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(54) Title of the Invention: **System**
 Abstract Title: **Health monitoring or diagnostics system**

(57) A health monitoring or diagnostics system comprises: a reader unit configured to connect to, and read a signal from, a sensor unit configured to sense a biomarker within a biological sample, the reader unit comprising a control unit configured to control the reader unit. A user computer device (APP) is provided that is configured to be operated by a user of the diagnostic system and to exchange data with and provide instructions to the control unit for controlling the reader unit. The control unit is configured to communicate information about an identity of the sensor unit to the user computer device and the user computer device is configured to provide instructions to the control unit for controlling the reader unit based on the identity of the sensor unit. The control unit may be configured to control the reader unit to provide a voltage to the sensor unit, the instructions to the control unit including a voltage level based on the information about the identity of the sensor unit.

Fig. 1

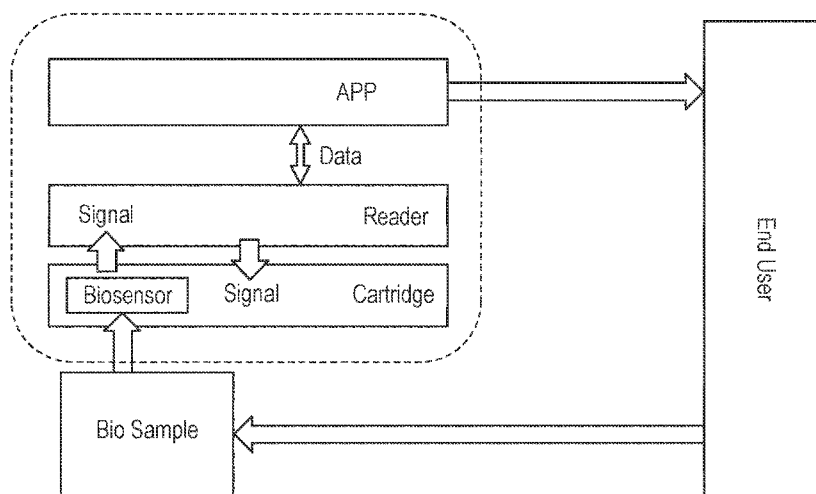
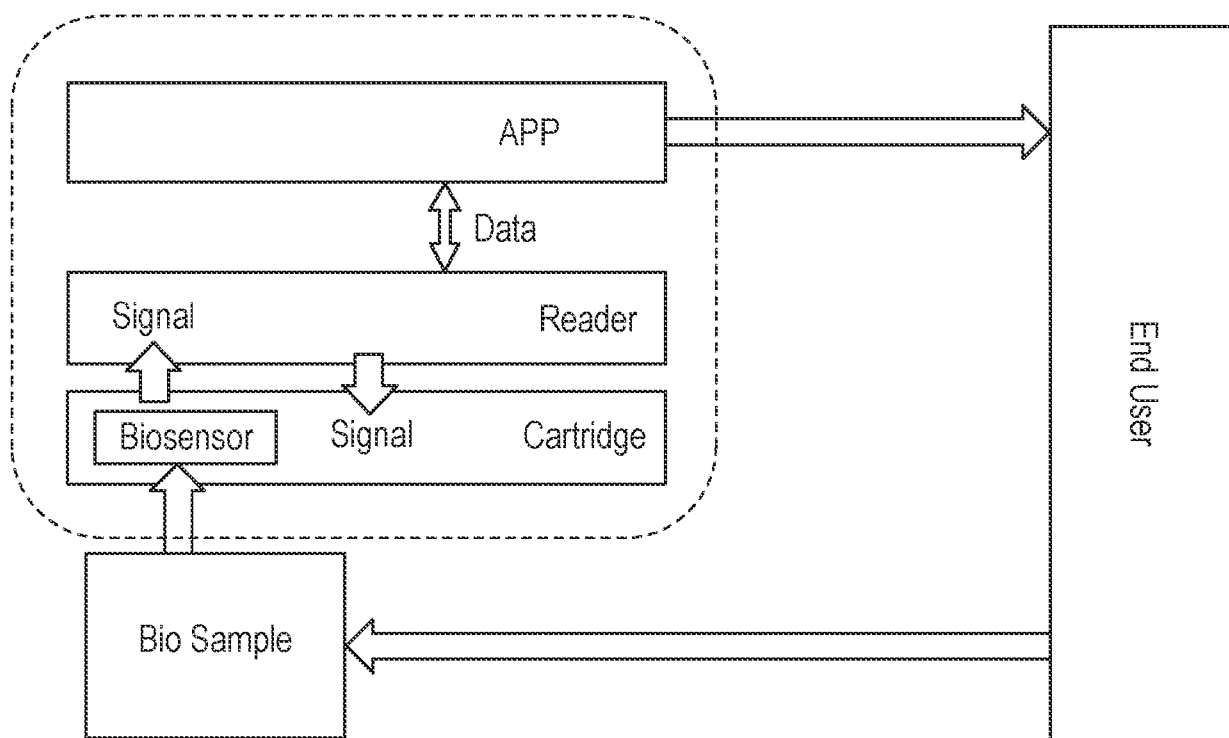


