Title: PERSONAL, INTERACTIVE EDUCATION AND ADVERTISING SYSTEM

Abstract: A personal, interactive education and advertising system [1] employs a number of user devices [100] each at a location where a decision to buy an item is made, the "point of decision" (POD). Each user device [100] operates in a stand-alone mode to acquire input from users regarding several predefined parameters. When the user answers match any of several predetermined parameters in a lookup table on the user device [100], output material indicated in the lookup table is played back to user. The output material is preferably stored on the user devices and may include a new line of questions, audio, visual prompts, or video clips and movies. The lookup table is pre-constructed to correlate user answers to an interest in purchasing a product, or an interest in learning more about a subject. Therefore, the system [1] interactively operates to determine appropriate advertisements and educational materials based upon the users input and display these materials at the POD allowing personalized broadcast of educational and advertising materials to user just as they are deciding which products to buy.
PERSONAL, INTERACTIVE EDUCATION
AND ADVERTISING SYSTEM

Cross Reference to Related Applications

This application is related to, and claims priority from U.S. Patent Application 10/938,868 "Method of Interactive System for Previewing and Selecting Eyewear" filed September 13, 2004, and is also related to, and claims priority from U.S. Provisional Patent Application "Personal, Interactive Education And Advertising System" Application No. 60/663,967 filed March 18, 2005, both by Dr. Michael R. Neal.

Field of the Invention

The present invention relates to an electronic education and advertising system, and more specifically to an education and advertising system that provides visual and audible media specific to a user's preferences located at a point of decision.

Background of the Invention

It is common today for people to filter out advertisements which do not apply to them. Typically, 'broadcast' advertising is sent to the masses, however, only a small percentage of those receiving the ads would actually consider buying the product or service. Therefore, companies experience great advertising costs to reach a small fraction of the population. A large percentage of the costs are wasted. It is much more effective to specifically target the potential customers, and advertise only to these people.

There are several electronic systems generally known in the art which try to target potential customers. These are common on the Internet where a server
monitors the sites that a specific user has visited. The servers make a
determination of the user's preferences based upon the past sites the user has
visited and the subject matter shown on these sites.

These turn out to be crude estimates of the user's preferences for several
reasons. Since these are Internet based, users are reluctant to provide detailed,
accurate and personal information, thereby further reducing the accuracy of the
systems. In order to remain anonymous and resist being 'tracked', people may
purposely input inaccurate or inconsistent information.

Since the usage is monitored by computer "cookies" and other methods,
several different users using the same login will introduce additional inaccuracy.

Based upon the above inaccuracies, advertisements and education are not
reaching the proper users. This is becoming an increasingly larger problem over
the last several years, and is predicted to become a major concern in the future.

CONNECTIVITY

The targeted Internet advertising discussed above requires a full-time, on-
line connection to operate. A high-speed connection is not necessary, however a
dial-up connection becomes very slow and the users lose interest quickly.

Numerous full-time high-speed connections become costly. In many
areas, high-speed connections are not available, thereby causing one to use slow
dial-up connections, or not be able to use such a device in that area.

For these targeted advertising devices, if the performance of the
connection is degraded by adware or viruses, the performance of the device is also
degraded. Furthermore, if the connection is broken, the device is inoperable.

Currently, there is a need for a targeted education and advertising system
which will efficiently provide desired targeted education and advertisement
material to a user, when and where it is needed most.
Summary of the Invention

The present invention may be embodied as targeted education and advertising system intended to be used at a point of decision (POD), where a purchaser decides to buy a product. It includes a user device which is initialized with educational and advertising material relating to products intended to be sold. The system does not require an always-on data link and may run in a stand-alone mode. This allows the system to have a very quick response time. It also is initialized with lookup tables which allow the user device to identify output material which will correlate best with input provided by a user. This effectively allows the system to ‘target’ the user.

The user device connects with a base unit on an as-needed basis. Each user device is synchronized to an accurate clock, such as an atomic clock. Since there may be many user devices in the field, and each may interact with users to acquire user input, and interactively determine output to provide back to the user, the system is adapted to be an interactive survey system. Questions are posed to users, to which they respond. Based upon the user response, additional questions, prompts and output materials are interactively provided to the user.

Since the user devices are all time synchronized, prompts and other output materials may be displayed at specified times by all user devices. Also, the exact time and date that user input is acquired may be noted and used. Since all actions may be time and date stamped, it is possible to measure not only the time when an event happened, but the periods between events. Therefore one may calculate the time it takes the user to complete a set of questions, to answer each question, or time spent viewing an advertisement or educational material.

