What is claimed is:

1. An exercise system configured to gather and quantify data related to energy expenditure during physical activity, the exercise system comprising:

at least one force sensing node configured to gather data related to energy expenditure during physical activity, the at least one force sensing node comprising:

at least one force sensor configured to generate a first output signal responsive to force being exerted by at least one body part on the at least one force sensing node during physical activity;

an identification sensor configured to identify the at least one force sensing node to a portable hub, wherein identifying the at least one force sensing node to the portable hub includes indicating at least one body part associated with the at least one force sensing node; and

a first communications apparatus configured to transmit the first output signal; and

the portable hub being configured to quantify data related to energy expended during physical activity, the portable hub being physically separate and distinct from the at least one force sensing node, the portable hub comprising:

a second communications apparatus configured to receive the first output signal from the first communications apparatus of the at least one force sensing node; and

a processor configured to execute one or more computer program modules, the one or more computer program modules comprising:

an exercise analysis module configured to determine one or more exercise parameters based on the first output signal generated by the at least

one force sensor of the at least one force sensing node.

2. The exercise system of claim 1, wherein the one or more exercise parameters include one or more of calories burned during physical activity, duration of physical activity, magnitude of force exerted during physical activity, distance traveled during physical activity, altitude ascended during physical activity, or comparative information associated with prior physical activity.

3. The exercise system of claim 1, wherein the at least one force sensing node is integrated into at least one wearable item such that force exerted by at least one body part wearing the at least one wearable item is exerted on the at least one force sensing node.

4. The exercise system of claim 3, wherein the at least one wearable item includes one or both of footwear or handwear.

5. The exercise system of claim 1, wherein the at least one force sensing node is integrated into at least one insole, the at least one insole configured to be received by at least one shoe such that force exerted by the bottom of at least one foot wearing the at least one shoe is exerted on the at least one force sensing node.

6-7. (Cancelled via Article 34 Amendment)

8. The exercise system of claim 1, wherein the portable hub further comprises a display apparatus configured to display, for presentation to a user,

information related to the one or more exercise parameters, and wherein the one or more computer program modules further comprise a display module configured to control the display apparatus to present information related the one or more exercise parameters.

9. The exercise system of claim 1, wherein the portable hub further comprises a user interface configured to present user configurable settings to a user, and to receive selections from the user of values for the user configurable settings.

10. The exercise system of claim 1, wherein the portable hub further comprises a power supply, and wherein the one or more computer program modules further comprise a power management module configured to manage power delivered by the power supply.

11. The exercise system of claim 1, wherein the portable hub further comprises a geo-location sensor configured to generate a second output signal related to a geo-location of the portable hub, and wherein the one or more computer program modules further comprise a sensor module configured to receive the second output signal of the geo-location sensor.

12. The exercise system of claim 11, wherein the exercise analysis module is further configured to determine the one or more exercise parameters based on the second output signal generated by the geo-location module.

13. The exercise system of claim 1, wherein the portable hub further

comprises a motion sensor configured to generate a third output signal related to a motion of the portable hub, and wherein the one or more computer program modules further comprise a sensor module configured to receive the third output signal of the motion sensor.

14. The exercise system of claim 13, wherein the exercise analysis module is further configured to determine the one or more exercise parameters based on the third output signal generated by the motion sensor.

15. The exercise system of claim 1, wherein the portable hub further comprises electronic storage configured to store information related to the one or more exercise parameters.

16. The exercise system of claim 1, wherein the one or more computer program module comprise a clocking module configured to provide one or more functions including a clock, a timer, a stopwatch, or an occasion alarm.

17. The exercise system of claim 1, wherein the one or more computer program modules comprise a calendaring module configured to manage a calendar associated with the portable hub.

18. The exercise system of claim 1, wherein the second communications apparatus of the portable hub is further configured to transmit information related to the one or more exercise parameters.

19. The exercise system of claim 18, further comprising a computing platform that is physically separate and distinct from the at least one force sensing node and the portable hub, the computing platform configured to receive and process the information related to the one or more exercise parameters transmitted by the second communications apparatus of the portable hub.

20. A method for gathering and quantifying data related to energy expenditure during physical activity, the method comprising:

generating a first output signal responsive to force being exerted on at least one force sensing node during physical activity;

identifying the at least one force sensing node to a portable hub, wherein identifying the at least one force sensing node to the portable hub includes indicating at least one body part associated with the at least one force sensing node;

transmitting the first output signal from the at least one force sensing node to the portable hub, the portable hub being physically separate and distinct from the at least one force sensing node;

determining, at the portable hub, one or more exercise parameters based on the first output signal; and

presenting, at the portable hub, information related to the one or more exercise parameters.

