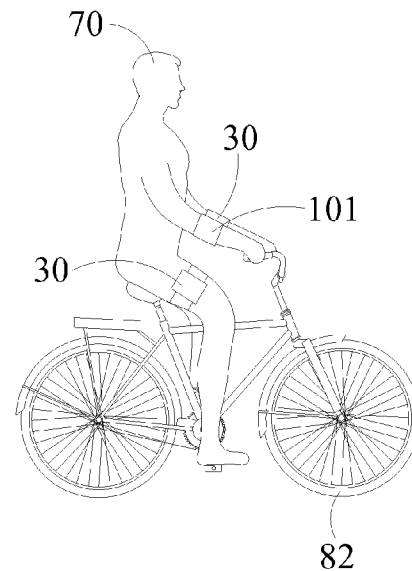
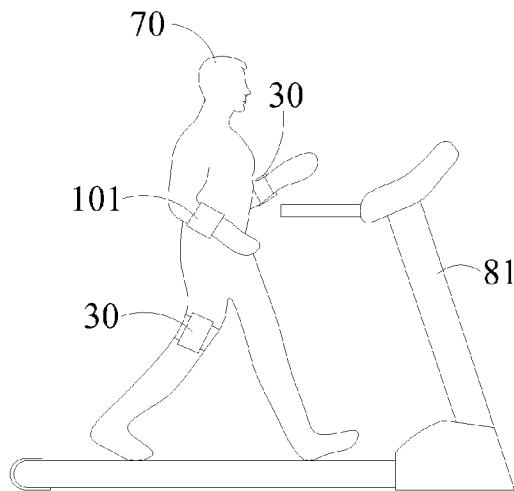




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(19) **United States**(12) **Patent Application Publication****Wu et al.**(10) **Pub. No.: US 2016/0271451 A1**(43) **Pub. Date: Sep. 22, 2016**(54) **WEARABLE DEVICE USED IN VARIOUS EXERCISE DEVICES**(71) Applicant: **Strength Master Fitness Tech. Co., Ltd.**, Puxin Township (TW)(72) Inventors: **Shu-Yao Wu**, Puxin Township (TW);  
**Ming-Chu Su**, Puxin Township (TW)(21) Appl. No.: **14/663,815**(22) Filed: **Mar. 20, 2015****Publication Classification**(51) **Int. Cl.**  
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**A63B 71/06** (2006.01)(52) **U.S. Cl.**CPC ..... **A63B 24/0075** (2013.01); **A63B 24/0062**  
(2013.01); **A63B 71/06** (2013.01)(57) **ABSTRACT**

A wearable device used in various exercise types. The wearable device includes a storage unit, at least one physiological data sensing unit, at least one movement sensing unit, an input display unit and a processing unit. The storage unit stores a plurality of default exercise types and their corresponding exercise evaluating algorithms. The at least one physiological data sensing unit measures a physiological data from a user. The at least one movement sensing unit measures a movement data from the user. The input display unit is used to select at least one exercise types from the plurality of default exercise types by the user. By setting the physiological data, the movement data or the combination thereof as input parameters of the exercise evaluating algorithm, the processing unit can real-time compute an exercise performance when the user carries out the at least one selected exercise type.