Fig. 1



15 12 23

Fig. 2

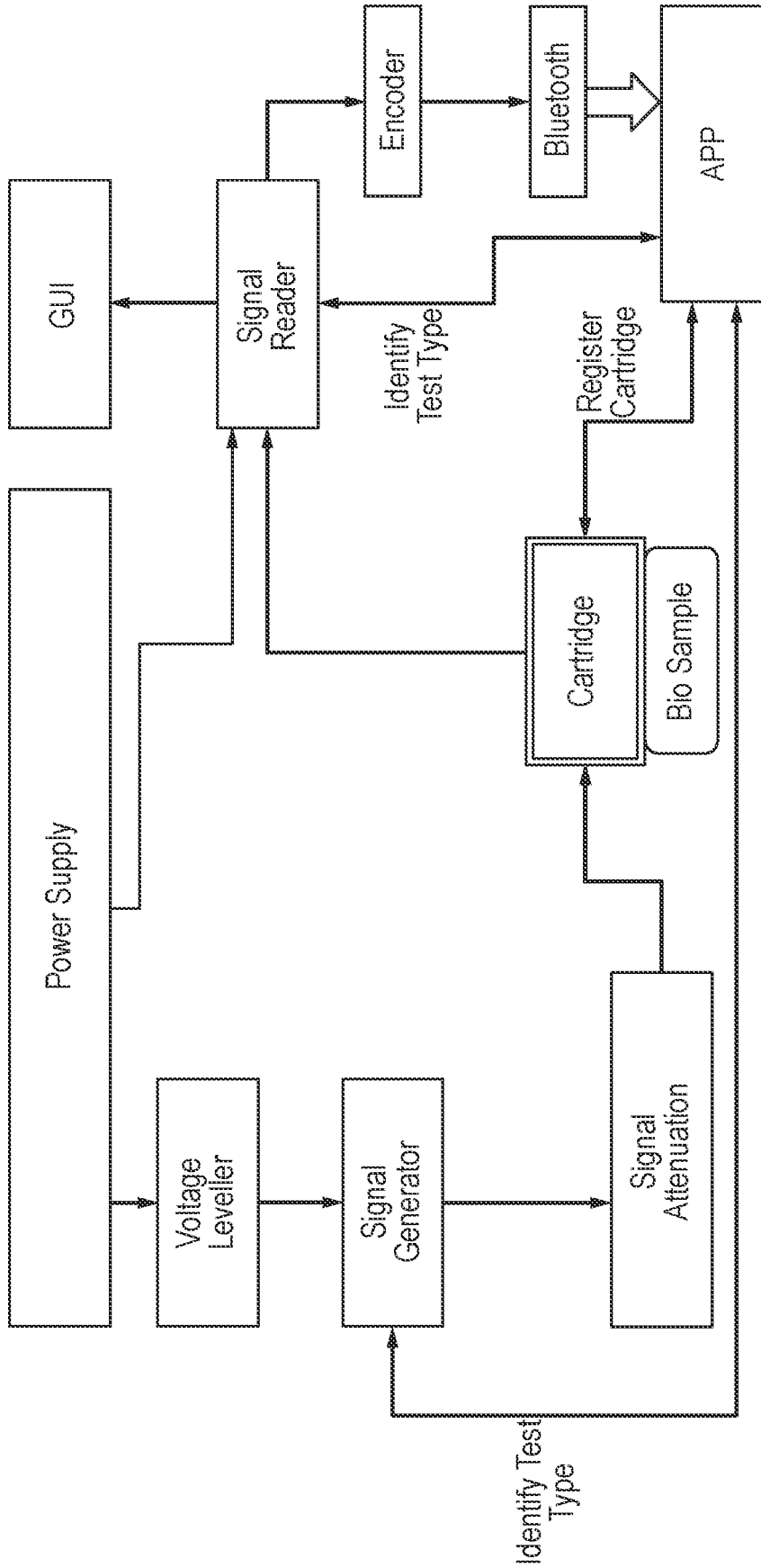


Fig. 3

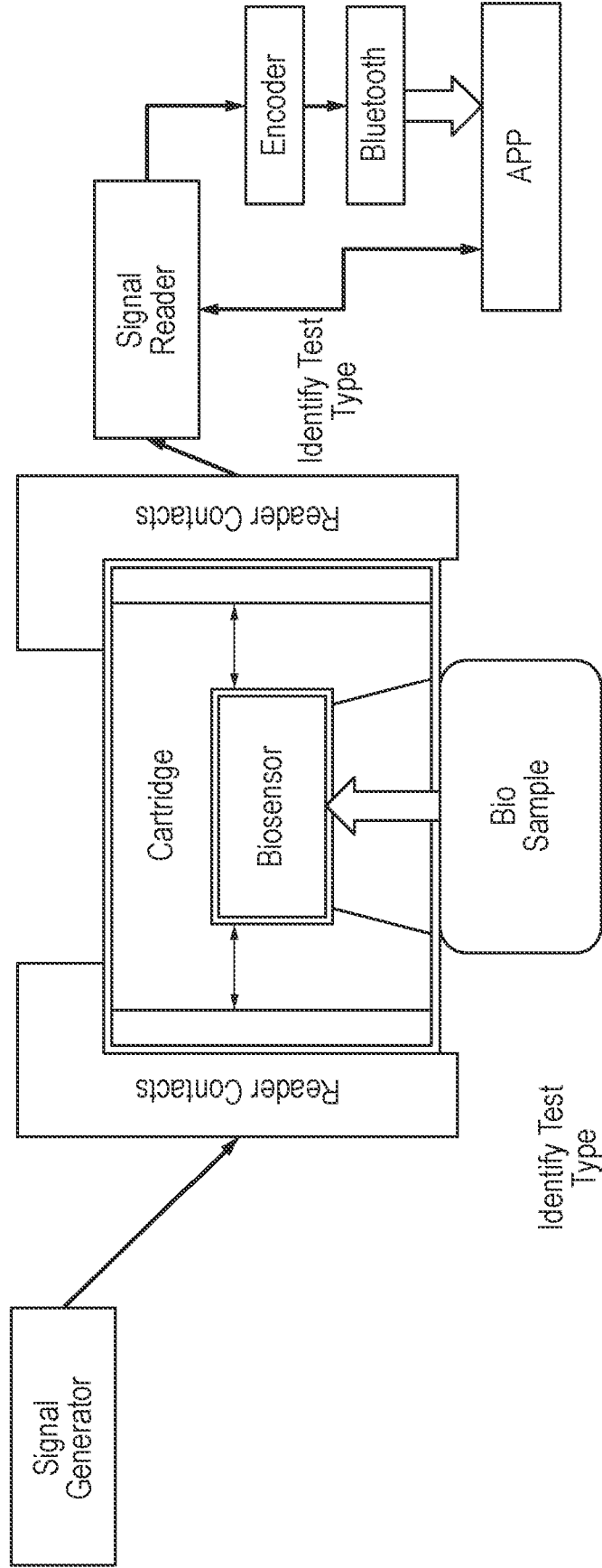


Fig. 4

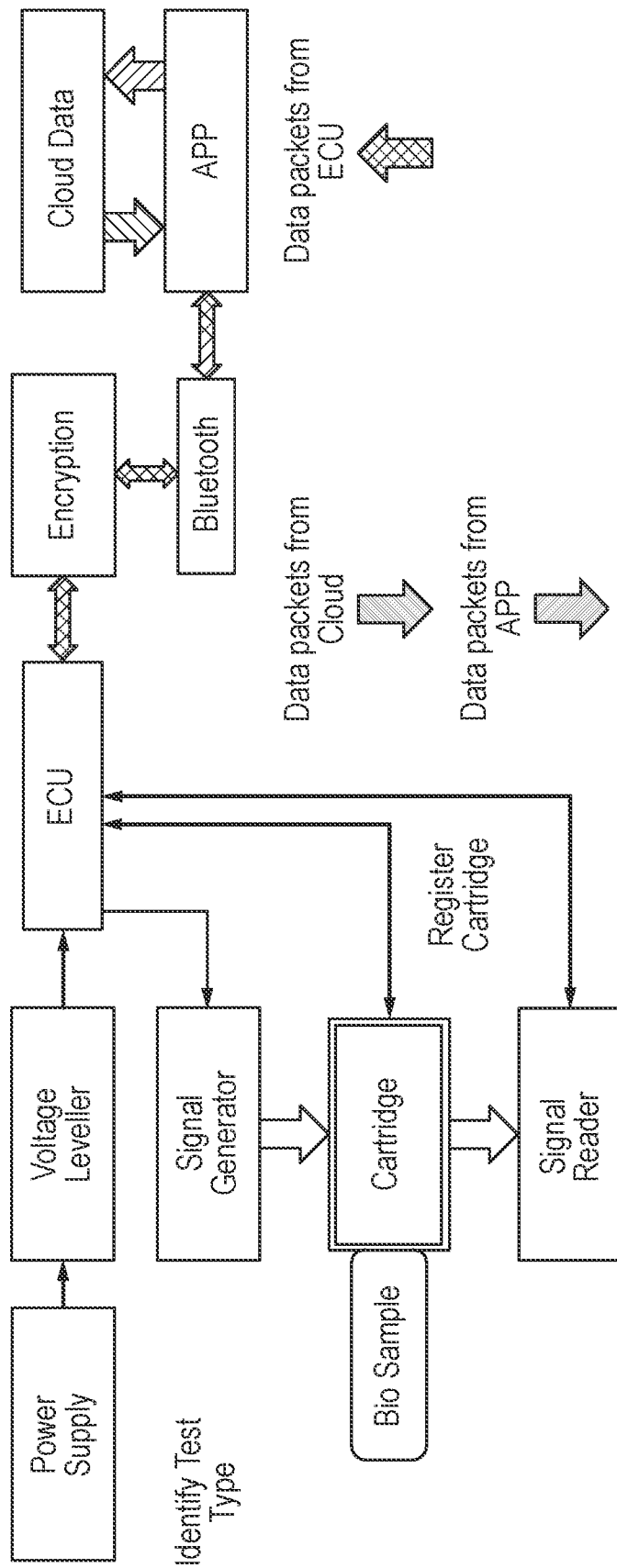


Fig. 5

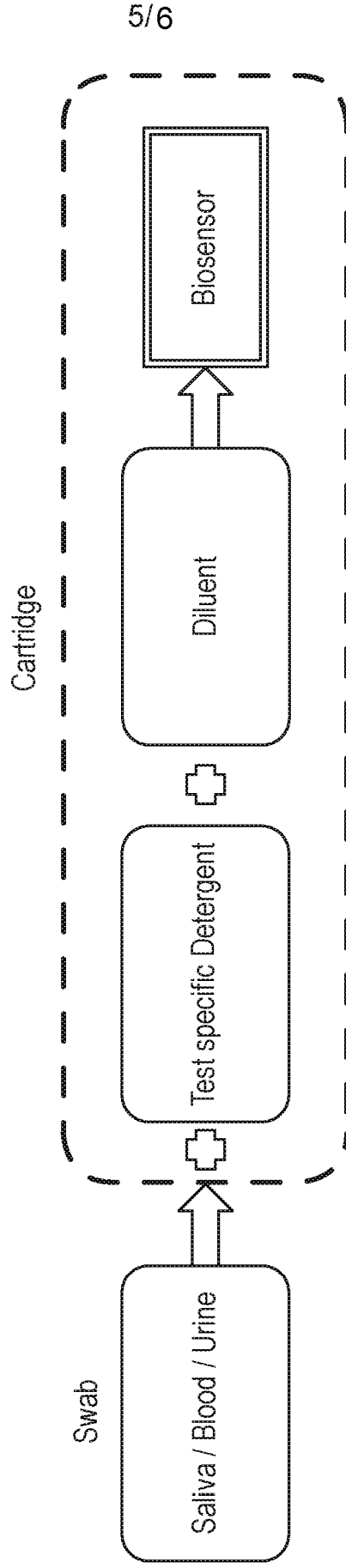
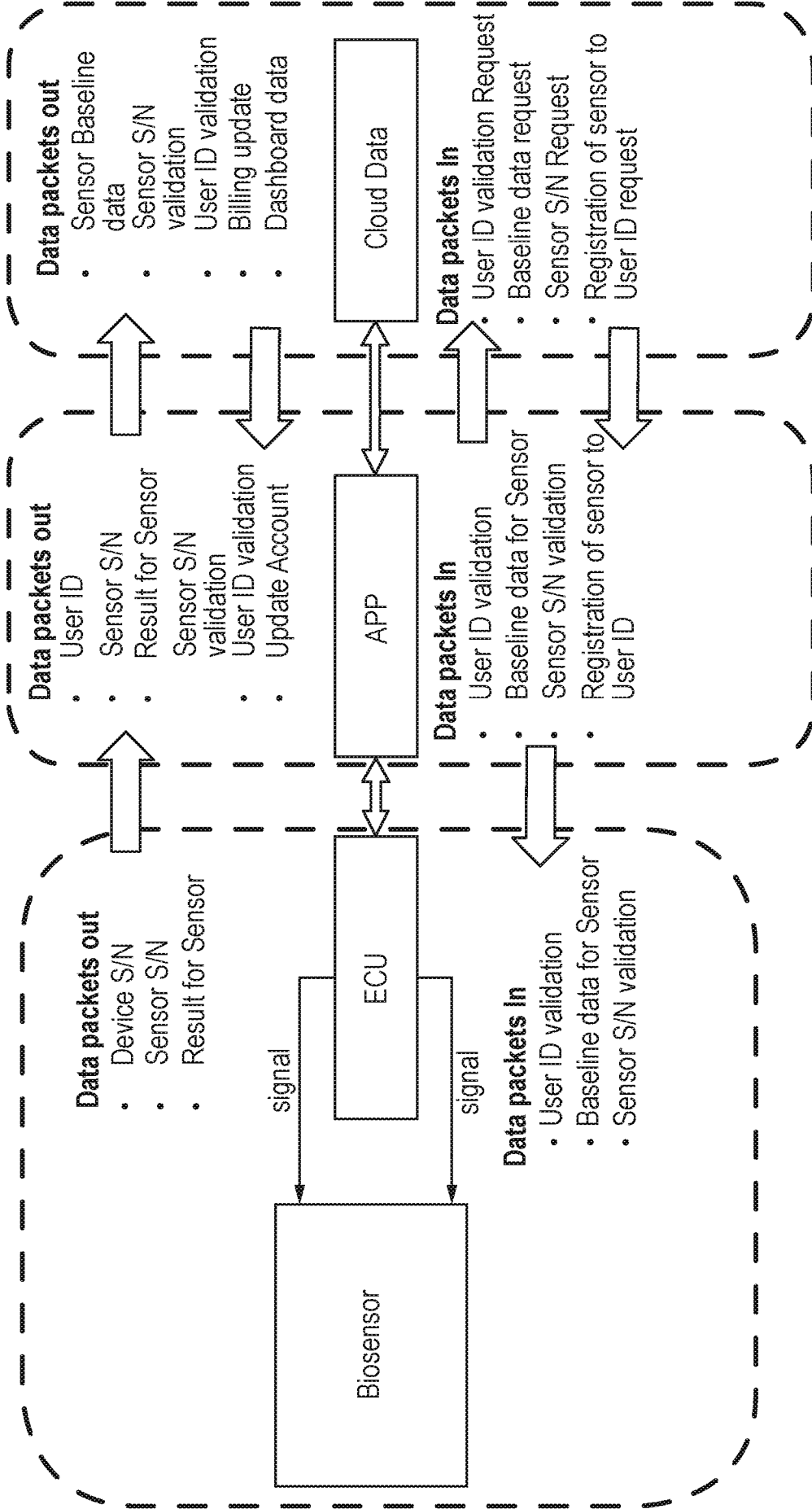


Fig. 6



SYSTEM

TECHNICAL FIELD

- 5 The present disclosure relates to a health monitoring or diagnostics system.

BACKGROUND ART

At present, medical diagnostic testing, for monitoring a state of health or diagnosing
10 disease, often requires a specialist to take a sample from a patient, which is sent to another
specialist to test using specialist lab-based equipment, then the results are sent to another
specialist to interpret. This process is slow, has a high administrative burden and is
susceptible to human error in the process.

- 15 The present disclosure aims to at least partially solve the above problems.

SUMMARY OF THE INVENTION

According to an aspect of the disclosure there is provided a health monitoring or