The determination of which output to provide to the user is made locally at the user device. Demographic information is also requested on the user. After completion of the surveys, the acquired user input is sent from all user devices to
the base where the information is analyzed. The analyzed information may then be provided to interested parties.

**Brief Description of the Drawings:**

A complete understanding of the present invention may be obtained by reference to the accompanying drawings, when considered in conjunction with the subsequent detailed description, in which:

FIG. 1a is a perspective view illustrating a system compatible with the present invention.

FIG. 1b is a perspective view illustrating a second embodiment of the user device of the system compatible with the present invention.

FIG. 2 shows a simplified schematic diagram of the embodiment of the present invention shown in FIG. 1.

FIG. 3 is a flowchart illustrating setup of the present invention.

FIG. 4 is a flowchart illustrating creation of a lookup table used in the setup of the present invention.

FIG. 5 is a flowchart illustrating operation of the present invention after setup.

FIG. 6 is a screen shot of monitor 11 illustrating operation of user device 100 in collecting information.
Detailed Description of the Preferred Embodiment:

The present invention is intended to receive input from a user, and interactively determines information to be sent back to the user (output material) in the form of text, pictures, video clips, sounds, speech, music and/or other audio, or any combination of the above. Based upon information provided by the user, educational, advertising, informational, and/or other material determined to be of interest to the user is selected and provided to the user in multi-media format.

FIG. 1a is an illustration of a targeted education and advertising system 1 according to one embodiment of the present invention. FIG. 2 shows a simplified schematic diagram of the embodiment of the present invention as shown in FIG. 1. The system according to the present invention will now be described with reference to FIGS. 1a, 1b and 2.

USER DEVICE

A user provides input to system 1 through input devices 150 of a user device 100. In the preferred embodiment shown in FIG. 1a, a portable touch pad input device 100 employs a touch screen 155 and runs off of rechargeable batteries. It is fully loaded with enough local intelligence and output material to interact with a user 2 without the need to be constantly connected to a base 300.

User device 100 displays prompts on touch screen 155 allowing the user to interact by inputting answers to questions and/or otherwise providing input. Alternatively, hardware buttons may be employed to allow the user to select choices above the buttons displayed on a monitor 161.

User device 100 processes the user input to interactivly determine the most appropriate of its stored output material to play to user 2 through one or more output devices 160, such as a monitor 161, and/or speakers 163. Since user device can store a significant amount of output material, it may act as a portable,
personal advertising and education device, providing all type of media to user 2. User device 100 may operate to provide various video programming and advertisements.

In an alternative embodiment, a motion sensor 115 is employed on user device 100. When it detects motion in its vicinity, it begins displaying output on monitor 161 and/or play the accompanying sounds through speakers 163 inviting user to interact with user device 100.

In FIG. 1b, an embodiment is shown where user device 100 is mounted on a stand 180 having a battery charger (193 of FIG. 2) which charges an internal rechargeable battery (191 of FIG. 2). User device 100 is intended to be used on stand 180 or removed and used elsewhere. It may also employ a keyboard 113, a touchpad, trackball and/or mouse 111 as input devices 110. Keyboard 113 may be built in, or attachable.

In another embodiment, user device 100 is not removable from stand 180 and thereby resembles a kiosk. Also, if it is intended to be used near a power source, it may not require an internal rechargeable battery.

Referring now to FIG. 2, since user device 100 must be able to operate in a stand-alone mode, it employs a processor 120 and related electronics required to enable it to operate. Processor 120 interacts with random access memory (RAM) 140 to store and retrieve information during processing.

Referring now to FIGS. 1a, 1b, and 2, user device 100 also employs one or more storage devices 130 which hold information once user device 100 is powered down. Storage devices 130 may be hard drives, removable drives such as CDs, DVDs, disk cartridges, etc. In a less expensive and more durable version, storage devices 130 may be non-volatile RAM memory. User device 100 will store information on storage devices 130 including questions/prompts to be
provided to the user, educational and/or advertisement material, and tables and data required to determine what output material is best to present to user.

As shown in the figures, it is preferable to include several ports 190 such as USB, FireWire™, serial, parallel, network interface connection (NIC) or bus ports in user device 100 which allow direct access to the internal components of user device 100. Ports 190 may be used to connect to a network, add additional equipment, to load/unload information, or to perform diagnostic or maintenance tasks.

