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(54) **EXERCISE INFORMATION SYSTEM**

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(57) **ABSTRACT**

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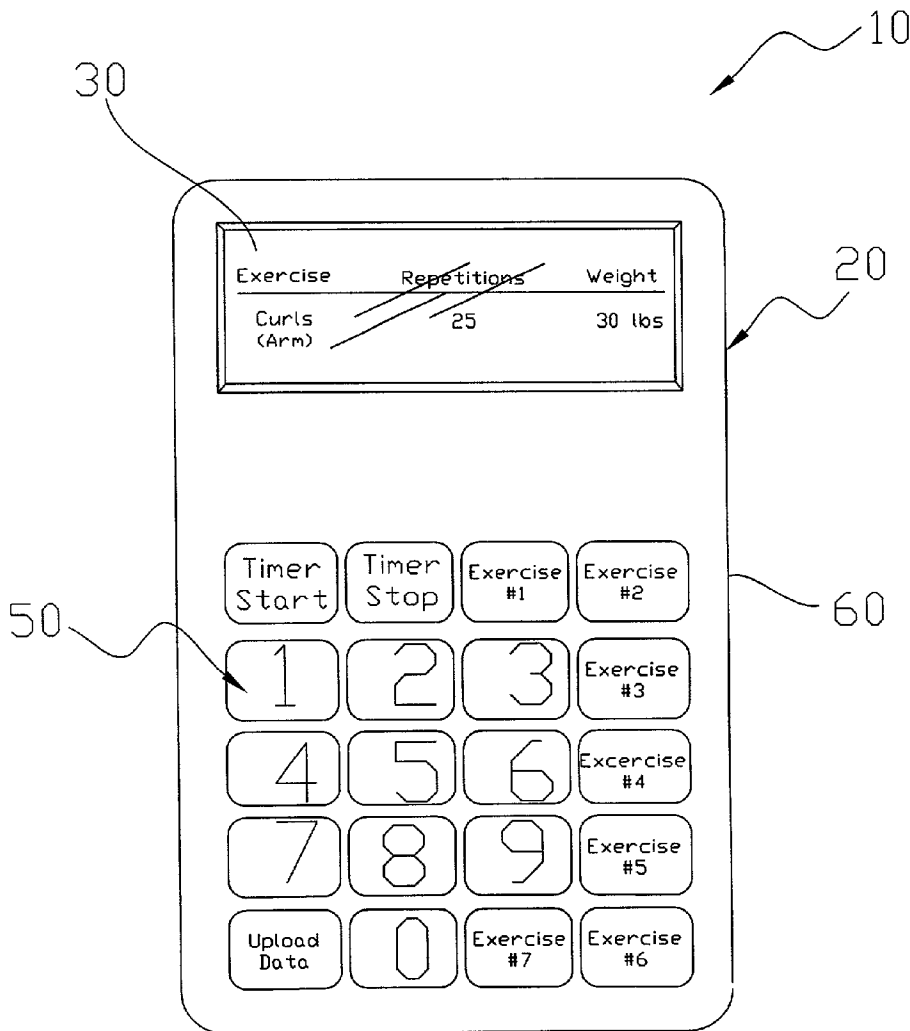
An exercise information system for allowing an individual to record their workout and view information relating to previous workouts. The exercise information system includes a monitoring unit having a display and keypad for receiving and displaying workout data during an exercise. The monitoring unit is connected to a computer system for uploading the entered data which is stored within a database that may be accessed at a later time via another computer system or monitoring unit.

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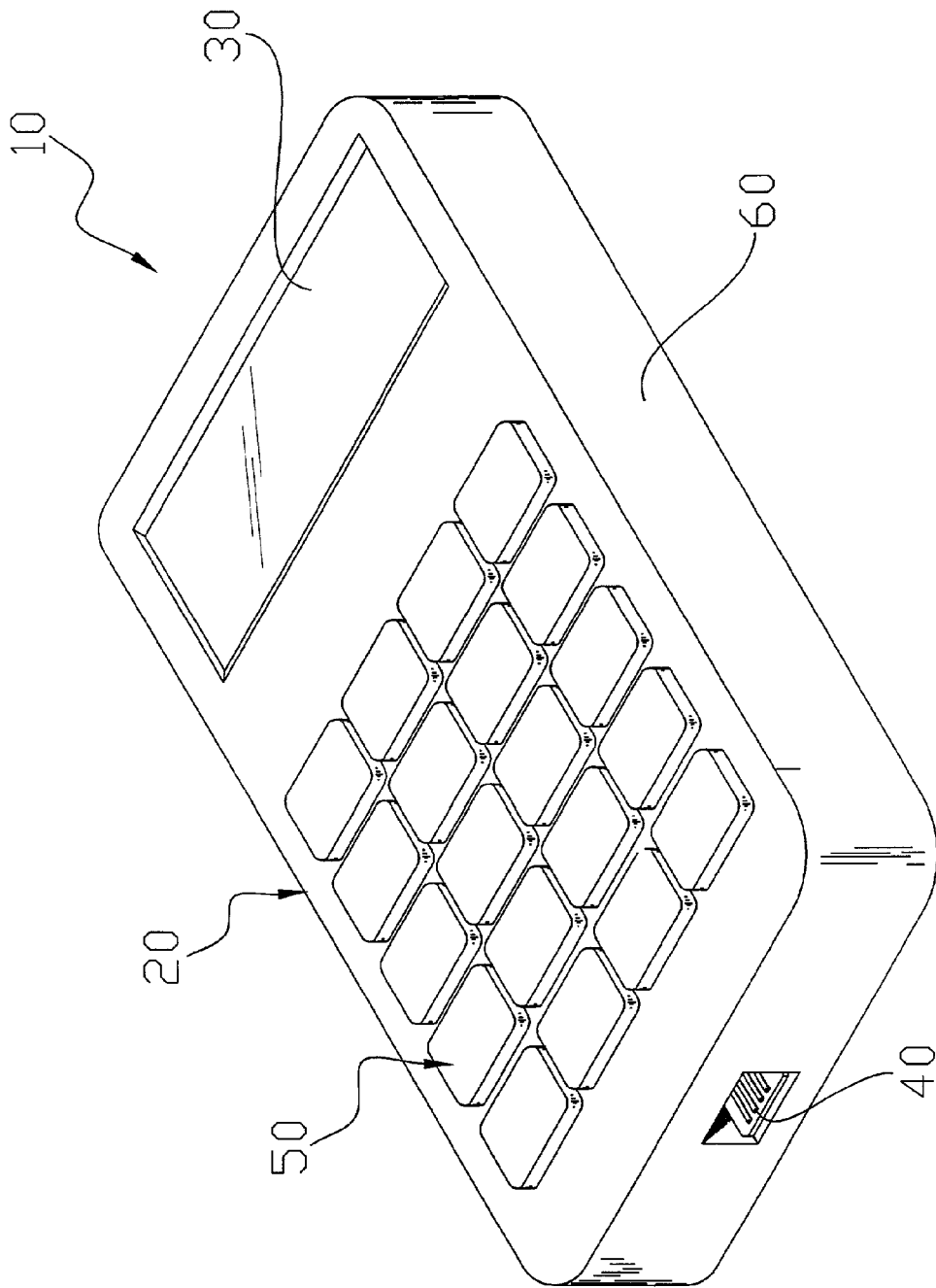