20 diagnostics system comprising: a reader unit configured to connect to, and read a signal
from, a sensor unit configured to sense a biomarker within a biological sample, the reader
unit comprising a control unit configured to control the reader unit; a user computer device
configured to be operated by a user of the diagnostic system and configured to exchange
data with and provide instructions to the control unit for controlling the reader unit,
25 wherein the control unit is configured to communicate information about an identity of the
sensor unit to the user computer device and the user computer device is configured to
provide instructions to the control unit for controlling the reader unit based on the identity
of the sensor unit.

30 Optionally, the control unit is configured to control the reader unit to provide a voltage to
the sensor unit, the instructions to the control unit for controlling the reader unit include a
level of the voltage, and the level of the voltage is determined based on the information
about the identity of the sensor unit.

Optionally, the control unit is configured to control the reader unit to perform signal processing on a signal received from the sensor unit, the instructions to the control unit for controlling the reader unit include a type of signal processing, and the type of signal processing is based on the information about the identity of the sensor unit. Optionally, the signal processing includes comparison of a signal from the sensor unit with baseline sensor data, the instructions to the control unit for controlling the reader unit include the baseline sensor data, and the baseline sensor data is based on the information about the identity of the sensor unit.

Optionally, the user computer device is configured to determine the type of sensor unit, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on the type of the sensor unit.