User device 100, in its preferred portable embodiment includes a transceiver 170 capable of transmitting data to and receiving data from another compatible transceiver, such as transceiver 210. Transceiver 170 may therefore be used to communicate through data link 200 with base 300. This allows data, tables and files to be passed between user device 100 and base 300.

**DATA LINK**

User device 100 communicates with base unit 300 through a data link 200. Data link 200 is a data connection which may be wireless, wired or a combination of both. Since there are many user devices 100 in various locations, the purpose of data link 200 is to allow many user devices 100 to communicate with base 300. This allows base 300 to control and coordinate the operation of user devices 100.

In the embodiment shown, transceiver 170 of user device 100 communicates with compatible transceiver 210. These typically are the short range RF data links, however they may also be long range, cellular-type transceivers. The transceiver 210 connects user device 100 to the remaining network and base 300. Depending upon the distance, data link 200 may also include telephone lines, optical fiber switches, routers, etc.

In the preferred embodiment, data link 200 is entirely separate from the Internet using leased lines or a virtual private network (VPN). This will increase
security, and will reduce attacks by malicious programs such as viruses, Trojan horses and internet worms.

In an alternative embodiment, at least some part of data link 200 travels over the Internet. This will reduce implementation costs, however will require additional security to be implemented.

In the alternative, hard-wired kiosk embodiment described above, transceivers 170 and 210 will be replaced by a wired connection.

BASE

Base 300 is preferably embodied as a standard general purpose computer or server having input devices 310 such as a mouse 311 and keyboard 313, output devices 360 such as a monitor 361 and/or speakers 363. Base 300 runs software according to the present invention to interact with user device 100 through data link 200.

OPERATION

When education or advertisements are presented closer to when they are actually needed, they are much more effective. Also, the closer spatially, and temporally the advertisements are presented to the location/time that a purchaser makes a decision to buy a product, referred to as the point of decision (POD), the more effective the advertising becomes.

Similarly, the closer in space and time that education is provided to where and when it is applied, the more effective the education becomes.

The present invention is specifically designed to be used at the POD and to provide educational and advertising information close to the time and proximity to where they are intended to be used. The present invention may be used in a wide array of PODs such as at a retail store, an optometrist’s office, a physician’s office, an automobile dealership, or a bank.
The functioning of one embodiment of the present invention will now be described in connection with its use in an optometrist’s office.

SETUP

First, the invention must be initialized. In order to initialize the system, one must identify characteristics of the user which indicate output materials that would be appropriate. Basic user information such as age, race, sex, and occupation, and other demographic and preference information would intuitively indicate products and output material which would be appropriate for a user of this demographic.

For example, a male over the age of 40 years old would probably need reading glasses. If he were a computer programmer, he would also benefit from computer glasses, specially designed to reduce the glare of a computer screen. The parameter ‘age’ having a value of greater than 40, with the parameter ‘sex’ being male, and the parameter ‘occupation’ being a computer programmer causes educational and advertising materials relating to non-glare reading glasses to be displayed to user. Due to regulations on the use of identifiable information, user device 100 may be designed such that the information collected is general, and cannot uniquely identify a specific person.

In another example, a user may indicate that (s)he actively engages in sports. This parameter will trigger the educational materials about the potential for eye injuries in sports, the rates of occurrence and then provide advertisements relating to sports safety glasses, designed to be used during sports.

It should be noted that much of the computing may be done at the server, the user device 100 or both based upon the amount of computing power that user device 100 exhibits.

FIG. 3 is a flowchart illustrating setup of the present invention.
In step 501, a multi-parameter data set is acquired indicating sales of a given product that one is interested in selling. The parameters included in the data set may be age, sex, ethnicity, occupation, residence, other demographics and/or user preferences. Any multi-parameter data set may be used which would indicate parameters such as products. Therefore, an example would be data acquired on numerous customers regarding sales of a number of products. Therefore, the data set includes parameters such as the age, sex, occupation, city of residence of the customer and the type and amounts of products purchased.

In step 503, the data set is analyzed to identify which of the parameters, or which combinations of parameters, correlate well with sales of each of a number of products. This results in the matching of a parameter or combinations of parameters with products in user device 100.

In step 505, questions or prompts designed to extract information from a user regarding these parameters are created.