FIG. 1

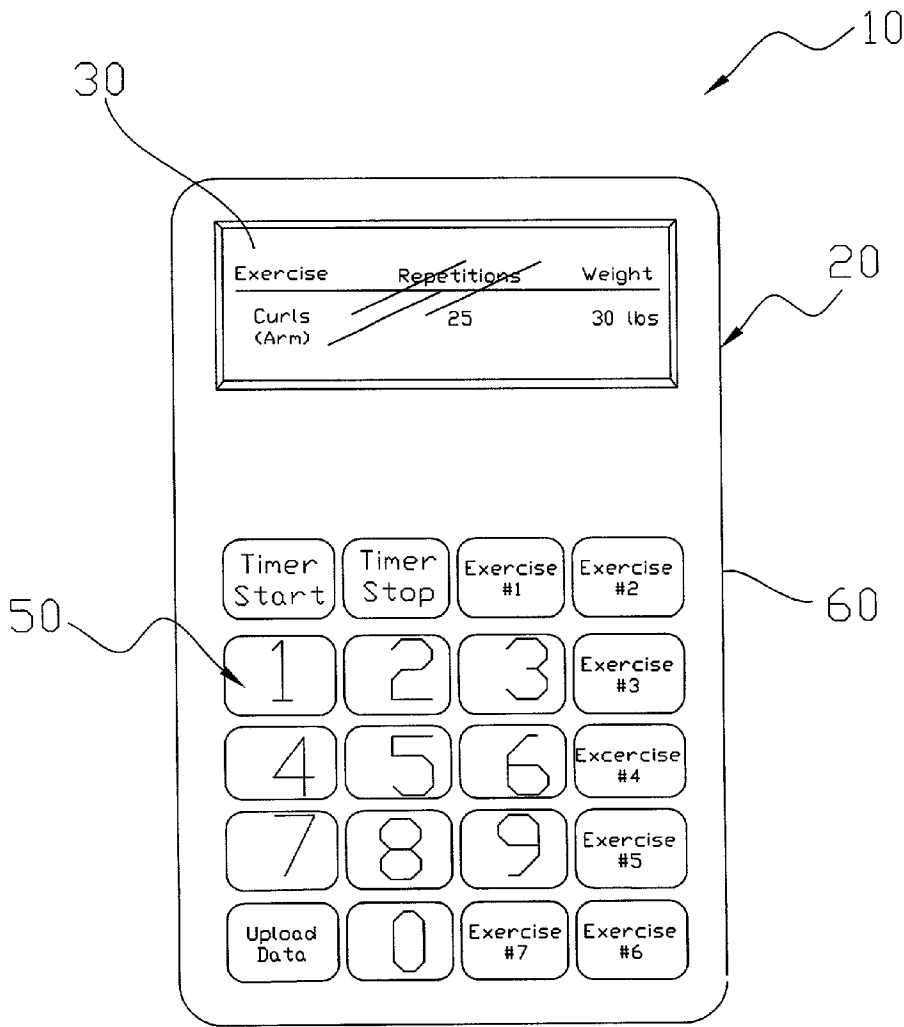


FIG. 2

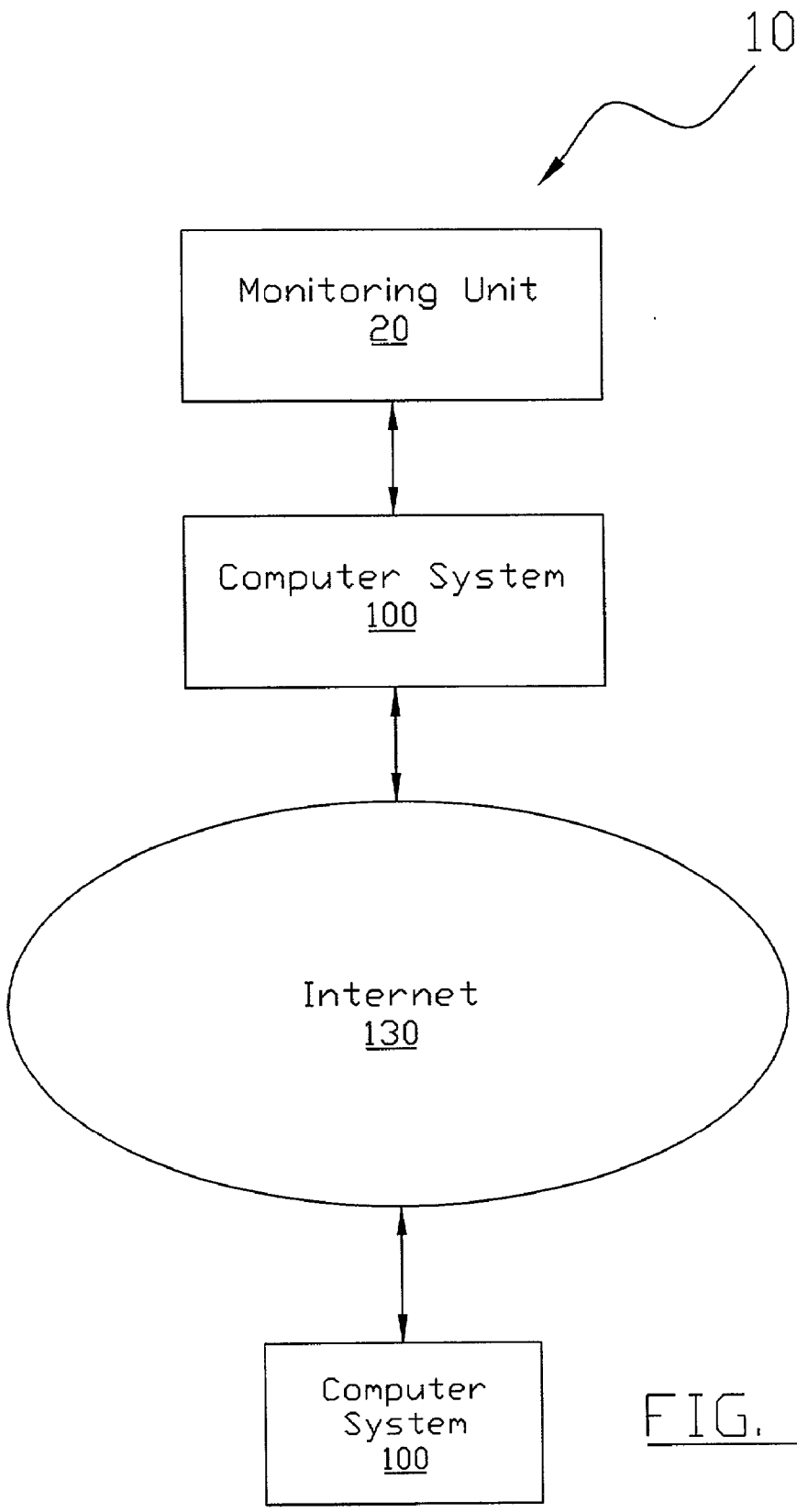