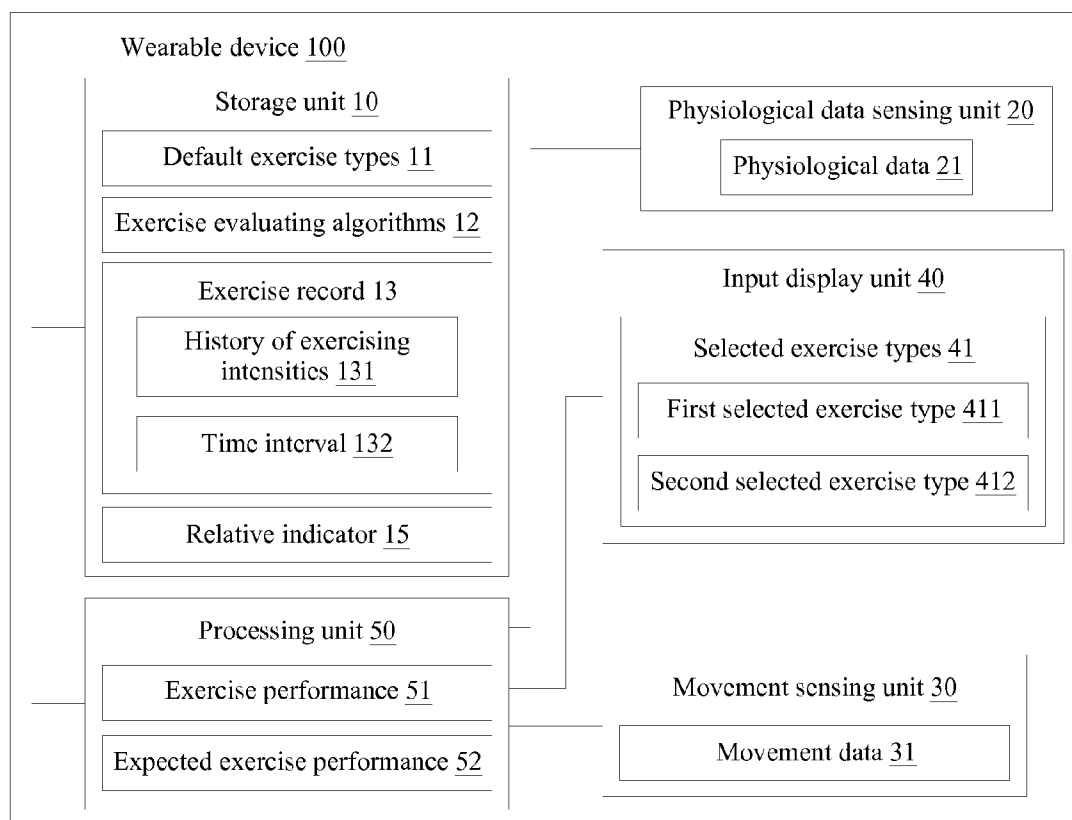


FIG. 1

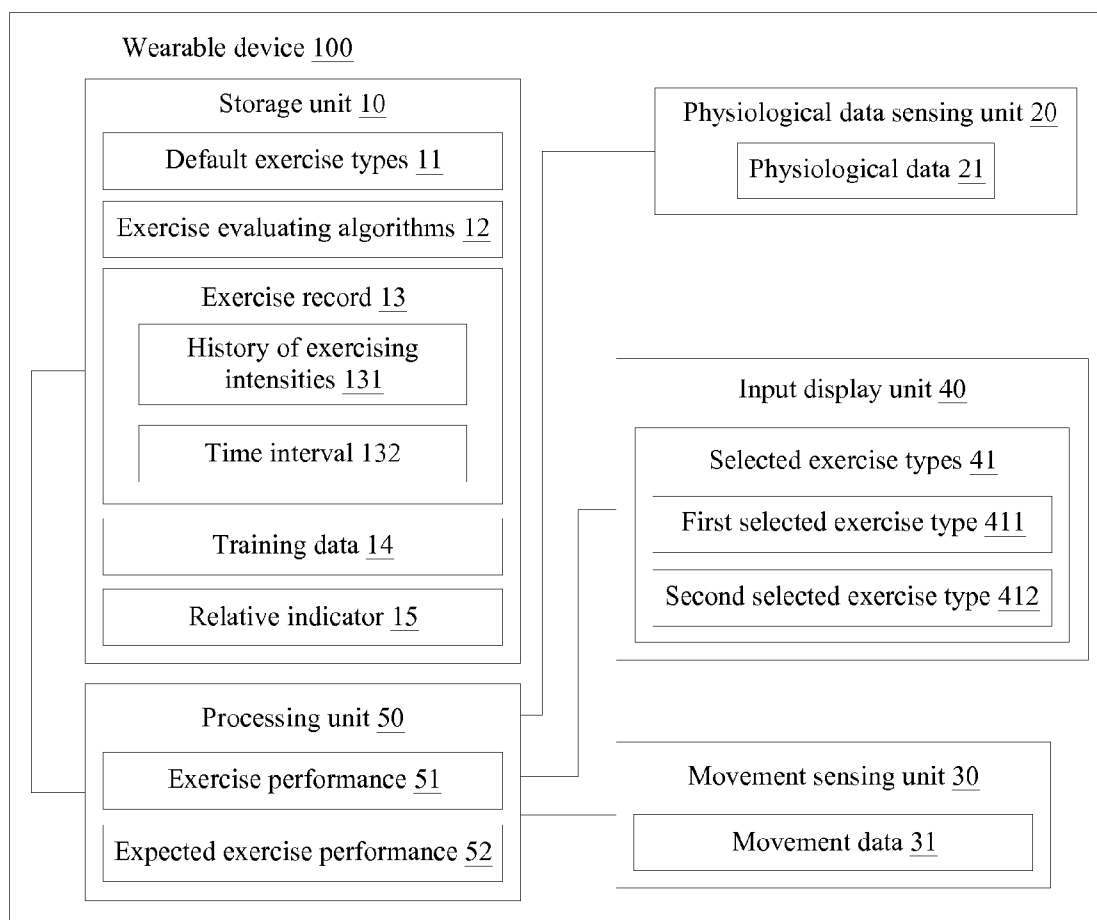


FIG. 2

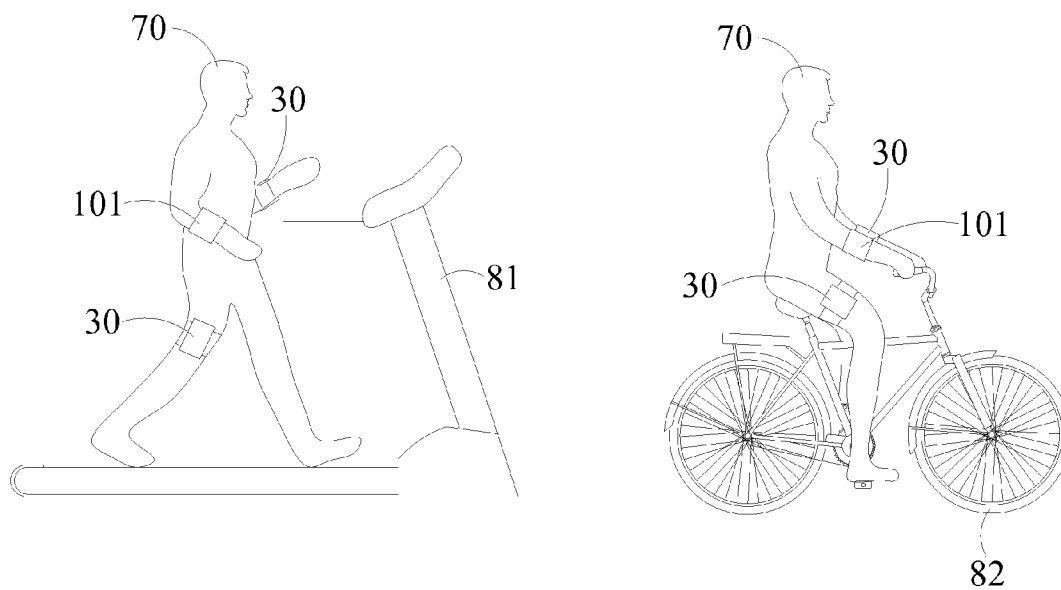


FIG. 3

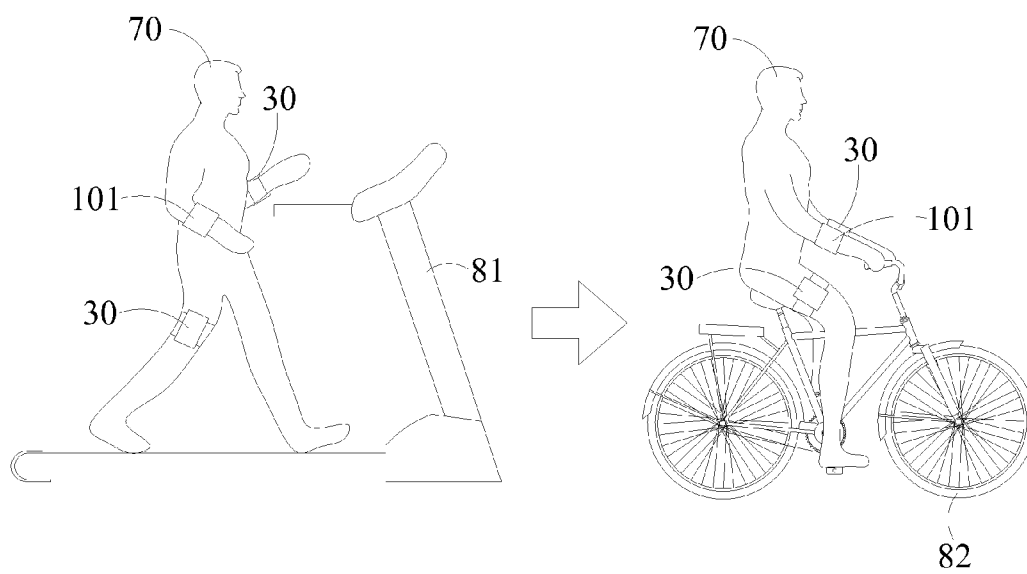


FIG. 4

Previous exercise time 20 days ago
Recommend exercise Intensity: Moderate
Recommend exercise Time period: 15-20 mins
Recommend exercise Type: Brisk walking

FIG. 5

## WEARABLE DEVICE USED IN VARIOUS EXERCISE DEVICES

### BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a wearable device, particularly to a wearable device which may be applied to different exercise type and may record exercise history.