In step 507 these questions are then stored in user device 100. These questions may be constructed in base 300 and provided via data link 200 to all user devices 100. Alternatively, the questions and other materials may be constructed on user device 100, or input to each user device 100 individually via storage devices 130 or ports 190.

In step 509 all advertising materials and all education materials relating to products of interest are acquired and identified by a unique identifier (ID). These materials may be originally stored on storage devices 330 of base 300, but moved to storage devices 130 of user device 100. Alternatively, these materials may be locally generated on user devices 100.

In step 600 a lookup table is constructed. This may be accomplished in many different ways, one of which is described in FIG. 4.

In step 511 the lookup table is provided to, and stored in user device 100.
Since the user device 100 may incorporate an internal calendar and clock
165, they may be activated at different times, thereby collecting information at
different time windows.

In step 513 an activation date/time may optionally be stored in user device
100 causing user device 100 to be activated then.

Similarly, in 515 a deactivation date/time may be optionally stored in user
device 100 causing user device 100 to be deactivated then.

Setup ends at step 516.

A specific example of how the lookup table is constructed in step 600 is
explained in greater detail in connection with the use of sales data in FIG. 4.

After step 509, a multi-parameter sales data set for a given product of
interest, similar to that described in connection with step 501, is acquired in step
610.

In step 620, the relevant parameters identified in step 503 are analyzed to
determine the values or ranges of values which correlate well with sales of the
given product. (This portion of the process is later repeated for a number of
products which user device 100 will support.)

In step 630, the IDs of output materials relating to the given product are
then paired with the value ranges of the relevant parameters determined in the
previous step.

In step 640, these IDs and their paired value ranges are stored in the
lookup table.

In step 650, it is determined if this is the last product to be considered. If
“yes” then the table is completed and processing continues at step 511.

If the answer is “no”, the process continues at step 610 to process a new
given product.
OPERATION

FIG. 5 shows the steps of operation of the present invention. Once system 1 has been initialized, it may be set up in the waiting room of the optometrist’s office or carried around by the patient (user). When a user enters the office (s)he is asked to answer a few questions on user device 100 in step 517.

User device 100 may prompt user with either visual prompts or audible sounds/speech prompts to provide answers to the stored questions.

In step 519, user device 100 receives answers from user in a stand-alone mode. All user interactions are monitored, time/date stamped, optionally tagged with a location from a GPS device, and stored. This allows all user interactions, including time delays to be analyzed.

In step 521, the user provides user’s input to user device 100.

In step 523, the user answers are used by user device 100 to determine if they match any parameter sets in lookup table.

In step 525, if the user answers match parameter sets in the lookup table, the ID(s) of output material to be displayed are identified and the corresponding output materials are presented to user. The output material may be presented on a portion of the screen while user is answering questions, or at a later time. User device 100 therefore interactively determines the questions/prompts/output materials which output to the user locally without the need to consult with base 300.

In step 527, any products purchased by user and/or educational materials requested are identified and added to the user answers in user device 100.

In step 529, when it is time to upload the information from user device 100, they all contact base 300 and upload all user input they acquired to base 300.
It should be noted here that certain answers provided by the user may trigger other processes. For example, when the user name is sent to the base, base 300 may cause alerts to be displayed to this user. For example, an alert may be sent to the user indicating that their contact lenses are ready, or an alert may be sent to the user indicating that they must supply their vision case insurance number.

In step 531, base 300 uses the user answers to refine lookup table of step 509. Since this table is constantly being refined, the system becomes more accurate the more it is used.

In step 533, base 300 updates user device with updates lookup tables, making each of them more accurate.

The process stops at step 535.

FIG. 6 shows one embodiment of the present invention showing touch screen 155 of user device 100 of FIGs. 1 and 2 as it is being used to acquire input from a user.

Several questions are displayed on the screen. The user is prompted to select one of the answers indicated by buttons 403, or to otherwise provide input.

There are also navigational buttons 405, 407, and 409. A “Back” button 405 will take the user back to the next previous page. A “Forward” button 407 will cause device 100 to display the next screen. And an “Exit” button will cause the user to drop out of the current program being run. These buttons were used for exemplary purposes; however, any number of arrangements will fall under the scope of the present invention.

As stated above, the components of user device 100 allow it to receive input from a user, process the input to select material to provide to user, and provide targeted output material specifically intended for user based upon the
user's input. The user device 100 is designed to acquire information in a stand-alone mode, without the need for any data connection.