FIG. 3

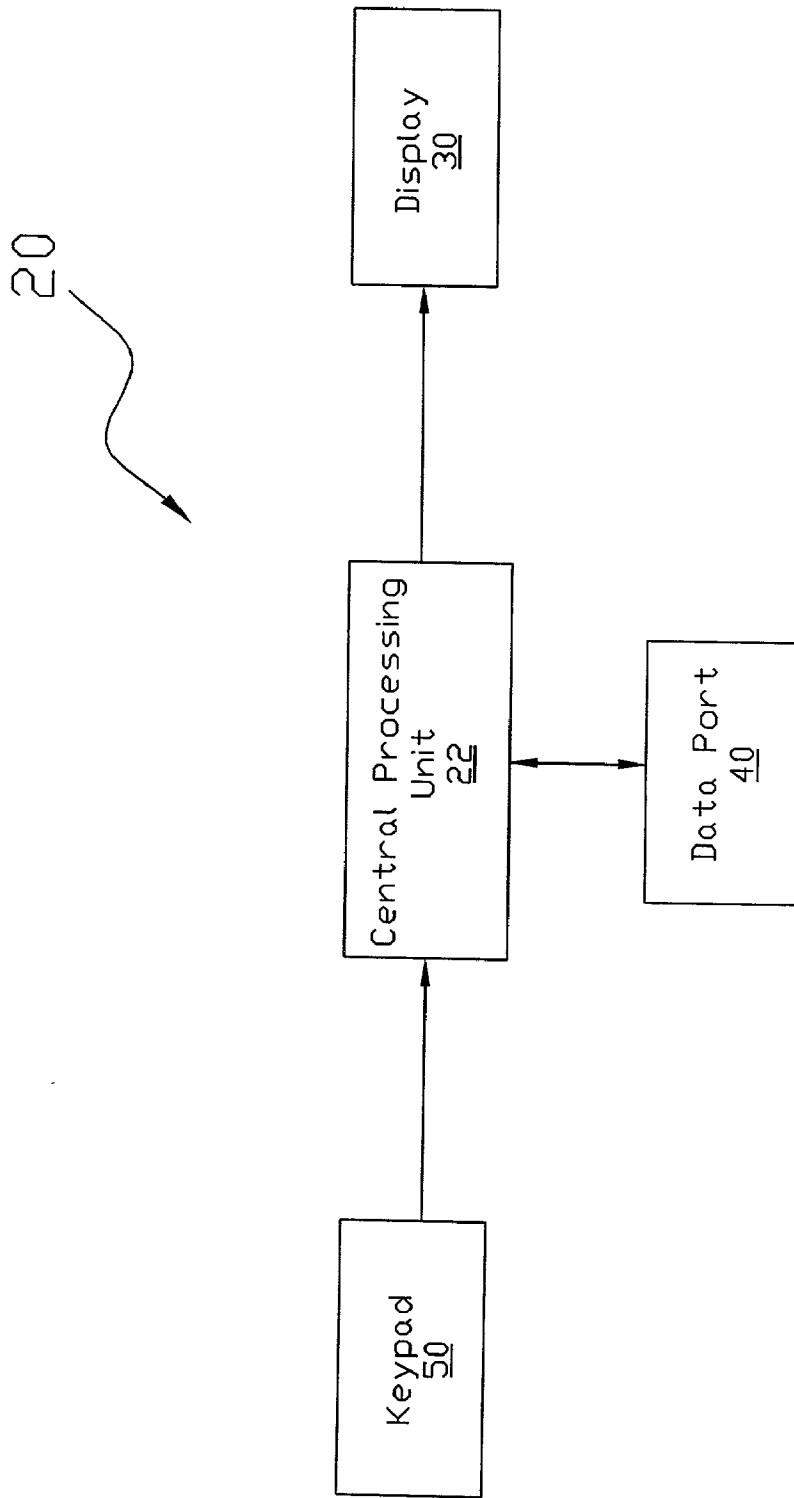


FIG. 4

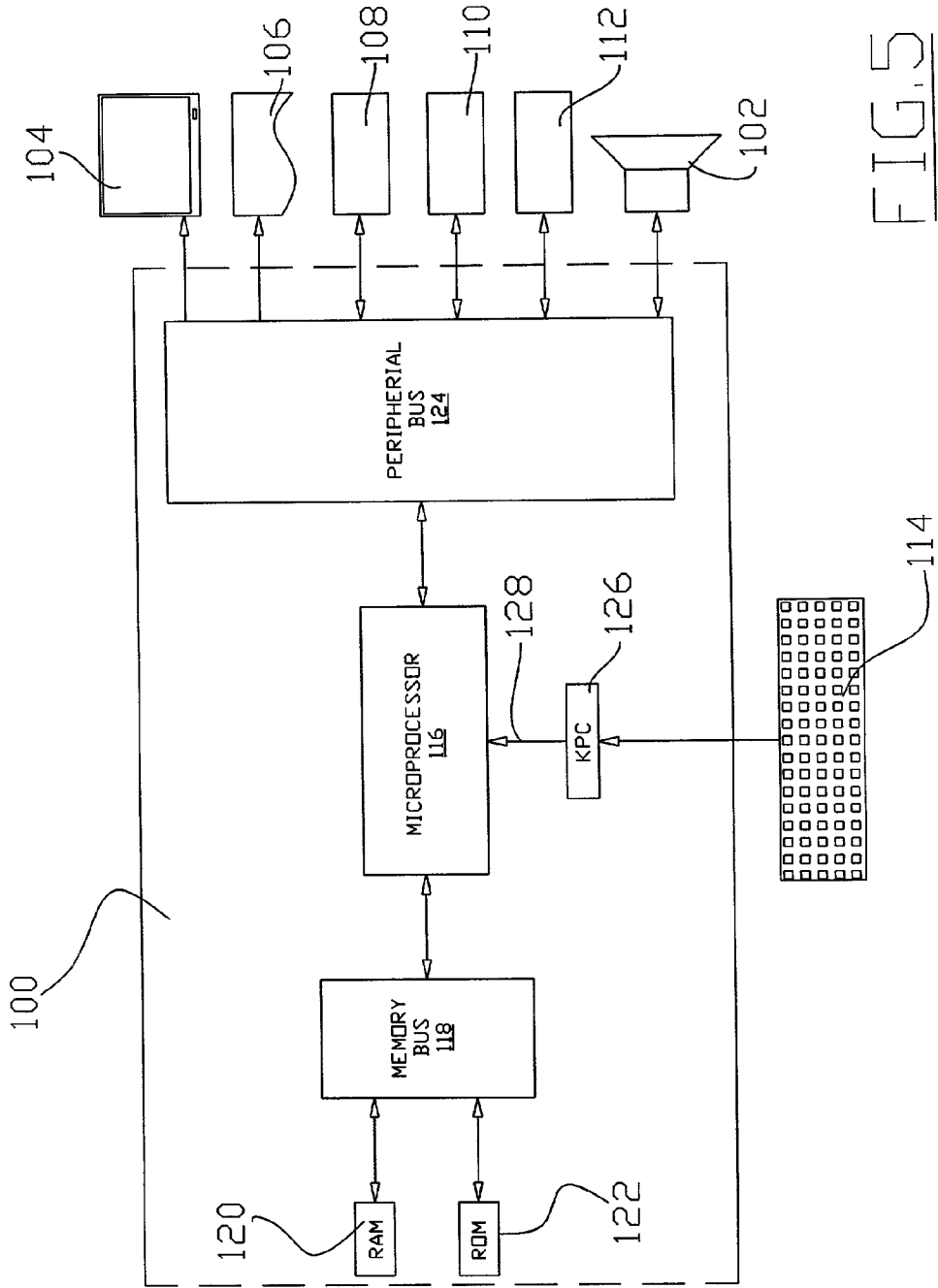