[0003] 2. Description of the Related Art

[0004] There are two common methods for exercise evaluation now. The first one is to evaluate the exercising performance by the exercise data generated by the exercise equipment. For example, when a user exercise on a treadmill, the calories consumed by the user may be calculated according to speed, time, slope and distance detected or measured by the treadmill. Furthermore, smartphones or tablets may be connected to the exercise equipment, and the APPs therein may be used to control the exercise equipment and to show and record the exercise performance of the user. The second one is that the user wears a wearable device, such as fitness wristband, so as to evaluate or to measure the exercise data when running.

[0005] However, in the first method for exercise evaluation, the recorded exercise data, data format, column definition in storage, method of calculation and accuracy are different between each the exercise equipment since there are numerous type of the exercise equipment with different manufactures, different communication protocols and different communication interface. As a result, the history of exercise is not able to be effectively recorded if the user performed different types of exercise in different locations, or if the exercise equipment of different manufactures were applied with distinct formats of exercise data. In addition, if the trainer prescribes an elliptical machine for exercise and there is no elliptical machine available at the time, the user may not be able to exercise according to the prescription of the trainer. In the second method for exercise evaluation, it is inconvenient for the user if performing indoor exercise while the fitness wristband is for outdoor exercises and cannot connect to the exercise equipment, leading to the problem of incapable of integrating the exercise data of both indoor and outdoor exercises for further analysis.

### SUMMARY OF THE INVENTION

[0006] In view of the shortcomings of the prior art, it is a primary objective of the present invention to provide a wearable device that provides consistency as computing exercise performances of a user.

[0007] In view of the shortcomings of the prior art, it is a further objective of the present invention to provide a wearable device so that the user may only need to wear one wearable device to compute exercise performances of a user when performing different types of exercises.

[0008] In view of the shortcomings of the prior art, it is another objective of the present invention to provide a wearable device that solves the technical problem of having difficulties in integrating data from different types of exercises.

[0009] To achieve the aforementioned objective, the present invention provides a wearable device used in various exercise types, comprising: a storage unit, configured to store a plurality of default exercise types and corresponding exercise evaluating algorithms; at least one physiological data sensing unit, configured to measure a physiological data from

a user; at least one movement sensing unit, configured to measure a movement data from the user; an input display unit, configured to select at least one exercise types from the plurality of default exercise types by the user; and a processing unit, configured to set the physiological data, the movement data or a combination thereof as input parameters for the exercise evaluating algorithms to real-time compute an exercise performance when the user performs the at least one selected exercise type; wherein, in response to the selection of the at least one selected exercise type by the user, the processing unit stores each the at least one selected exercise type or a relative indicator corresponding to each the at least one selected exercise type, and the physiological data, the movement data or the exercise performance in the storage unit according to a predetermined format.

[0010] Preferably, an expected exercise performance corresponding to the at least one selected exercise type may be input via the input display unit, and the processing unit may compute the exercise performance of the user according to an exercise record and determines if the exercise performance meet the expected exercise performance.

[0011] Preferably, the exercise record may comprise a history of exercising intensities and a time interval from previous exercise of the user, and the processing unit may adjust an exercising intensity and an exercising period for achieving the expected exercise performance according to the history of exercising intensities and the time interval.

[0012] Preferably, in response to the user performs an exercise corresponding to a first selected exercise type and a second selected exercise type, sequentially, the first selected exercise type and the second selected exercise type may be switched via the input display unit by the user to compute the exercise performance of the user performing the first selected exercise type and the second selected exercise type.

[0013] Preferably, the plurality of default exercise types may comprise a treadmill, an elliptical machine, an exercise bike or a stepper.

[0014] To achieve the aforementioned objective, the present invention further provides a wearable device used in various exercise types, comprising: a storage unit, configured to store a plurality of default exercise types and corresponding exercise evaluating algorithms; at least one physiological data sensing unit, configured to measure a physiological data from a user; at least one movement sensing unit, configured to measure a movement data from the user; a processing unit, configured to determine the corresponding exercise evaluating algorithm according to the physiological data, the movement data or a combination thereof, and to execute the exercise evaluating algorithms to real-time compute an exercise performance when the user performs the at least one selected exercise type; and an input display unit, configured to display the exercise performance of the user; and wherein, in response to the selection of the at least one selected exercise type by the user, the processing unit stores each the at least one selected exercise type or a relative indicator corresponding to each the at least one selected exercise type, and the physiological data, the movement data or the exercise performance in the storage unit according to a predetermined format.

[0015] Preferably, an expected exercise performance corresponding to the at least one selected exercise type may be input via the input display unit, and the processing unit may compute the exercise performance of the user according to an

exercise record and determines if the exercise performance meet the expected exercise performance.

**[0016]** Preferably, the exercise record may comprise a history of exercising intensities and a time interval from previous exercise of the user, and the processing unit may adjust an exercising intensity and an exercising period for achieving the expected exercise performance according to the history of exercising intensities and the time interval.