Optionally, the user computer device is configured to determine whether the user is authorised to use the sensor unit, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the user is authorised to use the sensor unit.

Optionally, the user computer device is configured to determine whether the sensor unit is valid, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the sensor unit is valid.

Optionally, the control unit is configured to communicate information about an identity of the reader unit to the user computer device and the user computer device is configured to provide instructions to the control unit for controlling the reader unit based on the identity of the reader unit. Optionally, the user computer device is configured to determine whether the user is authorised to use the reader unit, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the user is authorised to use the sensor unit. Optionally, the user computer device is configured to determine whether the reader unit is valid, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the sensor unit is valid.

Optionally, the instructions provided by the user computer user device to the control unit are based on data from the host computer device. Optionally, the host computer device is configured to provide to the user computer device data relating to one or more of: baseline sensor data, validity of the sensor unit, authorisation for the user to use the sensor unit,
5 validity of the reader unit, authorisation for the user to use the sensor unit.

Optionally, the reader unit and the sensor unit comprise respective interfaces configured to provide a connection between the reader unit and the sensor unit, the respective interfaces being configured to detachably connect such that the sensor unit can be interchanged with
10 different sensor unit.

Optionally, the reader unit is operable in a plurality of different modes, each different mode corresponding to a different type of sensor unit.

15 Optionally, the user computer device is provided separately from the reader unit and is connected wirelessly thereto.

Optionally, the system is configured to determine, based on the signal from the sensor unit, whether the biological sample is indicative of a particular state of health or disease.
20 Optionally, the control unit, the user computer device, or the host computer device is configured to determine, based on the signal from the sensor unit, whether the biological sample is indicative of a particular state of health or disease. Optionally, the determination is provided to the user computer device from the control unit or the host computer device.

25 According to another aspect of the disclosure there is provided a health monitoring or diagnostics method comprising: connecting a sensor unit configured to sense a biomarker within a biological sample to a reader unit comprising a control unit configured to control the reader unit; the control unit communicating information about an identity of the sensor unit to a user computer device operated by a user of the diagnostic system, and the user
30 computer device providing instructions to the control unit for controlling the reader unit based on the identity of the sensor unit; and the reader unit reading a signal from the sensor unit.

BRIEF DESCRIPTION OF THE DRAWINGS

Further features of the disclosure will be described below, by way of non-limiting examples and with reference to the accompanying drawings, in which:

- Fig. 1 shows an example diagnostics system according to the disclosure;
- 5 Fig. 2 shows the example diagnostics system of Fig. 1 in further detail;
- Fig. 3 also shows the example diagnostics system of Fig. 1 in further detail;
- Fig. 4 shows the reader unit and the sensor unit in further detail;
- Fig. 5 shows an example sensor unit; and
- Fig. 6 shows the exchange of data within the diagnostics system.

10

DETAILED DESCRIPTION

Fig. 1 shows an example health monitoring or diagnostics system (hereinafter diagnostics system) according to the disclosure. As shown, the system may comprise a reader unit
15 (labelled Reader), a sensor unit (labelled Cartridge) and a user computer device (labelled APP).

The reader unit may be configured to connect to, and read a signal from, the sensor unit. The reader unit may comprise a control unit configured to control the reader unit. The
20 sensor unit may be configured to sense a biomarker within a biological sample (labelled Bio Sample). The sensor unit may comprise a biosensor (labelled Biosensor) configured to sense the biomarker within the biological sample.

Although not shown in Fig. 1, the reader unit and the sensor unit may comprise respective
25 interfaces configured to provide a connection between the reader unit and the sensor unit. The respective interfaces may be configured to detachably connect such that the sensor unit can be interchanged with different sensor unit. The respective interfaces may comprise a mechanical connection, power connection, and/or data connection between the reader unit and the sensor unit. The power connection may be an electrical connection.
30 The data connection may be an electrical connection or an optical connection, for example.

The sensor unit may be configured to be inserted into the reader unit to connect the reader unit and the sensor unit, for example. The reader unit may comprise a housing in which the components forming the reader unit are arranged, including the control unit and the

interface. The housing may comprise an opening, or orifice into which the sensor unit is configured to be inserted.

As shown in Fig. 1, the reader unit may provide a signal to the sensor unit for sensing the biomarker within the biological sample. As shown, the sensor unit may provide a signal to the reader relating to the sensed biomarker within the biological sample. The signals may be electrical signals, for example.

As shown in Fig. 1, the user computer device may be configured to be operated by a user of the diagnostics system. The user computer device may be configured to exchange data with the reader unit. The user computer device may be configured to provide instructions to the control unit of the reader unit for controlling the reader unit.

The user computer device may be separate from the reader unit and the sensor unit. For example, the user computer device may be a remote device. The user computer device may be a handheld device. For example, the user computer device may be a smartphone or a tablet computer.

The user computer device may be configured to run specific software (e.g. a software application, or app, including an API) that enables the exchange of data with the reader unit. A user may have a user identification (ID) associated with the software. The software may thus be configured to the user.

As shown in Fig. 1, the user (labelled End User) may provide the biological sample and the same user may interact with and/or control the diagnostics system through the user computer device. In other examples different users may provide the biological sample and interact with and/or control the diagnostics system through the user computer device.

The biological sample may be from a human. In other examples, the biological sample may be from or from an animal or plant. If from an animal or plant, the provider of the biological sample may not be the user of the system.

Although not shown in Fig. 1, the system may comprise a host computer device, separate from the user computer device. The host computer device may be configured to exchange

data with the user computer device. For example, the instructions provided by the user
computer user device to the control unit may be based on data from the host computer
device. The host computer device may be a remote computer, or plurality of remote
computers (e.g. servers) in the same location or different locations. The remote computer
5 may be cloud based computer providing cloud computing.

