



(43) International Publication Date
17 December 2009 (17.12.2009)

(10) International Publication Number
WO 2009/152191 A2

(51) International Patent Classification:
G06Q 50/00 (2006.01)

(21) International Application Number:
PCT/US2009/046807

(22) International Filing Date:
10 June 2009 (10.06.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/136,434 10 June 2008 (10.06.2008) US

(71) Applicants and

(72) Inventors: **HOLTAN, John** [US/US]; 1311 North 3rd Street, Bismark, ND 58501 (US). **HOLMAN, Michael** [US/US]; 2578 Windsor Drive North, Mandan, ND 58554 (US).

(74) Agent: **GILBERT, Jason**; Neustel Law Offices, Ltd, 2534 South University Drive, Suite 4, Fargo, ND 58103 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: GAS MONITOR TRAINING SYSTEM

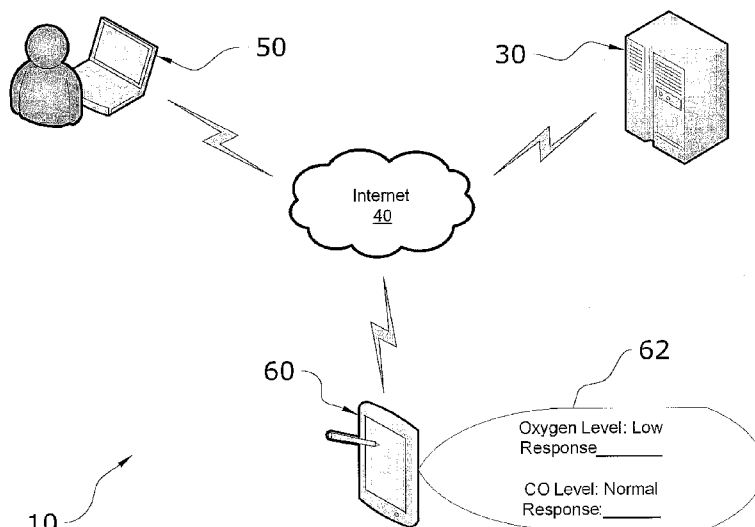


FIG. 1

(57) Abstract: A gas monitor training system for efficiently providing interactive and simulated training for individuals who are to utilize a portable gas monitor. The gas monitor training system generally includes an instructor computer, a database connected to the instructor computer, wherein the database includes information to be edited by the instructor computer and at least one training device, wherein the at least one training device receives the information of the database and wherein the training device transmits the information to a student. The information is comprised of messages commonly displayed upon a gas detection monitor and is also generally communicated between the training device and the portable computer via the internet.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32

Not applicable to this application.

Not applicable to this application.

Field of the Invention

Description of the Related Art

Any discussion of the prior art throughout the specification should in no way be considered as an admission that such prior art is widely known or forms part of common general knowledge in the field.

1 Gas monitors have been in use for years. Typically, gas monitors are
2 manufactured in both portable and stationary configurations. Gas monitors comprised
3 of portable configurations are generally taken out into the field by an individual when
4 the individual is checking the percentages of certain gases in the local environment.
5 Individuals may check the percentage amounts of the gases for various reasons, such as
6 but not limited to a standard routine and/or if the individual is working in that
7 particular area.

8
9 The individual utilizing the portable gas monitor must generally be efficiently
10 trained prior to use of the gas monitor. The importance of the thoroughness of the
11 training is obvious when considering the inherent dangers that the gases pose to the
12 individual and the need for the individual to effectively recognize when such gases are
13 present.

14
15 Generally, training involves classroom lectures, video tapes and reading various
16 manuals or books. All of these training materials may provide a basic understanding
17 of the functions of the portable gas monitor; however these materials generally do not
18 provide the hands on training that may be necessary to utilize the portable gas monitor
19 effectively. Because of the general lack of efficiency and practicality in the prior art
20 there is the need for a new and improved gas monitor training system for efficiently
21 providing interactive and simulated training for individuals who are to utilize a portable
22 gas monitor.

BRIEF SUMMARY OF THE INVENTION

The general purpose of the present invention is to provide a gas monitor training system that has many of the advantages of the gas monitors mentioned heretofore. The invention generally relates to a gas monitor which includes an instructor computer, a database connected to the instructor computer, wherein the database includes information to be edited by the instructor computer and at least one training device, wherein the at least one training device receives the information of the database and wherein the training device transmits the information to a student. The information is comprised of messages commonly displayed upon a gas detection monitor and is also generally communicated between the training device and the portable computer via the internet.