FIG. 5

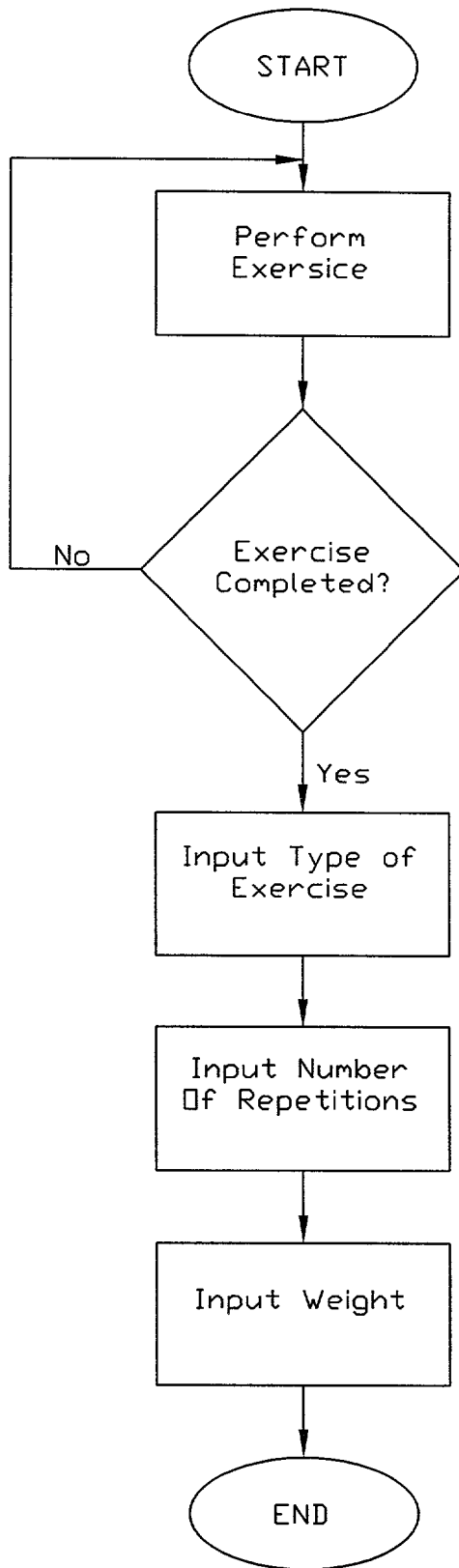


FIG. 6

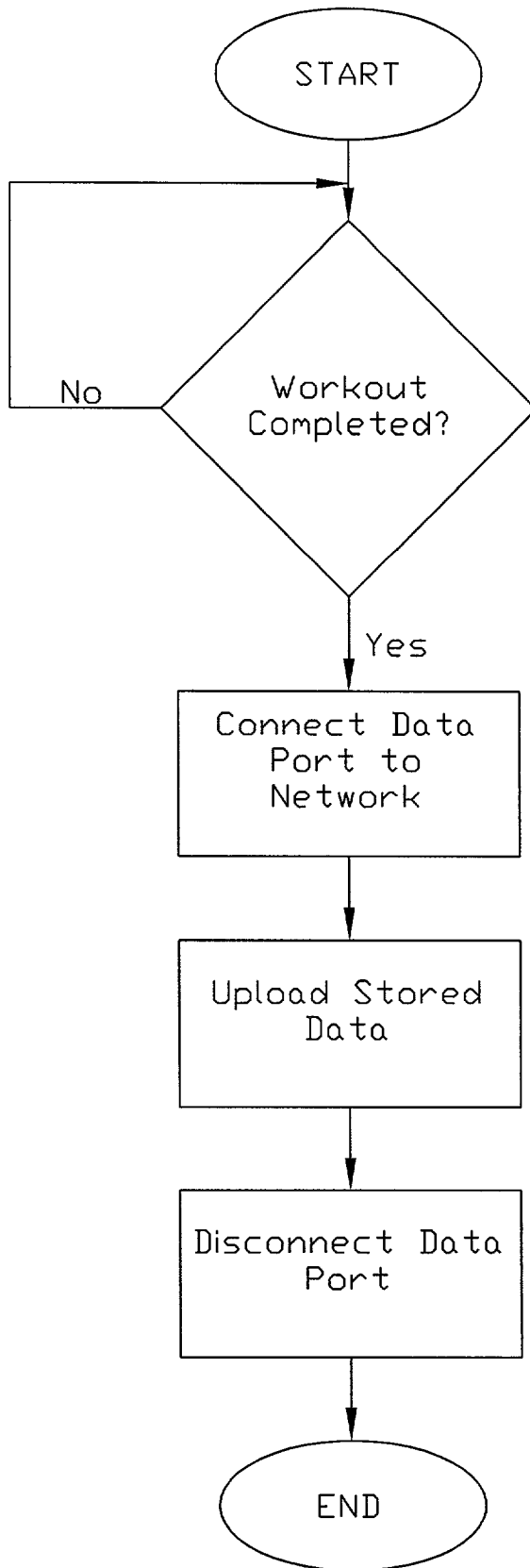