The diagnostics system may be configured to enable and/or prevent a user from using the
system based on the data exchange between the user computer device and the reader unit.
for example, the diagnostics system may be configured to enable and/or prevent the sensor
10 unit sensing a biomarker within a biological sample, based on the data exchange between
the user computer device and the reader unit.

The control unit may be configured to communicate information about an identity of the
sensor unit to the user computer device. The user computer device may be configured to
15 provide instructions to the control unit for controlling the reader unit based on the identity
of the sensor unit. The information about the identity of the sensor unit may be an
identification number (e.g. serial number) associated with the sensor unit. The information
about the identity of the sensor may identify a specific single sensor unit and/or may
identify a type of the sensor unit. Different information may identify the sensor unit and
20 the type of the sensor unit.

The type of the sensor unit may refer to its operation and/or the type of biomarker it is
configured to sense and/or the type of biological sample it is configured to sense the
biomarker in. For example, two different types of sensor unit may be configured to sense
25 the same biomarker from the same type of biological sample, but operate differently.
Another two different types of sensor unit may be configured to sense the same biomarker
from different types of biological sample. Another two different types of sensor unit may
be configured to sense the different biomarkers from the same type of biological sample.
Another two different types of sensor unit may be configured to sense different biomarkers
30 from different types of biological sample.

The information about an identity of the sensor unit may be communicated to the reader
unit by a data connection between the sensor unit and the reader unit. This may be an
electrical data connection, for example. The information about an identity of the sensor

unit may be stored in a memory of the data unit. Alternatively, information about an identity of the sensor unit may be communicated to the reader unit by radio-frequency identification (RFID). For example the sensor unit may comprise an RFID tag. This may be passive RFID tag that does not require its own power supply. Alternatively,
5 information about the identity of the sensor unit may be communicated to the reader unit by optical means, e.g. by computer vision or a barcode reader. Corresponding components may be provided to the sensor device and the reader device to enable such communication.

The user computer device may be configured to determine whether the user is authorised to use the sensor unit, based on the information about the identity of the sensor unit. The user
10 computer device may be configured to provide instructions to the control unit based on whether the user is authorised to use the sensor unit. For example, the user may be authorised if the user ID associated with software on the user computer device corresponds with a valid ID stored in a database. The database may be stored on the user computer
15 device and/or on a host computer device in communication with the user computer device. Alternatively, the user may be authorised to use the sensor unit if the user ID associated with software on the user computer device is associated with an ID of the sensor unit in a database. The database may be stored on the user computer device and/or on a host computer device in communication with the user computer device. In some examples, the
20 user computer device may enable the user ID to be associated with the ID of the sensor unit, if not already associated, to provide authorisation. In other words, the sensor unit may be registered to the user.

The user computer device may be configured to determine whether the sensor unit is valid,
25 based on the information about the identity of the sensor unit. The user computer device may be configured to provide instructions to the control unit based on whether the sensor unit is valid. For example, the sensor unit may be valid if an ID of the sensor unit corresponds with a valid ID stored in a database. The database may be stored on the user computer device and/or on a host computer device in communication with the user
30 computer device.

The control unit may be configured to communicate information about an identity of the reader unit to the user computer device. The user computer device may be configured to provide instructions to the control unit for controlling the reader unit based on the identity

of the reader unit. The information about the identity of the reader unit may be an identification number (e.g. serial number) associated with the sensor unit. The information about the identity of the sensor may identify a specific reader unit and/or may identify a type of the reader unit. Different information may identify the reader unit and the type of the reader unit. The type of the reader unit may refer to its operation and/or the type of sensor unit it is configured to be used with.

The user computer device may be configured to determine whether the user is authorised to use the reader unit, based on the information about the identity of the reader unit. The user computer device may be configured to provide instructions to the control unit based on whether the user is authorised to use the reader unit. For example, the user may be authorised if the user ID associated with software on the user computer device corresponds with a valid ID stored in a database. The database may be stored on the user computer device and/or on a host computer device in communication with the user computer device. Alternatively, the user may be authorised to use the reader unit if the user ID associated with software on the user computer device is associated with an ID of the reader unit in a database. The database may be stored on the user computer device and/or on a host computer device in communication with the user computer device. In some examples, the user computer device may enable the user ID to be associated with the ID of the reader unit, if not already associated, to provide authorisation. In other words, the reader unit may be registered to the user.

The user computer device may be configured to determine whether the reader unit is valid, based on the information about the identity of the reader unit. The user computer device may be configured to provide instructions to the control unit based on whether the reader unit is valid. For example, the reader unit may be valid if an ID of the reader unit corresponds with a valid ID stored in a database. The database may be stored on the user computer device and/or on a host computer device in communication with the user computer device.

Fig. 2 shows the example diagnostics system of Fig. 1 in further detail. As shown the system may comprise a power supply (labelled Power Supply). The power supply may be provided to the reader unit. As shown, the power supply may power a signal reader (labelled Signal Reader) of the reader unit configured to read a signal from the sensor unit (labelled Cartridge). As shown, the power supply may also provide power to the sensor

unit. As shown, the power supply may provide a signal to the sensor unit. As shown this may be provided by signal generating electrical components, such as a voltage leveller (labelled Voltage Leveller), a signal generator (labelled Signal Generator) and a signal attenuator (labelled Signal Attenuator). Although not shown, the signal may be controlled
5 by the control unit of the reader unit.

As shown in Fig. 2, the signal reader may provide data to a graphical user interface (labelled GUI) of the reader unit. Although not shown, the control unit of the reader unit may receive data from the signal reader and control the graphical user interface. The
10 reader unit, via the graphical user interface or alternative interface (e.g. buttons), may accept user instructions directly. For example, the user may initiate sensing in this way once the user computer device has provided authorisation and instructions to the control unit.