Claims

1. An exercise system configured to gather and quantify data related to energy expenditure during physical activity, the exercise system comprising:

at least one force sensing node configured to gather data related to energy expenditure during physical activity, the at least one force sensing node comprising:

at least one force sensor configured to generate a first output signal responsive to force being exerted by at least one body part on the at least one force sensing node during physical activity;

an identification sensor configured to identify the at least one force sensing node to a portable hub, wherein identifying the at least one force sensing node to the portable hub includes indicating at least one body part associated with the at least one force sensing node; and

a first communications apparatus configured to transmit the first output signal; and

the portable hub being configured to quantify data related to energy expended during physical activity, the portable hub being physically separate and distinct from the at least one force sensing node, the portable hub comprising:

a second communications apparatus configured to receive the first output signal from the first communications apparatus of the at least one force sensing node; and

a processor configured to execute one or more computer program modules, the one or more computer program modules comprising:

an exercise analysis module configured to determine one or more exercise parameters based on the first output signal generated by the at least one force sensor of the at least one force sensing node.

2. The exercise system of claim 1, wherein the one or more exercise parameters include one or more of calories burned during physical activity, duration of physical activity, magnitude of force exerted during physical activity, distance traveled during physical activity, altitude ascended during physical activity, or comparative information associated with prior physical activity.

3. The exercise system of claim 1, wherein the at least one force sensing node is integrated into at least one wearable item such that force exerted by at least one body part wearing the at least one wearable item is exerted on the at least one force sensing node.

4. The exercise system of claim 3, wherein the at least one wearable item includes one or both of footwear or handwear.

5. The exercise system of claim 1, wherein the at least one force sensing node is integrated into at least one insole, the at least one insole configured to be received by at least one shoe such that

force exerted by the bottom of at least one foot wearing the at least one shoe is exerted on the at least one force sensing node.

6. The exercise system of claim 1, wherein the portable hub further comprises a display apparatus configured to display, for presentation to a user, information related to the one or more exercise parameters, and wherein the one or more computer program modules further comprise a display module configured to control the display apparatus to present information related the one or more exercise parameters.

7. The exercise system of claim 1, wherein the portable hub further comprises a user interface configured to present user configurable settings to a user, and to receive selections from the user of values for the user configurable settings.

8. The exercise system of claim 1, wherein the portable hub further comprises a power supply, and wherein the one or more computer program modules further comprise a power management module configured to manage power delivered by the power supply.

9. The exercise system of claim 1, wherein the portable hub further comprises a geo-location sensor configured to generate a second output signal related to a geo-location of the portable hub, and wherein the one or more computer program modules further comprise a sensor module configured to receive the second output signal of the geo-location sensor.

10. The exercise system of claim 9, wherein the exercise analysis module is further configured to determine the one or more exercise parameters based on the second output signal generated by the geo-location module.

11. The exercise system of claim 1, wherein the portable hub further comprises a motion sensor configured to generate a third output signal related to a motion of the portable hub, and wherein the one or more computer program modules further comprise a sensor module configured to receive the third output signal of the motion sensor.

12. The exercise system of claim 11, wherein the exercise analysis module is further configured to determine the one or more exercise parameters based on the third output signal generated by the motion sensor.

13. The exercise system of claim 1, wherein the portable hub further comprises electronic storage configured to store information related to the one or more exercise parameters.

14. The exercise system of claim 1, wherein the one or more computer program module comprise

a clocking module configured to provide one or more functions including a clock, a timer, a stopwatch, or an occasion alarm.

15. The exercise system of claim 1, wherein the one or more computer program modules comprise a calendaring module configured to manage a calendar associated with the portable hub.

16. The exercise system of claim 1, wherein the second communications apparatus of the portable hub is further configured to transmit information related to the one or more exercise parameters.

17. The exercise system of claim 16, further comprising a computing platform that is physically separate and distinct from the at least one force sensing node and the portable hub, the computing platform configured to receive and process the information related to the one or more exercise parameters transmitted by the second communications apparatus of the portable hub.

18. A method for gathering and quantifying data related to energy expenditure during physical activity, the method comprising:

generating a first output signal responsive to force being exerted on at least one force sensing node during physical activity;

identifying the at least one force sensing node to a portable hub, wherein identifying the at least one force sensing node to the portable hub includes indicating at least one body part associated with the at least one force sensing node;

transmitting the first output signal from the at least one force sensing node to the portable hub, the portable hub being physically separate and distinct from the at least one force sensing node;

determining, at the portable hub, one or more exercise parameters based on the first output signal; and

presenting, at the portable hub, information related to the one or more exercise parameters.