There has thus been outlined, rather broadly, some of the features of the invention in order that the detailed description thereof may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that will be described hereinafter and that will form the subject matter of the claims appended hereto.

In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction or to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of the description and should not be regarded as limiting.

1 An object is to provide a gas monitor training system for efficiently providing
2 interactive and simulated training for individuals who are to utilize a portable gas monitor.

3
4 Another object is to provide a gas monitor training system that provides a good
5 understanding of how to effectively utilize a portable gas monitor in real life
6 situations.

7
8 An additional object is to provide a gas monitor training system that may utilize
9 various electronic devices (i.e. PDA, PSP, instructor computer, cell phone, etc.) as a
10 substitute portable gas monitor.

11
12 A further object is to provide a gas monitor training system that utilizes the
13 internet to allow communication between the instructor and the student during training
14 sessions.

15
16 Other objects and advantages of the present invention will become obvious to the
17 reader and it is intended that these objects and advantages are within the scope of the
18 present invention. To the accomplishment of the above and related objects, this
19 invention may be embodied in the form illustrated in the accompanying drawings,
20 attention being called to the fact, however, that the drawings are illustrative only, and
21 that changes may be made in the specific construction illustrated and described within
22 the scope of the appended claims.

1

2 **BRIEF DESCRIPTION OF THE DRAWINGS**

3

4 Various other objects, features and attendant advantages of the present
5 invention will become fully appreciated as the same becomes better understood when
6 considered in conjunction with the accompanying drawings, in which like reference
7 characters designate the same or similar parts throughout the several views, and
8 wherein:

9

10 FIG. 1 is an illustration of the communication process of the present invention.

11

12 FIG. 2 is a flow diagram of the present invention.

13

DETAILED DESCRIPTION OF THE INVENTION

A. Overview

Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, FIGS. 1 through 2 illustrate a gas monitor training system **10**, which comprises an instructor computer **50**, a database **20** connected to the instructor computer **50**, wherein the database **20** includes information to be edited by the instructor computer **50** and at least one training device **60**, wherein the training device **60** receives the information of the database **20** and wherein the training device **60** transmits the information to a student. The information is comprised of messages **62** commonly displayed upon a gas detection monitor and is also generally communicated between the training device **60** and the instructor computer **50** via the internet **40**.

B. Database

The database **20** includes information relating to functions and messages **62** utilized on a standard portable gas monitor common in the art. The information within the database **20** is also preferably updatable, wherein an instructor may update the information within the database **20** from a remote computer (i.e. instructor computer **50**) or local computer (i.e. server computer **30**). The information may further be comprised of warnings, audible alerts, procedures or any information utilized by a standard portable gas monitor.

The database **20** may be comprised of various formats all which allow communication between the server computer **30** and the training device **60** and also the instructor computer **50** and the server computer **30**. In the preferred embodiment, the database **20** is preferably comprised of a format to be displayed as a web page, such as but not limited to HTML. It is appreciated that the database **20** may be stored upon the server computer **30** or the instructor computer **50** utilized by the instructor. In the

1 preferred embodiment of the present invention, the database **20** is stored upon the
2 server computer **30**.

3
4 It is appreciated that in the description of the present invention, the term remote
5 computer generally refers to any instructor computer **50** utilized by an instructor. The
6 term local computer in the description of the present invention generally refers to the
7 server computer **30** or web server.

8 9 **C. Server Computer**

10 The server computer **30** allows communication between the database **20** and the
11 computer network **40** as illustrated in Figures 1 and 2. The server computer **30** is
12 preferably comprised of a web server configuration, wherein the server computer **30** is
13 able to send and receive information via the internet **40**. It is appreciated that the
14 information may relate to information from the database **20**, from the instructor
15 computer **50** or from the training device **60**.

16
17 The database **20** is also preferably stored within the server computer **30**. The
18 server computer **30** may however be comprised of a software program and integral
19 with the instructor computer **50**, wherein the database **20** would likewise be stored
20 within the instructor computer **50**.