**[0017]** Preferably, in response to the user performs an exercise corresponding to a first selected exercise type and a second selected exercise type, sequentially, while entering the exercise corresponding to the second selected exercise type from the first selected exercise type, the first selected exercise type and the second selected exercise type may be switched automatically by the processing unit according to the movement data and a training data.

**[0018]** Preferably, the training data may comprise an exercise pattern measured by the at least one movement sensing unit when the user performs each the plurality of default exercise types.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0019]** The features, objects or advantages of the invention will be apparent from the following drawings and detailed descriptions of the embodiments.

**[0020]** FIG. 1 is a block diagram of a wearable device in accordance with the first embodiment of the present invention.

**[0021]** FIG. 2 is a block diagram of a wearable device in accordance with the second embodiment of the present invention.

**[0022]** FIG. 3 is a schematic view of a wearable device in accordance with the third embodiment of the present invention.

**[0023]** FIG. 4 is a schematic view of a wearable device in accordance with the fourth embodiment of the present invention.

**[0024]** FIG. 5 is a schematic view of a wearable device in accordance with the fifth embodiment of the present invention.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

**[0025]** The features, advantages and method to achieve thereof will become more apparent to those of ordinary skill in the art by describing in detail exemplary embodiments with reference to the exemplary embodiment and the attached drawings.

**[0026]** The present invention is illustrated by the following examples. However, it should be understood that the invention is not limited to the specific details of these examples. Those in the art will understand that a number of variations may be made in the disclosed embodiments, all without departing from the scope of the invention, which is defined solely by the appended claims.

**[0027]** Please refer to FIG. 1, which is a block diagram of a wearable device in accordance with the first embodiment of the present invention. As shown in the figure, a wearable device 100 for use in various exercise types, applied as user exercises, comprises a storage unit 10, at least one physiological data sensing unit 20, at least one movement sensing unit 30, an input display unit 40 and a processing unit 50. The storage unit 10 may be a physical memory. The at least one

physiological data sensing unit 20 may be a heart rate sensor, a blood pressure sensor, an oximeter, a respiration sensor, a body magnetic field sensor or body temperature sensor. The input display unit 40 may be a touch screen. The at least one movement sensing unit 30 may be a gyroscope, a force sensor or a triaxial accelerometer. The processing unit 50 may be a microcontroller (MCU) or a central processing unit (CPU) and electrically connected to the storage unit 10, the at least one physiological data sensing unit 20, the input display unit 40 and the at least one movement sensing unit 30.

**[0028]** The storage unit 10 stores a plurality of default exercise types 11 and corresponding exercise evaluating algorithms 12. The at least one physiological data sensing unit 20 measures a physiological data 21 from a user. The at least one movement sensing unit 30 measure a movement data 31 from the user. The input display unit 40 is used to select at least one exercise types 41 from the plurality of default exercise types 11 by the user. Wherein, the plurality of default exercise types 11 may comprise exercising on treadmill, exercising on elliptical machine, exercising on stepper, exercising on exercise bike, outdoor running, brisk walking, walking, mountain climbing or bicycle riding. The movement data 31 may comprise velocity, acceleration, angular velocity, angular acceleration, force, etc. measured on body parts of the user while the user exercising, and the physiological data 21 may be heart-beat value, body temperature, respiratory rate, body magnetic field variations, the blood oxygen level, etc.

**[0029]** In response to the selection of the at least one selected exercise type 41 by the user, the processing unit 50 may set the physiological data 21, the movement data 31 or a combination thereof as input parameters for the exercise evaluating algorithms 12 to real-time compute an exercise performance 51 when the user performs the at least one selected exercise type 41. Wherein, the exercise performance 51 may comprise calories consumed, running distance of the user, running speed, running frequency, riding distance, number of treads, treading frequency, exercising intensity or number of steps, and the exercise performance 51 may be stored in a cloud server for personal health management of the user. For example, when the user exercise on indoor exercise equipment, such as a stepper, the user may select the selected exercise types 41 corresponding to the stepper on the input display unit 40. At this point, the wearable device 100 may real-time compute the exercise performance 51 of the user by executing the exercise evaluating algorithm 12 with the physiological data 21, the movement data 31 or a combination thereof generated from the user as input parameters when exercising on the stepper.

**[0030]** After the user exercised according to the selected exercise types 41, the processing unit 50 stores the data of each the at least one selected exercise type 41 or a relative indicator 15 corresponding to each the at least one selected exercise type 41, the physiological data 21, the movement data 31 or the exercise performance 51 in the storage unit 10 according to a predetermined format. Wherein, the relative indicator 15 may be a code for the selected exercise type 41 and the predetermined format may be varied computer data structure. In this way, the user may record any data related to the exercise of the selected exercise types 41 performed in the wearable device 100. When the user want to review an exercise record of any specific exercise equipment, the user only need to input the options corresponding to the specific exercise equipment on the input display unit 40. The processing unit 50 may find the storage positions of the specific exercise

equipment in the storage unit **10** according to the relative indicator **15**, so as to display the physiological data **21**, the movement data **31** and the exercise performance **51** on the input display unit **40**.