Base 300 operates to assemble information to create and refine a lookup table, and communicate with user device 100 on an as-needed basis.

IMPLEMENTATIONS

The personal, interactive education and advertising system according to the present invention may best be used at a point of decision (POD) to buy a product. This may be in a retail store located next to the product or products on display. In this embodiment, a customer walks by the user device 100, preferably implemented as a touch screen pad, the motion sensor starts up the screen with a general advertisement of one of the products. The user then picks up the pad and begins to provide input.

Questions/prompts/advertisements other output media relating to the user's input in video and audio format are provided to the user. Education materials showing the advantages of the particular product over its competing products are played causing the user to request additional information which is provided. The output provided has been indirectly defined by the user's input and therefore keeps their attention. The advertising and education is specifically tailored for this user and privately displayed as the user is allowed to walk around the store or location and view the products being displayed.

This is all performed without the need of a full-time on-line connection, and is quick due to the local processing and control. Therefore high quality video and audio may be provided.

Also, the device has the capability of monitoring the user input including keystrokes, advertisements and educational materials accessed, and how often. By providing this information to base 300, quick market analysis
is possible providing information on the interests of customers sorted by demographics provided by the user. This may be analyzed daily or hourly as necessary.

Another aspect of the present invention allows the number of advertisements to be calculated. Therefore, the advertisements may be sold on a “per impression” basis. This allows the owners of the present invention to keep track of the number of times an advertisement is viewed by customers, and charge an amount equivalent to the number of viewings.

Using the elements described above, system 1 has several other valuable uses. For example, base 300 may download advertising material in the form of video clips, multi-media presentations etc. to user device 100 where it is stored. User device 100 has the ability at some later time to play this output media in a continuous stand-alone mode to a user in the waiting room as a type of television broadcast. However, this network does not require an always-on connection.

It may also be activated by motion sensor 115 and play material which applies to a broad audience, and narrows the selections down when it acquires information from a user. This results in a very effective means of educating and advertising, directly at the POD.

SURVEY TOOL

Since there will be many user devices 100 operating to acquire information from users, this information may be interactively accumulated by user devices 100 in the field. Using internal calendar/clock 165 described above, a survey may be conducted across a large geographic area simultaneously by setting the same activation, and deactivation date/time for all user devices 100.

Therefore, the present invention may operate as an instant electronic survey system, with slight modification.
Questions or prompts are provided to each user, to which the user responds. The user input is analyzed by user device 100 to determine the most appropriate questions, prompts and/or output materials to be displayed back to the user. The user devices are provided with the proper intelligence, such as described above, to interactively determine a proper line of questioning based upon the input provided by the user to this point. This effectively creates interactive output dependent upon the user's input. In this manner, user device 100 interactively acquires user input from questions tailored to this user.

At some point after the user input is accumulated, user devices 100 may upload their information to base 300. Base 300 may perform many types of statistical analysis on the acquired user answers and electronically provide the results of the analysis instantaneously to interested entities. Statistical analysis and correlation of one or more parameters to an output result may be instantly determined by base 300. For example, correlations may be made between gender, age, occupation, type of insurance coverage, and other parameters vs. products purchased. Information relating to products purchased by demographic parameter and other information will be useful in identifying successful products, and marketing strategies. These may be provided to companies producing and selling products thereby providing them with accurate, fresh survey information relating to their products.
Claims

What is claimed is:

1. A system [1] for providing education and advertising targeted to a user, comprising:

   a. a user device [100] located near a point of decision (POD), adapted to:

      i. receive input from said user ("user input"),
      ii. transmit the received user input;
      iii. display requests and content to the user when activated; and

   b. a base [300] coupled to the user device [100], adapted to:

      i. cause the user device [100] to request data from said user,
      ii. receive the user input forwarded by the user device [100],
      iii. determine targeted content which is most suited for this user based upon the received user input,
      iv. send the targeted content to the user device [100]; and
      v. cause user device [100] to play the targeted content to said user.

2. The system [1] of claim 1 further comprising:

   a data link [200] for coupling the user device [100] and the base [300] allowing communications of information between the user device [100] and the base [300].

3. The system [1] of claim 1 wherein:

   a. the user device [100] is a wireless device; and

   b. the data link [200] employs a transceiver [210] coupled to base [300] capable of wireless communication with user device [100].
4. The system [1] of claim 1 further comprising:

   an input device [110] for receiving the user input.