21 22 **D. Computer Network**

23 The computer network **40** receives information from the database **20** via the
24 server computer **30** and transmits the information to the instructor computer **50** and the
25 training device **60** as illustrated in Figures 1 and 2. Likewise, the computer network
26 **40** receives feedback information from the instructor computer **50** and the training
27 device **60** to update and send to the database **20**.

1 The computer network **40** may be comprised of various configurations, such as
2 but not limited to a series of computers interconnected through the server computer **30**
3 and an intranet. In the preferred embodiment of the present invention, the computer
4 network **40** is comprised of the internet, wherein the internet is accessible via various
5 programs, such as but not limited to INTERNET EXPLORER and NETSCAPE.

6
7 ***E. Instructor Computer***

8 The instructor computer **50** is utilized by the instructor, wherein the instructor
9 selectively updates the database **20** via the computer network **40** and the server
10 computer **30**. The instructor computer **50** may be comprised of various configurations
11 such as a notebook computer or a desktop computer as illustrated in Figure 1. The
12 instructor computer **50** is also preferably connected to the internet **40** and able to
13 selectively edit the web page holding the information from the database **20**. It is also
14 appreciated that the instructor computer **50** may be comprised of various
15 configurations rather than a standard computer, such as but not limited to a cell phone
16 or a PDA (personal digital assistant).

17
18 The instructor computer **50** is further preferably wirelessly connected to the
19 internet **40**. The instructor computer **50** is preferably controlled by an instructor,
20 trainer or teacher; however it is appreciated that the instructor computer **50** may be
21 pre-programmed to run independently, wherein the instructor computer **50** would
22 update the database **20** at pre-determined times. It is also appreciated that the present
23 invention may include multiple instructor computers **50** to simultaneously send various
24 messages **62** to multiple training devices **60** and thus multiple students.

25
26 ***F. Training Device***

27 The training device **60** serves the function of mimicking a portable gas monitor
28 common in the art, wherein the training device **60** depicts what a real portable gas
29 monitor would display when utilized to detect or sample harmful gases. The training

1 device **60** mimics the real portable gas monitor by receiving the information from the
2 database **20** via the internet **40** as illustrated in Figures 1 and 2. The training device **60**
3 may be comprised of various structures some of which resemble a standard portable
4 common gas monitor and some of which do not resemble a standard portable gas
5 monitor. The information (i.e. messages **62**) transmitted on the training device **60**
6 however is substantially similar to the information commonly transmitted on a portable
7 gas monitor.

8
9 The information may relate to warnings of gas (i.e. carbon monoxide, carbon
10 dioxide, etc.) percentage levels, changes in gas (i.e. oxygen, carbon monoxide, etc.)
11 percentage levels or various other messages **62** commonly displayed on a standard
12 portable gas monitor common in the art. The information may be further be
13 transmitted in the form of a visual message **62** on a screen, an audible sound or a
14 vibratory mechanism.

15
16 The training device **60** is able to receive messages **62** from the computer
17 network **40** and further preferably able to communicate with the computer network **40**.
18 In the preferred embodiment of the present invention, the training device **60** is able to
19 communicate with the internet, wherein the computer network **40** is comprised of the
20 internet. The training device **60** is further preferably able to communicate wirelessly
21 with the internet **40** so as to allow the student to utilize the training device **60** in real
22 world scenarios.

23
24 The training device **60** may be comprised of various electronic devices. Some
25 of the electronic devices include a PDA (personal digital assistant), a PSP, a training
26 computer or a cell phone. It is appreciated that the training device **60** may be
27 comprised of various other electronic devices all which are able to receive messages
28 **62** and preferably communicate with the computer network **40**. The training device **60**
29 is also preferably comprised of a hand-held device. In the context of the previous

1 description, the training computer may be comprised of any notebook computer or
2 desktop computer; however it is appreciated that the training computer is separate
3 from the instructor computer **50** utilized by the instructor, teacher or monitoring
4 individual.

5
6 It is also appreciated that the present invention may include multiple training
7 devices **60**, wherein multiple students are being trained at the same time. The multiple
8 training devices **60** would each preferably be independently connected to the computer
9 network **40** to send and receive messages **62**. The messages 62 transmitted to the
10 student by the training devices may be comprised of simply a web page viewable upon
11 the training device **60**.