FIG. 7

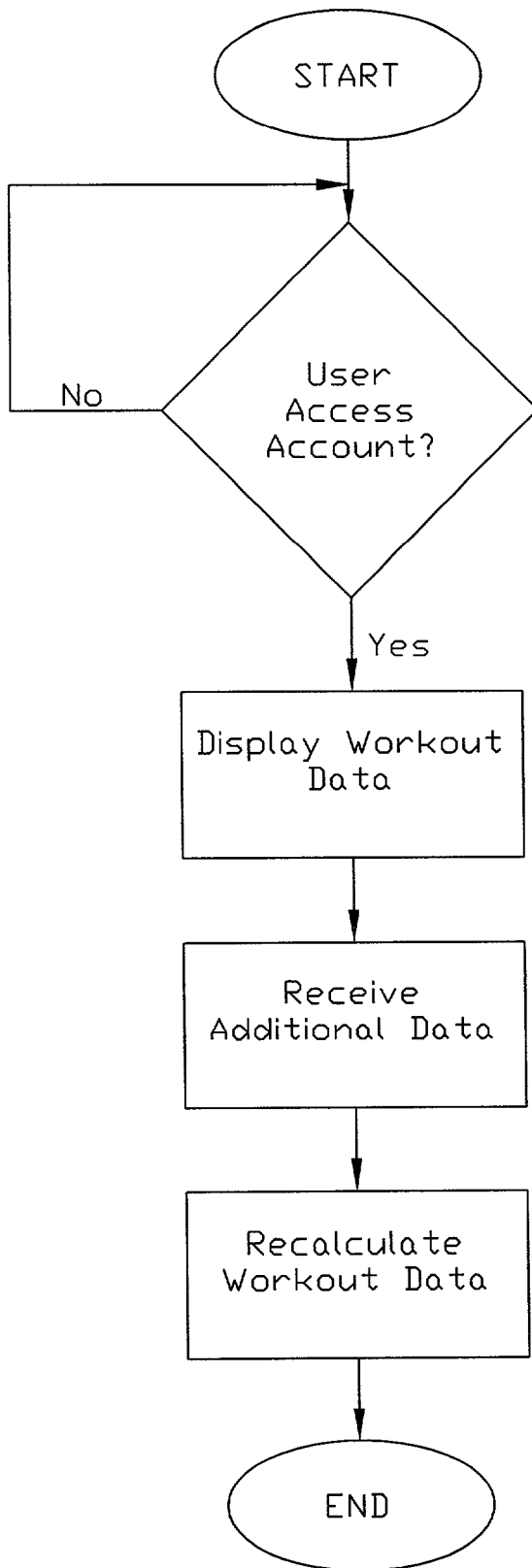
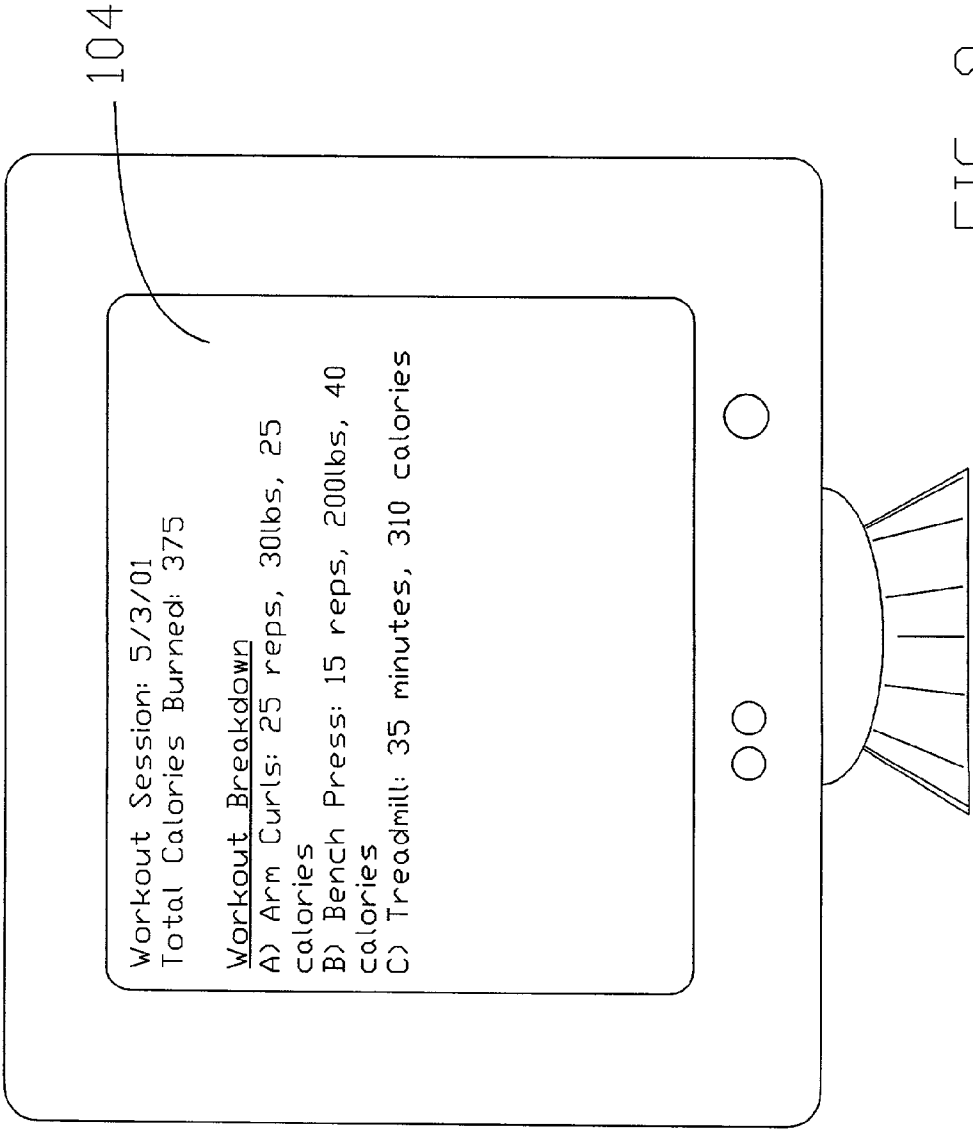