5. The system [1] of claim 4 wherein:

   the input device [110] is a touch-sensitive screen [155] capable of
   displaying prompts to said user and allowing said user to touch the screen
   [155] at a proper location to provide the user input.

6. The system [1] of claim 4 wherein:

   the input device [110] is a screen [155] capable of displaying prompts to
   said user and a keypad allowing said user to select choices on screen [155]
   to provide the user input.

7. The system [1] of claim 1 wherein the user input is demographic information.

8. The system [1] of claim 1 wherein the user input is user preference

   information.

9. The system [1] of claim 1 wherein targeted content is multimedia material.

10. The system [1] of claim 1 wherein the targeted content is educational material.

11. The system [1] of claim 1 wherein the targeted material is advertising material.

12. The system [1] of claim 1 wherein the base [300] is adapted to correlate

    targeted content with user input.

13. The system [1] of claim 1 wherein the user device [100] monitors user actions,

    stores the time of each action, and calculates timer periods between user

    actions.

14. The system [1] of claim 1 wherein the user device [100] monitors the GPS

    location of the user, stores the locations, and makes calculations based upon

    the user locations.
15. A method of providing targeted content to a user near a point of decision (POD) comprising the steps of:

a. prompting said user for user input;

b. receiving user input at a user device;

c. transmitting the user input to a base;

d. creating a lookup table;

e. comparing the received user input to the lookup table to select pre-stored content which most closely correlates with the received user input;

f. providing the selected pre-stored content to the user device; and

g. playing the pre-stored content to said user from the user device causing advertisements to be provided to said user at the POD resulting in more effective advertising than prior art devices.

16. The method of claim 15 wherein:

a. the step of prompting said user, comprises the step of prompting the users for demographic information; and

b. the step of receiving user input, comprises the step of receiving demographic information as the user input at the user device.

17. The method of claim 15 wherein:

a. the step of prompting said users, comprises the step of prompting said user for preference information as the user input at the user device; and
b. the step of receiving user input, comprises the step of receiving the preference information as the user input at the user device.

18. The method of claim 15 wherein the base is adapted to correlate targeted content with user input.

19. The method of claim 15 wherein the targeted content is educational material.

20. The method of claim 15 wherein the targeted material is advertising material.

21. The method of claim 15 wherein targeted content is multimedia material.

22. The method of claim 15 wherein the step of creating a lookup table comprising the steps of:

   a. identifying relevant user input parameters;
   b. defining ranges of the input parameters;
   c. storing content;
   d. designating content to be played when the user input matches at least one input parameters range; and
   e. storing the designated content for a plurality of input parameter ranges as the lookup table.

23. A system [1] for providing education and advertising targeted to a user, comprising:
a. a user device [100] located near a point of decision (POD),

adapted to:

i. provide prompts to a user requesting user input,

ii. receive input from said user ("user input"),

iii. determine pre-stored targeted content which is most suited for this user based upon the received user input using a lookup table,

iv. display the determined pre-stored targeted content to the user; and

b. a base [300] coupled to the user device [100], adapted to:

i. periodically update the pre-stored targeted content on the user device [100], and

ii. periodically update the lookup table on the user device [100].

24. The system [1] of claim 23 where the pre-stored content and lookup tables are updated upon the request of user device [100].

25. The system [1] of claim 23 further comprising:

a motion sensor which detects motion and activated user device [100].

26. The system [1] of claim 23 wherein there are a plurality of user devices [100] in which at least one user device [100] updates at least one other user device [100] with user input it has received.
FIG. 3

1. Acquire data set
2. Identify relevant parameters
3. Create questions testing relevant parameters
4. Store questions on user device
5. Collect and identify output materials
6. Construct lookup table
7. Store lookup table in each user device
8. Store activation date/time in user devices
9. Store deactivation date/time in user devices

End setup
Collect and identify output materials

Acquire data set

Analyze relevant parameters

ID's and parameter Ranges paired

Paired values stored in Lookup table

last product?

yes

no

Store lookup table in each user device

FIG. 4
FIG. 6

1. How often do you actively engage in physical sports?
   Please select one.
   a) Very rarely.
   b) Once a month.
   c) Once a week.
   d) Several times a week, or
c) More frequently.

2. How often do you use a computer?
   a) 1-2 hours a day.
   b) 3-4 hours a day.
   c) More than 5 hours a day.
   d) More than 7 hours a day.