15 As shown in Fig. 2, the signal reader may exchange data with the user computer device (labelled APP), e.g. by means suitable APIs. Although not shown, the control unit of the reader unit may receive data from the signal reader and exchange data with the user computer device. As shown, the data may be encoded by an encoder (labelled Encoder) of the reader unit. As shown, the data may be configured to be exchanged via a Bluetooth™
20 connection (labelled Bluetooth). However, other wireless or wired data connection means may be used instead. For example, WiFi may be used. Accordingly, the reader unit may comprise a data communication unit configured to enable wireless and/or wired communication with the user computer device. Preferably the reader unit is both Bluetooth™ and WiFi enabled.

25 As shown in Fig. 2, the user computer device may be configured to register the sensor unit against the user as described above. As shown, the user computer device may be configured to identify the type of sensor unit, as described above.

30 The control unit may be configured to control the reader unit to provide a voltage to the sensor unit. The instructions to the control unit for controlling the reader unit may include a level of the voltage. The control unit may be configured to control the amplitude of the voltage and/or the frequency of the voltage and/or a waveform of the voltage to the sensor unit. Signal generating components of the reader unit may be configured to generate

signals with variable voltages and/or variable frequencies and/or variable waveforms. The level of the voltage may be determined based on the information about the identity of the sensor unit. For example this may be determined based on the type of the sensor unit. Different types of sensor unit may require different input voltage signals to operate.

5

The control unit may be configured to control the reader unit to perform signal processing on a signal received from the sensor unit. The instructions to the control unit for controlling the reader unit may include a type of signal processing. The type of signal processing is based on the information about the identity of the sensor unit. For example this may be determined based on the type of the sensor unit. Different types of sensor unit may require different signal processing.

The signal processing may include a comparison of a signal from the sensor unit with baseline sensor data. The instructions to the control unit for controlling the reader unit may include the baseline sensor data. The baseline sensor data may be based on the information about the identity of the sensor unit. For example this may be determined based on the type of the sensor unit. Different types of sensor unit may have different associated baseline sensor data.

As described above, the user computer device may be configured to determine the type of sensor unit, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on the type of the sensor unit.

As described above, the reader unit may be operable in a plurality of different modes, each different mode corresponding to a different type of sensor unit.

As described above, the instructions provided by the user computer user device to the control unit may be based on data from the host computer device. The host computer device may be configured to provide to the user computer device data relating to one or more of: baseline sensor data, validity of the sensor unit, authorisation for the user to use the sensor unit, validity of the reader unit, authorisation for the user to use the sensor unit.

Fig. 3 also shows the example system in further detail. As shown in Fig. 3, data may pass through the control unit (electronic control unit labelled ECU). As shown, in Fig. 3 the

user computer device (labelled APP) may exchange data with a host computer device (labelled Cloud Data).

5 Fig. 4 shows the reader unit and sensor unit in further detail. As shown in Fig. 4, the reader unit and the sensor unit may comprise respective interfaces (labelled Reader Contacts) configured to provide a connection between the reader unit and the sensor unit. As shown, the interfaces may provide electrical connections for providing a voltage signal to the sensor unit and receiving a sensor signal from the sensor unit.

10 The biosensor may be configured to alter (e.g. attenuate) the voltage signal provided to the sensor unit depending on the amount of the biomarker. Accordingly, the sensor signal is indicative of the amount of biomarker sensed. The biosensor may be a graphene-based biosensor, for example.

15 Fig. 5 shows an example sensor unit (labelled Cartridge). As shown, the sensor unit may be configured to receive a biological sample (labelled Swab). As shown, the biological sample may be saliva, blood or urine. Alternatively the bio sample may be mucous, seminal fluid, vaginal mucous, or any other type of biological sample. These may be human or animal samples. The biological sample may be provided on a swab, provided as
20 a droplet or by any other suitable means to the sensor unit.

As shown, the sensor unit may comprise one or more chemical compositions configured to be mixed with the biological sample. For example these may include a detergent or a diluent, as shown. These may also comprise an aptamer configured to bind to a specific
25 biomarker. These may be specific to the test carried out by the sensor unit. The sensor unit may be configured to mix the biological sample with the one or more chemical compositions. As shown, the mixture may then be provided to the biosensor.

The biological sample may be provided in a sample vessel configured to be received by the
30 sensor unit. The sample vessel may be configured to obtain a sufficient amount of the sample for testing. The sample vessel may comprise the one or more chemical compositions described above for example. The sample vessel may be configured to mix the biological sample with the one or more chemical compositions.

Fig. 6 shows the exchange of data within the diagnostic system. As shown in Fig. 6, the control unit (labelled ECU) or the reader unit may output to the user computer device data relating to the reader unit ID, the sensor unit ID and the sensor signal or result of signal processing. The control unit (labelled ECU) may receive from the user computer device
5 user ID validation, sensor signal baseline data, sensor ID validation, and reader ID validation.

As shown in Fig. 6, the user computer device (labelled APP) may output to the host computer device (labelled Cloud Data) data relating to the user ID, sensor unit ID, reader
10 unit ID, reader unit validation, user account information, user ID. The user computer device may receive from the host computer device data relating to user ID validation, baseline sensor data, sensor unit validation, registration of sensor to use ID.

The system is configured to determine, based on the signal from the sensor unit, whether
15 the biological sample is indicative of a particular state of health or disease. The control unit, the user computer device, or the host computer device may be configured to determine this. Where not determined by the user computer device, the determination is provided to the user computer device from the control unit or the host computer device. The determination may be made based a comparison with one or more baselines,
20 including, for example, population baselines, or user base lines from previous tests.

The above described diagnostics system provides a system whereby users can select a sensor unit corresponding to a specific test, connect the sensor unit to a reader unit compatible with a plurality of different tests, then use the system (i.e. perform the test) via
25 the user computer device. Such a system may be simple and quick to use and may not require specialist knowledge.