FIG. 8



EXERCISE INFORMATION SYSTEM

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates generally to exercise monitoring systems and more specifically it relates to an exercise information system for allowing an individual to record their workout and view information relating to previous workouts.

[0003] With the proliferation of connections to the Internet by a rapidly growing number of individuals, the viability of the Internet as a widely accepted medium of communication and business activity has increased correspondingly. The Internet is comprised of a global computer network allowing various types of data to be transmitted including but not limited to video, audio and graphical images. The type of connection the individual has to the Internet determines the overall quality and speed of their Internet experience. With increasing bandwidth and decreasing prices of Internet connections available to consumers such as DSL, ISDN, T1, T3 and cable modems, increased usage and quality of Internet related activities will inevitably occur.

[0004] 2. Description of the Prior Art

[0005] Exercise monitoring systems have been in use for years. A conventional exercise monitoring system is typically comprised of a software program that the user enters data into after completing their entire workout.

[0006] The main problem with conventional exercise monitoring systems is that they require the user to write down the data regarding each exercise performed then manually enter the same data into a computer for recording. Another problem with conventional exercise monitoring systems is that they are cumbersome to operate and do not provide the user with feedback regarding previous workouts while performing a specific exercise.

[0007] Examples of patented systems which are illustrative of such prior art include U.S. Pat. No. 5,598,849 to Browne; U.S. Pat. No. 6,168,563 to Brown; U.S. Pat. No. 5,516,334 to Easton; U.S. Pat. No. 6,132,337 to Krupka et al.; U.S. Pat. No. 5,913,827 to Gorman; U.S. Pat. No. 5,338,276 to Jull et al.; U.S. Pat. No. 4,408,183 to Wills.

[0008] While these Internet based systems may be suitable for the particular purpose to which they address, they are not as suitable for allowing an individual to record their workout and view information relating to previous workouts. Conventional exercise monitoring systems are cumbersome and difficult to utilize for most users.

[0009] In these respects, the exercise information system according to the present invention substantially departs from the conventional concepts and designs of the prior art, and in so doing provides a system primarily developed for the purpose of allowing an individual to record their workout and view information relating to previous workouts.

SUMMARY OF THE INVENTION

[0010] In view of the foregoing disadvantages inherent in the known types of exercise monitoring devices now present in the prior art, the present invention provides a new exercise information system wherein the same can be utilized for

allowing an individual to record their workout and view information relating to previous workouts.

[0011] The general purpose of the present invention, which will be described subsequently in greater detail, is to provide a new exercise information system that has many of the advantages of the exercise monitoring devices and systems mentioned heretofore and many novel features that result in a new exercise information system which is not anticipated, rendered obvious, suggested, or even implied by any of the prior art exercise monitoring systems, either alone or in any combination thereof.

[0012] To attain this, the present invention generally comprises a monitoring unit having a display and keypad for receiving and displaying workout data during an exercise. The monitoring unit is connected to a computer system for uploading the entered data which is stored within a database that may be accessed at a later time via another computer system or monitoring unit.

[0013] There has thus been outlined, rather broadly, the more important 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.

[0014] 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 and 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.

[0015] A primary object of the present invention is to provide an exercise information system that will overcome the shortcomings of the prior art systems.

[0016] A second object is to provide an exercise information system for allowing an individual to record their workout and view information relating to previous workouts.

[0017] Another object is to provide an exercise information system that allows a user to view an entire history of their workouts including specific information relating to each individual exercise performed.

[0018] A further object is to provide an exercise information system that allows a user to immediately enter data relating to an exercise performed without delay.

[0019] An additional object is to provide an exercise information system that allows a user to access information relating to their past workouts in almost any location that is able to access the Internet.