12
13 **G. In Use**

14 In use, the web server **30**, the instructor computer **50** and the training devices
15 **60** are first connected to the internet **40** and powered on. A real-life scenario is also
16 preferably setup, wherein the student holding the training device **60** is sent into the
17 room/area comprised of the real-life scenario. It is appreciated that the real-life
18 scenario does not actually include any gases that may harm the student, wherein the
19 real-life scenario may be any room/area in which the student is to train or be tested
20 within.

21
22 As the student enters the area/room including the real-life scenario the
23 instructor preferably logs onto the web page displaying the information of the database
24 **20** and changes a value or inputs new information (i.e. change in oxygen level) upon
25 the database **20**. The change will subsequently be sent via the internet **40** to the
26 training device **60**, wherein the change will appear as a message **62** (i.e. Oxygen levels
27 are low!) upon the training device **60**.

1 The student must now react or respond to the message **62** accordingly as they
2 would do in a real-life situation (i.e. insert health related text on the web page via the
3 training device **60**). The instructor may subsequently review the response by the
4 student upon the web page via the instructor computer **50** and/or input various other
5 values/changes in information upon the database **20** to be subsequently sent to the
6 training devices **60** via the internet **40**.

7
8 What has been described and illustrated herein is a preferred embodiment of the
9 invention along with some of its variations. The terms, descriptions and figures used
10 herein are set forth by way of illustration only and are not meant as limitations. Those
11 skilled in the art will recognize that many variations are possible within the spirit and
12 scope of the invention, which is intended to be defined by the following claims (and
13 their equivalents) in which all terms are meant in their broadest reasonable sense
14 unless otherwise indicated. Any headings utilized within the description are for
15 convenience only and have no legal or limiting effect.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

CLAIMS

I Claim:

1. A gas monitor training system, comprising:
an instructor computer;
a database in communication with said instructor computer, wherein said database includes information to be edited by said instructor computer;
wherein said information is comprised of messages and values commonly displayed upon a gas detection monitor; and
at least one training device, wherein said at least one training device receives said information.

2. The gas monitor training system of Claim 1, wherein said information received by said at least one training device is comprised of a visual message configuration.

3. The gas monitor training system of Claim 1, wherein said information received by said at least one training device is comprised of an audible message configuration.

4. The gas monitor training system of Claim 1, wherein said at least one training device communicates with said instructor computer.

1 5. The gas monitor training system of Claim 1, wherein said at least one
2 training device wirelessly communicates with said instructor computer.

3
4
5 6. The gas monitor training system of Claim 1, wherein said information of
6 said database is communicated with said at least one training device via a computer
7 network.

8
9
10 7. The gas monitor training system of Claim 6, wherein said computer network
11 is comprised of internet.

12
13
14 8. The gas monitor training system of Claim 6, including a server computer to
15 communicate said information of said database with said instructor computer via said
16 computer network.

17
18
19 9. The gas monitor training system of Claim 8, wherein said server computer is
20 comprised of a web server and computer network is comprised of internet.

21
22
23 10. The gas monitor training system of Claim 9, wherein said information of
24 said database is displayed upon said internet via a web page.

25
26
27 11. The gas monitor training system of Claim 10, wherein said instructor
28 computer edits said information of said database via said web page.

1
2 12. The gas monitor training system of Claim 11, wherein said at least one
3 training device is wirelessly connected to said internet.
4

5
6 13. The gas monitor training system of Claim 11, wherein said at least one
7 training device communicates with said instructor computer via said internet.
8

9
10 14. The gas monitor training system of Claim 1, wherein said at least one
11 training device is comprised of a plurality of training devices.
12

13
14 15. The gas monitor training system of Claim 1, wherein said at least one
15 training device is comprised of a cell phone.
16

17
18 16. The gas monitor training system of Claim 1, wherein said at least one
19 training device is comprised of a personal digital assistant.
20

21
22 17. The method of the gas monitor training system of Claim 1, wherein said at
23 least one training device is comprised of a hand held configuration.
24

25
26 18. A gas monitor training system, comprising:
27 a web server connected to internet;

1 a database in communication with said internet via said web server, wherein
2 said database includes information comprised of messages and values commonly
3 displayed upon a gas detection monitor;

4 wherein said information of said database is displayed upon said internet via a
5 web page;

6 an instructor computer in communication with said internet, wherein said
7 instructor computer edits said information of said database via said web page; and

8 at least one training device in communication with said internet, wherein said at
9 least one training device receives said information of said database via said web page
10 and wherein said at least one training device transmits said information.