Variations of the above examples are possible within the above teaching without departing from the sprit or scope of the invention.

30

CLAIMS

1. A health monitoring or diagnostics system comprising:
 - a reader unit configured to connect to, and read a signal from, a sensor unit
 - 5 configured to sense a biomarker within a biological sample, the reader unit comprising a control unit configured to control the reader unit;
 - a user computer device configured to be operated by a user of the diagnostic system and configured to exchange data with and provide instructions to the control unit for controlling the reader unit,
 - 10 wherein the control unit is configured to communicate information about an identity of the sensor unit to the user computer device and the user computer device is configured to provide instructions to the control unit for controlling the reader unit based on the identity of the sensor unit.

- 15 2. The health monitoring or diagnostics system of any preceding claim, wherein the control unit is configured to control the reader unit to provide a voltage to the sensor unit, the instructions to the control unit for controlling the reader unit include a level of the voltage, and the level of the voltage is determined based on the information about the identity of the sensor unit.

- 20 3. The health monitoring or diagnostics system of any preceding claim, wherein the control unit is configured to control the reader unit to perform signal processing on a signal received from the sensor unit, the instructions to the control unit for controlling the reader unit include a type of signal processing, and the type of signal
- 25 processing is based on the information about the identity of the sensor unit.

4. The health monitoring or diagnostics system of claim 3, wherein the signal processing includes comparison of a signal from the sensor unit with baseline sensor data, the instructions to the control unit for controlling the reader unit
- 30 include the baseline sensor data, and the baseline sensor data is based on the information about the identity of the sensor unit.

5. The health monitoring or diagnostics system of any preceding claim,

wherein the user computer device is configured to determine the type of sensor unit, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on the type of the sensor unit.

5 6. The health monitoring or diagnostics system of any preceding claim,
 wherein the user computer device is configured to determine whether the user is authorised to use the sensor unit, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the user is authorised to use the sensor unit.

10

 7. The health monitoring or diagnostics system of any preceding claim,
 wherein the user computer device is configured to determine whether the sensor unit is valid, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the sensor unit is valid.

15

 8. The health monitoring or diagnostics system of any preceding claim,
 wherein the control unit is configured to communicate information about an identity of the reader unit to the user computer device and the user computer device is configured to provide instructions to the control unit for controlling the reader unit based
20 on the identity of the reader unit.

20

 9. The health monitoring or diagnostics system of claim 8,
 wherein the user computer device is configured to determine whether the user is authorised to use the reader unit, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the user is authorised to
25 use the sensor unit.

25

 10. The health monitoring or diagnostics system of claim 8 or 9,
 wherein the user computer device is configured to determine whether the reader
30 unit is valid, based on the information about the identity of the sensor unit, and provide instructions to the control unit based on whether the sensor unit is valid.

30

 11. The health monitoring or diagnostics system of any preceding claim,

comprising a host computer device configured to exchange data with the user computer device,

wherein the instructions provided by the user computer user device to the control unit are based on data from the host computer device.

5

12. The health monitoring or diagnostic system of claim 11,

wherein the host computer device is configured to provide to the user computer device data relating to one or more of: baseline sensor data, validity of the sensor unit, authorisation for the user to use the sensor unit, validity of the reader unit, authorisation for the user to use the sensor unit.

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13. The health monitoring or diagnostics system of any preceding claim,

wherein the reader unit and the sensor unit comprise respective interfaces configured to provide a connection between the reader unit and the sensor unit, the respective interfaces being configured to detachably connect such that the sensor unit can be interchanged with a different sensor unit.

15

14. The health monitoring or diagnostics system of any preceding claim,

wherein the user computer device is provided separately from the reader unit and is connected wirelessly thereto.

20

15. The health monitoring or diagnostic system of any preceding claim,

wherein the reader unit is operable in a plurality of different modes, each different mode corresponding to a different type of sensor unit.

25

16. The health monitoring or diagnostics system of any preceding claim,

wherein the system is configured to determine, based on the signal from the sensor unit, whether the biological sample is indicative of a particular state of health or disease.

30

17. The health monitoring or diagnostics system of claim 16,

wherein, the control unit, the user computer device, or the host computer device is configured to determine, based on the signal from the sensor unit, whether the biological sample is indicative of a particular state of health or disease.

18. The health monitoring or diagnostics system of claim 16 or 17,
wherein, the determination is provided to the user computer device from the control
unit or the host computer device.

5 19. A health monitoring or diagnostics method comprising:
 connecting a sensor unit configured to sense a biomarker within a biological sample
to a reader unit comprising a control unit configured to control the reader unit;
 the control unit communicating information about an identity of the sensor unit to a
user computer device operated by a user of the diagnostic system, and
10 the user computer device providing instructions to the control unit for controlling
the reader unit based on the identity of the sensor unit; and
 the reader unit reading a signal from the sensor unit.

15



Application No: GB2214040.4

Examiner: Mr Gareth Prothero

Claims searched: 1 to 19

Date of search: 10 February 2023

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1 to 19	US 2022/0093269 A1 (HOLMES et al.) See in particular figure 12, and paragraphs [0087], [0311] to [0314] and [0344].
X	1 to 19	US 2021/0055226 A1 (HOLMES et al.) See especially figure 1, and paragraphs [0115] and [0200].
X	1 to 19	US 2018/0113126 A1 (CHATERJEE et al.) See especially figure 7, and paragraph [0077].

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

Worldwide search of patent documents classified in the following areas of the IPC

A61B; G01N; G16H

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC, Patent Fulltext

International Classification:

Subclass	Subgroup	Valid From
G01N	0033/487	01/01/2006
G16H	0010/40	01/01/2018
G16H	0040/60	01/01/2018