[0031] To be more specific, since the at least one selected exercise type **41** or the relative indicator **15** corresponding to each the at least one selected exercise type **41** respectively has the physiological data **21**, the movement data **31** and the exercise performance **51** stored according to the predetermined format, the processing unit **50** may be able to perform a history search or a statistical analysis by this way of storage. For example, Table **1** is an exemplary embodiment of the selected exercise type **41**, the relative indicator **15**, the physiological data **21** and the exercise performance **51** according to the present invention, however, the movement data **31** of the user or other related information may be included, and should not be limited to the specific details of the instant embodiment. From the Table **1**, the physiological data **21** and the exercise performance **51** may be generated through various selected exercise type **41**, and the selected exercise type **41** or the relative indicator **15** corresponding to the selected exercise type **41** may be respectively directed to the physiological data **21** and the exercise performance **51** stored.

TABLE 1

Exercise types	Relative indicator			Physiological data measured		
Treadmill	1	Heart rate	Body Temp.	Exercise ECG	Respiration rate/Body magnetic field changes	
Elliptical Machine	2	Heart rate	Body Temp.	Exercise ECG	Respiration rate/Body magnetic field changes	
Stepper	3	Heart rate	Body Temp.	Exercise ECG	Respiration rate/Body magnetic field changes	
Exercise Bike	4	Heart rate	Body Temp.	Exercise ECG	Respiration rate/Body magnetic field changes	
Outdoor Running	5	Heart rate	Body Temp.	Exercise ECG	Respiration rate/Body magnetic field changes	
Bicycle	6	Heart rate	Body Temp.	Exercise ECG	Respiration rate/Body magnetic field changes	
Exercise performance						
Exercising time period	Speed	Running distance	Calories consumed	Number of steps	Stepping frequency	Exercising intensity
Exercising time period	Treading speed	Treading distance	Calories consumed	Number of treads	Treading frequency	Exercising intensity
Exercising time period	Treading speed	Treading distance	Calories consumed	Number of treads	Treading frequency	Exercising intensity
Exercising time period	Treading speed	Treading distance	Calories consumed	Number of treads	Treading frequency	Exercising intensity
Exercising time period	Speed	Running distance	Calories consumed	Number of steps	Steps frequency	Exercising intensity
Exercising time period	Treading Speed	Riding distance	Calories consumed	Number of treads	Treading frequency	Exercising intensity

[0032] To be distinct from the prior art, the physiological data **21**, the movement data **31** or a combination thereof may be applied to be a basis for the calculation according to the present invention. Comparing to the calculation only based on the physiological data **21** of the prior art, the exercise performance **51** calculated by the exercise evaluating algorithm **12** according to the present invention may be more accurate.

[0033] On the other hand, in response to the user sequentially performs an exercise corresponding to a first selected exercise type **411** and a second selected exercise type **412**, the first selected exercise type **411** and the second selected exercise type **412** are manually switched via the input display unit

**40** by the user so as to compute the exercise performance **51** of the user performing the exercise of the first selected exercise type **411** and the second selected exercise type **412**, respectively. Wherein, the first selected exercise type **411** and the second selected exercise type **412** may be any kinds of known exercise type, such as running, riding a bicycle, exercising on a treadmill, exercising on an elliptical machine, exercising on a stepper, etc.

[0034] To be more specific, an expected exercise performance **52** corresponding to the at least one selected exercise type **41** may be input via the input display unit **40**, and the expected exercise performance **52** may be expected calories consumed or an exercising intensity in connection with each of the selected exercise type **41**. For example, the user may input the respective expected calories consumed against the treadmill, the stepper or the exercise bike via the input display unit **40** if the user selected the three exercising types. The processing unit **50** may further determine if the actual calories consumed meet the expected calories consumed when the user performs the three above-mentioned exercise types.

[0035] In a preferred embodiment, the processing unit **50** may compute the exercise performance **51** of the user according to an exercise record **13** and determine if the exercise

performance **51** meet the expected exercise performance **52**. Wherein, the exercise record **13** may comprise a history of exercising intensities **131** and a time interval **132** from previous exercise of the user. The processing unit **50** may adjust exercising intensity and an exercising period for achieving the expected exercise performance according to the history of exercising intensities **131** and the time interval **132**. In other words, the wearable device **100** according to the present invention may provide a recommended way of exercising according to the current exercising habit of the user, such that the user may avoid suffering from injuries.