[0020] A further object is to provide an exercise information system that estimates the total calories burned during a workout.

[0021] Another object is to provide an exercise information system that allows an individual to view their previous workouts and a standard workout for a particular exercise.

[0022] A further object is to provide an exercise information system that may be utilized with various types of exercises including but not limited to treadmill, stairs, elliptical-machines, cross-trainers, arm curls, leg presses, bench presses, leg curls, pull-downs, push-ups, and various other common exercises.

[0023] Other objects and advantages of the present invention will become obvious to the reader and it is intended that these objects and advantages are within the scope of the present invention.

[0024] To the accomplishment of the above and related objects, this invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that changes may be made in the specific construction illustrated and described within the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] Various other objects, features and attendant advantages of the present invention will become fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views, and wherein:

[0026] FIG. 1 is an upper perspective view of the present invention.

[0027] FIG. 2 is a top view of the present invention illustrating the keypad and display.

[0028] FIG. 3 is a block diagram of the present invention being accessed via a global computer network (e.g. Internet).

[0029] FIG. 4 is a block diagram of the monitoring unit.

[0030] FIG. 5 is a block diagram of an exemplary computer system.

[0031] FIG. 6 is a flowchart illustrating input of exercise data into the monitoring unit.

[0032] FIG. 7 is a flowchart illustrating the uploading of stored data within the monitoring unit.

[0033] FIG. 8 is a flowchart illustrating the accessing of workout data via a computer system.

[0034] FIG. 9 is a front view of a computer monitor displaying information relating to a previous workout session.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0035] The following description is presented to enable any person skilled in the art to make and use the invention, and is provided in the context of a particular application and its requirements. Various modifications to the disclosed embodiments will be readily apparent to those skilled in the art, and the general principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the present invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

[0036] The data structures and code described in this detailed description are typically stored on a computer readable storage medium, which may be any device or medium that can store code and/or data for use by a computer system. This includes, but is not limited to, magnetic and optical storage devices such as disk drives, magnetic tape, CDs (compact discs) and DVDs (digital video discs), and computer instruction signals embodied in a transmission medium (with or without a carrier wave upon which the signals are modulated). For example, the transmission medium may include a communications network, such as the Internet.

[0037] FIG. 5 is a block diagram of an exemplary computer system 100 for practicing the various aspects of the present invention. The computer system 100 includes a display screen (or monitor) 104, a printer 106, a floppy disk drive 108, a hard disk drive 110, a network interface 112, and a keyboard 114. Computer system 100 includes a microprocessor 116, a memory bus 118, random access memory (RAM) 120, read only memory (ROM) 122, a peripheral bus 124, and a keyboard controller 126. Computer system 100 can be a personal computer (such as an APPLE computer, an IBM computer, or one of the compatibles thereof), a workstation computer (such as a SUN MICROSYSTEMS or HEWLETT-PACKARD workstation), or various other types of computers.

[0038] The microprocessor 116 is a general-purpose digital processor that controls the operation of the computer system 100. Microprocessor 116 can be a single-chip processor or implemented with multiple components. Using instructions retrieved from memory, microprocessor 116 controls the reception and manipulations of input data and the output and display of data on output devices.

[0039] The memory bus 118 is utilized by the microprocessor 116 to access the RAM 120 and the ROM 122. RAM 120 is used by microprocessor 116 as a general storage area and as scratch-pad memory, and can also be used to store input data and processed data. ROM 122 can be used to store instructions or program code followed by microprocessor 116 as well as other data.

[0040] Peripheral bus 124 is used to access the input, output and storage devices used by the computer system 100. In the described embodiment(s), these devices include a display screen 104, a printer device 106, a floppy disk drive 108, a hard disk drive 110, and a network interface 112. A keyboard controller 126 is used to receive input from the keyboard 114 and send decoded symbols for each pressed key to microprocessor 116 over bus 128.

[0041] The display screen 104 is an output device that displays images of data provided by the microprocessor 116 via the peripheral bus 124 or provided by other components in the computer system 100. The printer device 106 when operating as a printer provides an image on a sheet of paper or a similar surface. Other output devices such as a plotter, typesetter, etc. can be utilized in place of, or in addition to, the printer device 106.

[0042] The floppy disk drive 108 and the hard disk drive 110 can be utilized to store various types of data. The floppy disk drive 108 facilitates transporting such data to other computer systems, and the hard disk drive 110 permits fast access to large amounts of stored data.

[0043] The microprocessor 116 together with an operating system operate to execute computer code and produce and use data. The computer code and data may reside on RAM 120, ROM 122, or hard disk drive 120. The computer code and data can also reside on a removable program medium and loaded or installed onto computer system 100 when needed. Removable program mediums include, for example, CD-ROM, PC-CARD, floppy disk and magnetic tape.

[0044] The network interface circuit 112 is utilized to send and receive data over a network connected to other computer systems. An interface card or similar device and appropriate software implemented by microprocessor 116 can be utilized to connect the computer system 100 to an existing network and transfer data according to standard protocols.

[0045] The keyboard 114 is used by a user to input commands and other instructions to the computer system 100. Other types of user input devices can also be used in conjunction with the present invention. Other types of user input devices can also be utilized in conjunction with the present invention. For example, pointing devices such as a computer mouse, a track ball, a stylus, or a tablet to manipulate a pointer on a screen of the computer system 100.

[0046] The present invention can also be embodied as computer readable code on a computer readable medium. The computer readable medium is any data storage device that can store data which can be thereafter be read by a computer system. Examples of the computer readable medium include read-only memory, random-access memory, magnetic data storage devices such as diskettes, and optical data storage devices such as CD-ROMs. The computer readable medium can also be distributed over a network coupled computer systems so that the computer readable code is stored and executed in a distributed fashion.

[0047] As shown in FIG. 3, the Internet 12 is comprised of a "global computer network". A plurality of computer systems 100 around the world are in communication with one another via this global computer network. The present invention utilizes the Internet 12, however it can be appreciated that as future technologies are created that various aspects of the invention may be practiced with these improved technologies.