11
12
13 19. A method of a gas monitor training system, comprising:

14 providing a database, wherein said database includes information commonly
15 displayed upon a gas detection monitor relating to gas levels;

16 providing a web server connected to internet;

17 transmitting said information of said database to said internet via said web
18 server;

19 displaying said information of said database upon said internet in a web page
20 format;

21 providing an instructor computer, wherein said instructor computer is
22 connected to said internet;

23 providing a training device, wherein said training device is wirelessly
24 connected to said internet;

25 editing said web page via said instructor computer; and

26 communicating said web page to a student utilizing said training device.

1 20. The method of the gas monitor training system of Claim 1, wherein said
2 training device is comprised of a hand-held configuration.
3

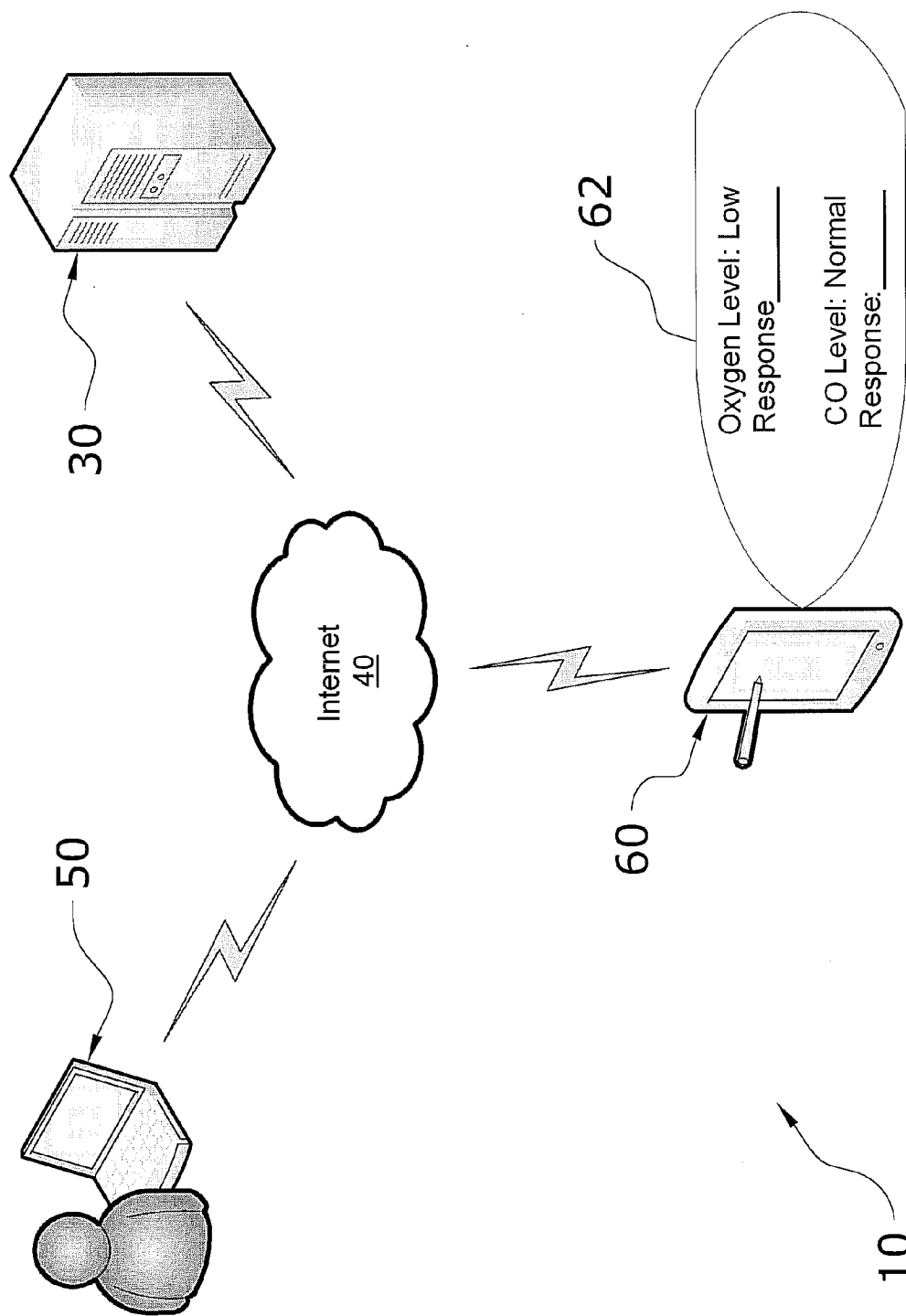


FIG. 1

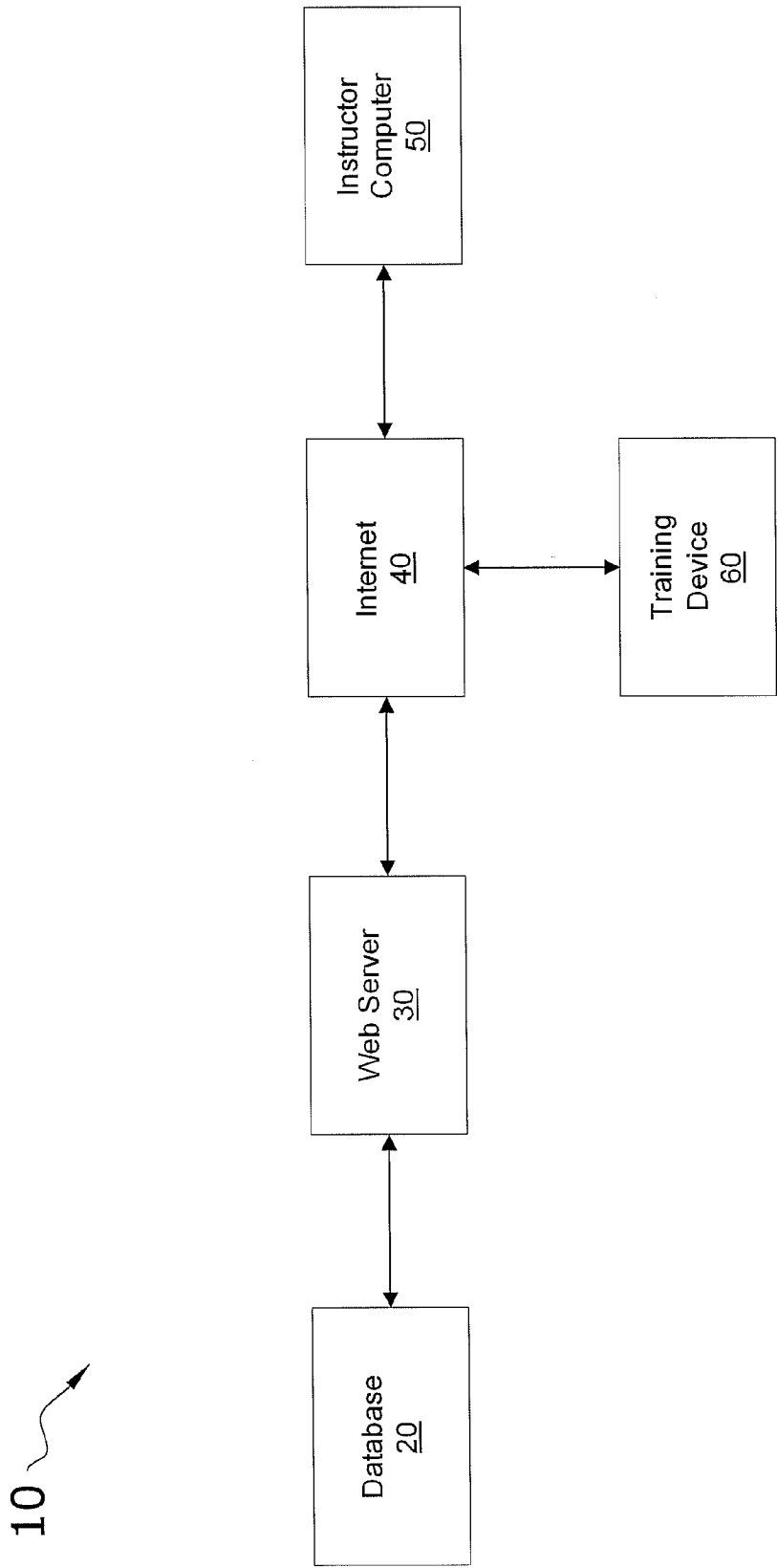


FIG. 2