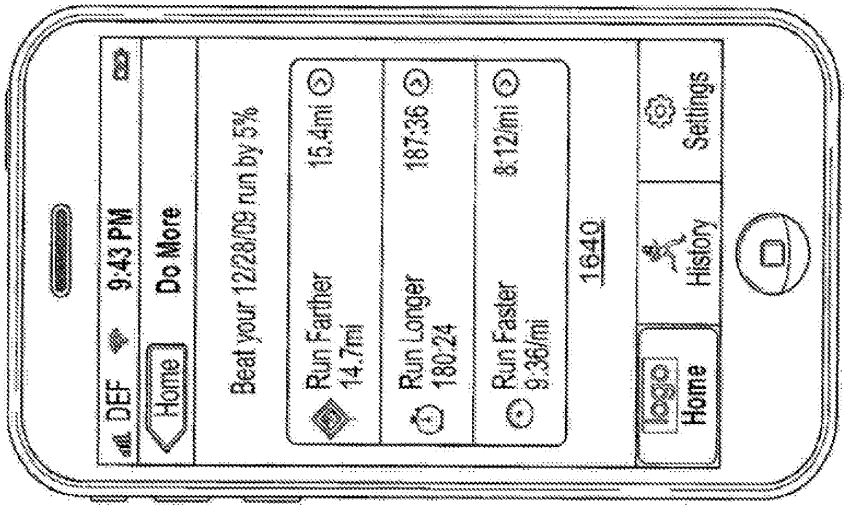


图 16E

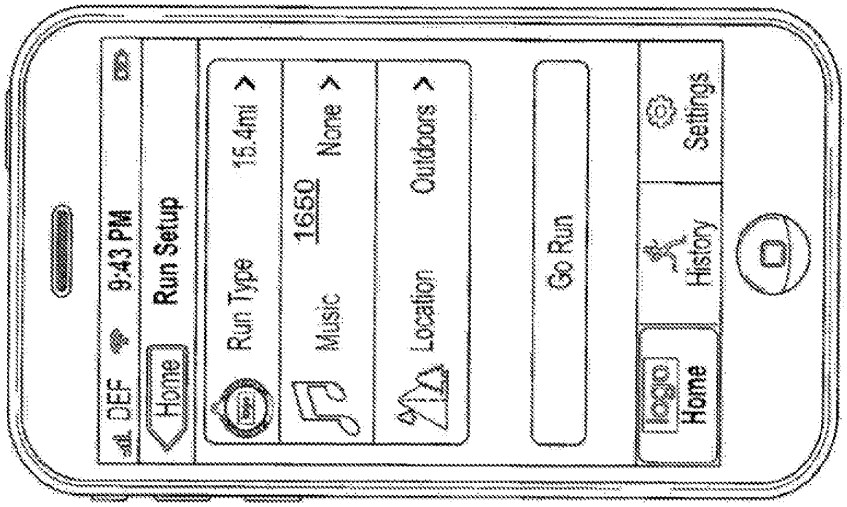


图 16F

AliveCor Exhibit 1002
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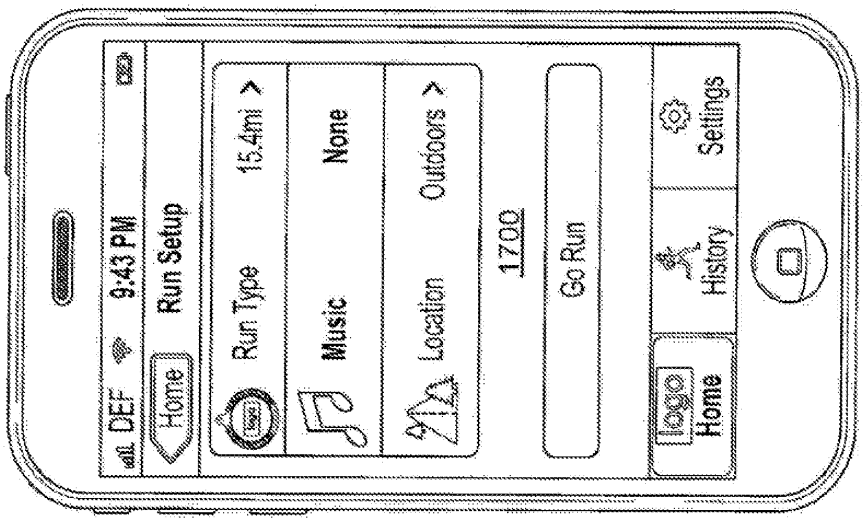