[0048] As shown in FIGS. 1, 2 and 4 of the drawings, the monitoring unit 20 is generally comprised of a housing 60, a keypad 50, a data port 40 and a display 30. The housing 60 can have any shape, size or design as can be appreciated by one skilled in the art even though the housing 60 is preferably a relatively smaller structure to avoid interfering with a workout. The housing 60 may be mounted directly to an exercise machine or may be transported with the individual during and after their workout session.

[0049] The keypad 50, data port 40 and display 30 are all in communication with a central processing unit 22 as shown in FIG. 4 of the drawings. Central processing units for compact devices are commonly utilized within the personal data assistant (PDA) industry and are incorporated by reference into this application for the purpose of utilizing and constructing the monitoring unit 20.

[0050] The display 30 may be comprised of any well-known display 30 structure such as but not limited to LED or LCD. The keypad 50 is formed for allowing the individual

to enter workout data directly into the monitoring unit 20 either before, during or after an exercise. The keypad 50 may have various "short-cut" keys that allow an individual to avoid entering repeated data into the monitoring unit 20 as can be appreciated by one skilled in the art.

[0051] As shown in FIGS. 1 and 4 of the drawings, the monitoring unit 20 includes a data port 40 that allows the monitoring unit 20 to be electronically connected to a local area network (LAN) or a wide area network (WAN). The data port 40 may provide direct access to a global computer network such as but not limited to the Internet. The monitoring unit 20 is able to upload and download data relating to the individual's workouts. The workout data may be stored upon a separate computer system 100 that may or may not be accessed by another computer system 100 as shown in FIG. 3 of the drawings. It can be appreciated that wireless technology such as BLUE TOOTH may be utilized to allow the monitoring unit 20 to communicate with external electronic devices and computer systems 100.

[0052] The workout data may be stored directly upon the monitoring unit 20 for a period of time. However, the preferred method of storing data comprises uploading the workout data to another computer system 100 which stores the necessary workout data for the user because of the inherent limited memory within the monitoring unit 20 for allowing portability. The user may then access this workout data via another computer system 100 via the Internet or a local area network (LAN).

[0053] In use, the user first identifies themselves within the monitoring unit 20 prior to a workout session. Prior to, during or after an exercise, the user enters data relating to the exercise being performed. For example, if the user finished an arm curl exercise after the lifted 30 pounds 25 times, the user would enter this data into the keypad 50 which may be shown upon the display 30 as shown in FIGS. 2 and 6 of the drawings. This process continues for each exercise that the user performs. The user may also view previous workouts or exercises performed to provide a comparison of what they should perform for a specific exercise. The previous workout data may be viewed by a specific workout or an average of previous workouts. After the user is finished with the workout session, the user then "uploads" the workout data to another computer system 100 via the data port 40 or another communication means as shown in FIG. 7 of the drawings. The user may then view the uploaded data upon another computer system 100 as shown in FIGS. 8 and 9 of the drawings. The computer system 100 storing the workout data may perform various calculations such as total calories burned and also receive information directly from the user via another computer system 100 such as the total calorie intake during the day. Various other functions may be performed which are too numerous to mention that can be easily ascertained from the present disclosure.

[0054] As to a further discussion of the manner of usage and operation of the present invention, the same should be apparent from the above description. Accordingly, no further discussion relating to the manner of usage and operation will be provided.

[0055] The foregoing descriptions of embodiments of the invention have been presented for purposes of illustration and description only. They are not intended to be exhaustive or to limit the invention to the forms disclosed. Accordingly,

many modifications and variations will be apparent to practitioners skilled in the art. Additionally, the above disclosure is not intended to limit the invention. The scope of the invention is defined by the appended claims.

[0056] Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

I claim:

1. An exercise information system, comprising:
 - a monitoring unit having a central processing unit, a display in communication with said central processing unit, and a keypad in communication with said central processing unit, wherein a user enters workout data into said monitoring unit; and
 - a means for transferring workout data from said monitoring unit to a data storage means.
2. The exercise information system of claim 1, wherein said data storage means is accessible via a global computer network.
3. The exercise information system of claim 2, wherein said means for transferring said workout data is comprised of a data port.
4. The exercise information system of claim 2, wherein said means for transferring said workout data is comprised of a wireless transmitter.
5. The exercise information system of claim 2, wherein said means for transferring said workout data is comprised of a wireless transceiver.
6. The exercise information system of claim 1, wherein said workout data is comprised of at least an exercise type, a number of repetitions, and a weight utilized.
7. The exercise information system of claim 1, wherein said data storage means calculates an amount of calories burned during each exercise and a workout session.
8. The exercise information system of claim 7, wherein said data storage means is accessible via a global computer network.
9. The exercise information system of claim 8, wherein said means for transferring said workout data is comprised of a data port.

10. The exercise information system of claim 8, wherein said means for transferring said workout data is comprised of a wireless transmitter.

11. A method of utilizing an exercise information system having a monitoring unit comprised of a central processing unit, a display in communication with said central processing unit, and a keypad in communication with said central processing unit, wherein a user enters workout data into said monitoring unit, said method comprising the steps of:

- (a) performing and completing an exercise;
- (b) entering exercise data into said monitoring unit which is stored in a specific workout session; and
- (c) uploading said specific workout session to a computer system.

12. The method of utilizing an exercise information system of claim 11, including the step of (d) viewing said workout session upon a second computer system.

13. The method of utilizing an exercise information system of claim 12, wherein said step (d) is performed via a global computer network.

14. The method of utilizing an exercise information system of claim 11, including the step (d) of viewing a prior workout session upon said monitoring system.

15. A method of utilizing an exercise information system having a monitoring unit comprised of a central processing unit, a display in communication with said central processing unit, and a keypad in communication with said central processing unit, wherein a user enters workout data into said monitoring unit, said method comprising the steps of:

- (a) entering exercise data into said monitoring unit which is stored in a specific workout session, wherein said exercise data relates to an exercise to be performed;
- (b) performing and completing said exercise; and
- (c) uploading said specific workout session to a computer system.

16. The method of utilizing an exercise information system of claim 15, including the step of (d) viewing said workout session upon a second computer system.

17. The method of utilizing an exercise information system of claim 16, wherein said step (d) is performed via a global computer network.

18. The method of utilizing an exercise information system of claim 15, including the step (d) of viewing a prior workout session upon said monitoring system.

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