[0036] Please refer to FIG. **2**, which is a block diagram of a wearable device in accordance with the second embodiment



of the present invention. Please also refer to FIG. 1, the second embodiment is similar to the first embodiment, except the differences that the storage unit 10 may further comprise a training data 14, which may be an exercise pattern measured by the at least one movement sensing unit 30 when the user performs each the plurality of default exercise types 11 and be used to determine whether the user performs the specific exercise type. Taking running as an example, the training data 14 may be the data of the exercise pattern measured by a gyroscope or a triaxial accelerometer located on the user while running.

[0037] The second difference lies in that in response to the user sequentially performs an exercise corresponding to a first selected exercise type 411 and a second selected exercise type 412, the first selected exercise type 411 and the second selected exercise type 412 are switched automatically by the processing unit 50 so as to compute exercise performances 51 when the user performs the first selected exercise type 411 and the second selected exercise type 412. To be more specific, after comparing the current movement data 31 and the training data 14 of the user, the switch from the first selected exercise type 411 to the second selected exercise type 412 are automatically performed.

[0038] As described in the first embodiment, an expected exercise performance 52 corresponding to the at least one selected exercise type 41 may be input via the input display unit 41, and the processing unit 50 may adjust the expected exercise performance 52 according to the history of exercising intensities 131 and the time interval 132, compute the exercise performance 51 of the user and determine if the exercise performance 51 meet the expected exercise performance 52.

[0039] Please refer to FIG. 3, which is a schematic view of a wearable device in accordance with the third embodiment of the present invention. Please also refer to FIG. 1, in this embodiment, the wearable device 100 comprises a portable mobile device 101 and a movement sensing unit 30. Wherein, the portable mobile device 101 may be an embedded system and dispose on arms of the user. The portable mobile device 101 may comprise a storage unit 10, a physiological data sensing unit 20, an input display unit 40 and a processing unit 50. The physiological data sensing unit 20 tightly attaches to the skin of the user 70 to measure a physiological data 21 from the user 70, and the movement sensing unit 30 measures a movement data 31 from the user 70.

[0040] When the user 70 exercise on a treadmill 81, the exercise type of “treadmill 81” may be input via the input display unit 40. At this point, the processing unit 50 may search for an exercise evaluating algorithm 12 corresponding to the “treadmill 81” in the storage unit 10, and the exercise evaluating algorithm 12 may be applied to real-time compute an exercise performance 51 with the movement data 31, the physiological data 21 or a combination thereof as parameters when the user 70 runs. However, when the user changes the exercise type, such as exercising on a bicycle 82, the exercise type of “bicycle 82” may be input via the input display unit 40. At this point, the processing unit 50 may search for an exercise type corresponding to the “bicycle 82” or for a relative indicator 15 corresponding to the “bicycle 82”, and an exercise performance 51 of that the user 70 riding a bicycle 82 may be real-time computed accordingly.

[0041] Please refer to FIG. 4, which is a schematic view of a wearable device in accordance with the fourth embodiment of the present invention. Please also refer to FIGS. 2-3, in this

embodiment, the user 70 may set up an exercise plan of exercising on a treadmill 81 and a bicycle 82 through the wearable device 100. For example, the user 70 may input an exercising period, an exercising intensity or expected calories consumed of the treadmill 81 and the bicycle 82, respectively, via the input display unit 40. When performing the two exercises, the wearable device 100 according to the present invention may be applied to compute the exercise performances 51 of the user 70. Wherein, the switch between the two exercises may be manually switched via the input display unit 40 or automatically switched by the processing unit 50. The way of switch has been described in the previous embodiments and will not further describe herein.

[0042] Please refer to FIG. 5, which is a schematic view of a wearable device in accordance with the fifth embodiment of the present invention. Please also refer to FIGS. 1-2, in this embodiment, the processing unit 50 may adjust the exercising intensity and the exercising period of the expected exercise performance 52 according to the history of exercising intensities 131 and the time interval 132 from the previous exercise of the user 70. The processing unit 50 may further compute the exercise performance 51 of the user 70 and determine if the exercise performance 51 meet the expected exercise performance 52.

[0043] To be more specific, every exercise performances 51 of the user 70 will be recorded and stored in the cloud server or the storage unit 10, and the processing unit 50 may provide appropriate advices according to recent exercise habits of the user. For example, when the user input an expected exercise performance 52 via the input display unit 40, the processing unit 50 may control the exercising intensity, exercising period and the exercising type to be moderate so as to avoid physical discomfort caused by sudden and strenuous exercises, if it has been a while, such as 20 days, since the previous exercise of the user. This scenario is quite suitable for an exercise management program planned for an individual. The user may wear the wearable device 100 to perform different exercises as shown in the first embodiment to the fourth embodiments simply by inputting a personalized exercise management program to the wearable device 100 by a professional trainer. The exercise performance of the user and the whole exercise management program may be seen on the input display unit 40 without the need of the professional trainer to be around anytime and the assistance of the professional trainer.