图 17

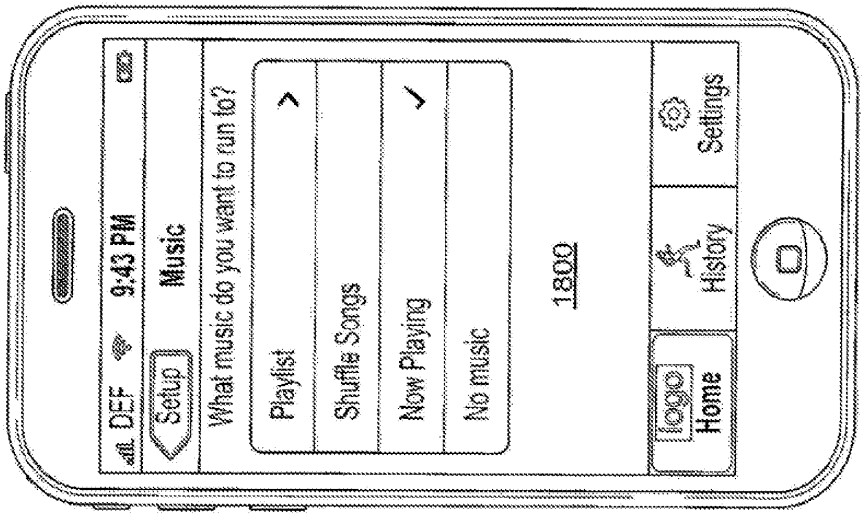


图 18A

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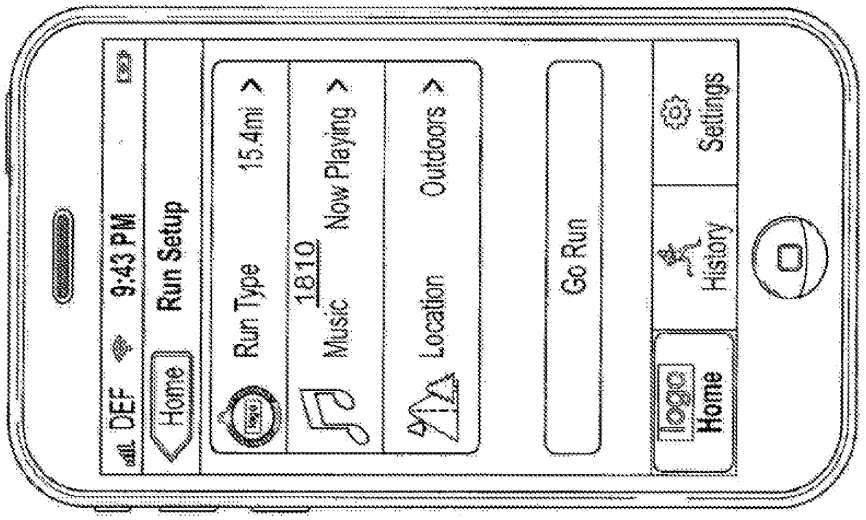


图 18B

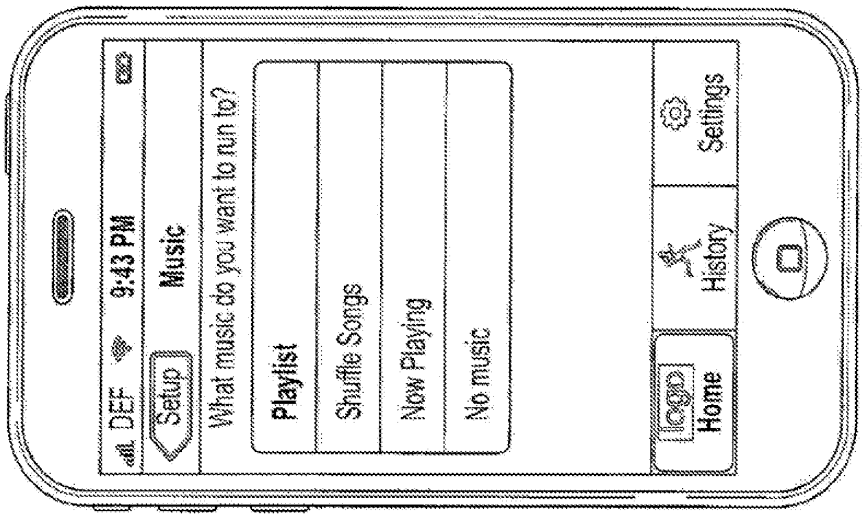


图 18C

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图 18D

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