[0044] In summation, the wearable device according to the present invention indeed provides consistency as computing exercise performances of a user. When the user performs different types of exercises, the user may only wear a single wearable device to compute exercise performances of a user and avoid the problem of integrating data from different types of exercises at the same time. Other than the above-mentioned advantages, the wearable device of the present invention further provides a way of switch between different exercise types, and may be used to recommend suitable exercise type and exercise intensity according to the exercise records of the user. Furthermore, the user may perform a personalized inquiry against a specific exercise, such as an elliptical machine, via the wearable device according to the present invention, so as to perform a history search or a statistical analysis for the specific exercise performed by the user.

[0045] The present invention has been described with some preferred embodiments thereof and it is understood that many changes and modifications in the described embodiments can

be carried out without departing from the scope and the spirit of the invention that is intended to be limited only by the appended claims.

What is claimed is:

1. A wearable device used in various exercise types, comprising:

a storage unit, configured to store a plurality of default exercise types and corresponding exercise evaluating algorithms;

at least one physiological data sensing unit, configured to measure a physiological data from a user;

at least one movement sensing unit, configured to measure a movement data from the user;

an input display unit, configured to select at least one exercise types from the plurality of default exercise types by the user; and

a processing unit, configured to set the physiological data, the movement data or a combination thereof as input parameters for the exercise evaluating algorithms to real-time compute an exercise performance when the user performs the at least one selected exercise type;

wherein, in response to the selection of the at least one selected exercise type by the user, the processing unit stores each the at least one selected exercise type or a relative indicator corresponding to each the at least one selected exercise type, and the physiological data, the movement data or the exercise performance in the storage unit according to a predetermined format.

2. The wearable device of claim 1, wherein an expected exercise performance corresponding to the at least one selected exercise type is input via the input display unit, and the processing unit computes the exercise performance of the user according to an exercise record and determines if the exercise performance meet the expected exercise performance.

3. The wearable device of claim 2, wherein the exercise record comprise a history of exercising intensities and a time interval from previous exercise of the user, and the processing unit adjusts an exercising intensity and an exercising period for achieving the expected exercise performance according to the history of exercising intensities and the time interval.

4. The wearable device of claim 1, wherein in response to the user performs an exercise corresponding to a first selected exercise type and a second selected exercise type, sequentially, the first selected exercise type and the second selected exercise type are switched via the input display unit by the user to compute the exercise performance of the user performing the first selected exercise type and the second selected exercise type.

5. The wearable device of claim 1, wherein the plurality of default exercise types comprise a treadmill, an elliptical machine, an exercise bike or a stepper.

6. A wearable device used in various exercise types, comprising:

a storage unit, configured to store a plurality of default exercise types and corresponding exercise evaluating algorithms;

at least one physiological data sensing unit, configured to measure a physiological data from a user;

at least one movement sensing unit, configured to measure a movement data from the user;

a processing unit, configured to determine the corresponding exercise evaluating algorithm according to the physiological data, the movement data or a combination thereof, and to execute the exercise evaluating algorithms to real-time compute an exercise performance when the user performs the at least one selected exercise type; and

an input display unit, configured to display the exercise performance of the user; and

wherein, in response to the selection of the at least one selected exercise type by the user, the processing unit stores each the at least one selected exercise type or a relative indicator corresponding to each the at least one selected exercise type, and the physiological data, the movement data or the exercise performance in the storage unit according to a predetermined format.

7. The wearable device of claim 6, wherein an expected exercise performance corresponding to the at least one selected exercise type is input via the input display unit, and the processing unit computes the exercise performance of the user according to an exercise record and determines if the exercise performance meet the expected exercise performance.

8. The wearable device of claim 7, wherein the exercise record comprises a history of exercising intensities and a time interval from previous exercise of the user, and the processing unit adjusts an exercising intensity and an exercising period for achieving the expected exercise performance according to the history of exercising intensities and the time interval.

9. The wearable device of claim 6, wherein in response to the user performs an exercise corresponding to a first selected exercise type and a second selected exercise type, sequentially, while entering the exercise corresponding to the second selected exercise type from the first selected exercise type, the first selected exercise type and the second selected exercise type are switched automatically by the processing unit according to the movement data and a training data.

10. The wearable device of claim 9, wherein the training data comprises an exercise pattern measured by the at least one movement sensing unit when the user performs each the plurality of default exercise types.

\* \* \* \* \*