TITLE OF THE INVENTION

Systems and Methods for Monitoring Production of Carbon Dioxide and Removing Carbon Dioxide from the Atmosphere

CROSS-REFERENCE TO RELATED A16LICATIONS

[0001] Not applicable.

- Some problems with the Background
- Good Validation ##
- Claims still need some work

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BACKGROUND OF THE INVENTION

[0002] The present invention generally relates to methods for monitoring and reducing the impact of activities on the environment. More particularly, the present invention relates to a system and method for monitoring of the amount of carbon dioxide produced and released into the atmosphere by a user and a method for the user to neutralize this amount of carbon dioxide.

[0003] The world is faced with a number of environmental problems that threaten to decrease the quality of life for all who live on earth. The largest of these problems is global warming, which has increased the temperature of the earth several degrees over the last few decades. One of the causes of global warming is the production of "greenhouses gasses" that are produced when fossil fuels are used as an energy source. Research shows that among the greenhouse gasses, carbon dioxide has the largest overall impact on the phenomena of global warming. As such, attention has turned to practices that help reduce or neutralize the amount of carbon dioxide released into the atmosphere.

[0004] Individual lifestyle and its associated activities have an impact on the amount of carbon dioxide that is produced, and this amount is often referred to as a "carbon footprint." A basic measure of an individual's carbon footprint is expressed in metric tons. To illustrate the impact of lifestyle choices on annual amount of carbon dioxide produced, consider a student who attends a university and bikes or takes a bus as a primary means of transportation and lives in a small dorm or apartment building. The student produces approximately 11 metric tons of carbon dioxide annually. An adult living in a small apartment and using public transportation to travel to and from work

produces approximately 16 metric tons of carbon dioxide annually. Using a compact car for commuting and living in a small home increases this output to 20 metric tons annually and using a larger car to commute and living in a larger, less energy efficient home increases carbon dioxide output to approximately 30 metric tons annually.

[0005] Several prior art systems ~~exist to that enable~~ individuals to monitor their carbon dioxide production and reduce the impact of this production on the environment. For example, several organizations have carbon footprint calculators that are available on the internet. The Nature Conservancy ("Nature"), has an online calculator, available at http://www.nature.org/initiatives/climatechange/calculator/. In the internet calculator of Nature, a user is able to answers to questions provided on the calculator internet site related to lifestyle. These questions include those pertaining to the number of persons in the household, home energy use, travel habits and vehicle type, dietary choices, and recycling habits. After selecting from limited choices provided on the internet calculator, the user is able to obtain an estimate representing their carbon footprint compared with others in the United States and the world population.

[0006] Another example of an internet calculator is provided by Carbonify.com ("Carbonify"), available at http://www.carbonify.com/carbon-calculator.htm. Similar to the calculator of Nature, in the calculator of Carbonify, a user must provide estimates of their lifestyle activities in order to calculate their carbon footprint. The calculator of Carbonify also provides a user an estimate of the number of trees that would need to be planted to offset their carbon footprint on a monthly or annual basis and links to organizations that participate in carbon dioxide neutralizing practices.

[0007] Another internet calculator is provided by Terrapass, available at http://www.terrapass.com/. A user must enter in estimates or answer questions about lifestyle to receive an estimate of their carbon dioxide use. Terrapass also calculates the cost to remove this amount of carbon dioxide from the atmosphere and allows users to purchase carbon 'credits' from Terrapass that represent the amount of carbon dioxide equivalents that will be removed with their purchase. Terrapass enters into agreements with organizations engaging in activities that remove or neutralize the amount of carbon dioxide from the atmosphere. Another organization providing services for users to neutralize the amount of carbon dioxide they produce is Carbonfund, available at http://www.carbonfund.org/site/screens/test_preset. This website allows users to purchase credits to offset or neutralize their carbon dioxide produced based upon the type of home they live in, type of car they drive, and other lifestyle choices such as travel and number of family members.

[0008] A system and method for enabling a user to choose activities that reduce their contribution of carbon dioxide to the atmosphere is disclosed by Edholm et. al., U.S. Pat. Appl. No. 13/369,731. A user monitors various activities that produce carbon dioxide and then compares how changes in their activities reduces or increases their carbon dioxide production as described in Columns 2-4, paragraphs 0021-0034. As described in Columns 4-5, paragraphs 0042-0045, a credit or reward system is used as a form of value and the user exchanges their credit by interacting with organizations practicing carbon dioxide reducing activities.

[0009] A system and method for monitoring energy consumption is disclosed in Quirion et. al., U.S. Pat. No. 7,643,908. In this system, a device is used to monitor the

amount of energy used in a room and then set the device to regulate the energy use to a level desired by the user as described in Columns 3-4. When used in a larger building, these devices are configured to communicate with a central computing system, which then reduces overall building energy use as described in Columns 7-8. A reward system described in Column 12 is included in the method of Quirion et. al., and provides the user with an incentive to conserve energy use.

[0010] In Shah et. al., U.S. Pat. Appl. No. 13/408,499, a method for regulating energy use is disclosed. In this system, sensing devices detect the amount of energy used in a building and this data is transmitted to a central computing system where it is compiled and stored as described in Column 3, paragraphs 0032-0034. As described in Column 3, paragraph 0035-0039, energy use is adjusted by the central computing system to comply with the settings and statistical patterns. A user can determine how much energy individual devices use as described in Column 3, paragraphs 0032-0033.

[0011] The system of Margolis et. al., U.S. Pat. No. 7,636,681 discloses a system and method for a user to use a calculated carbon footprint or carbon dioxide output to purchase agreements with organizations capable of neutralizing amount of carbon dioxide the user produces. In this system, Columns 12-12 describe how a user chooses organizations capable of neutralizing carbon dioxide in the atmosphere and a computer system filters these organizations based on predetermined criteria. Users purchase credits from a third party as described in Columns 14-14. Musier et. al., U.S. Pat. Appl. No. 13/062,340 discloses a method for facilitating the exchange of rights associated with environmentally relevant items, including carbon dioxide. A user interface is used to track activities that generate carbon dioxide and then make transactions to neutralize or

offset the amount of carbon dioxide with organizations providing such services as described in Columns 19-20, paragraphs 0148-0151.

[0012] The prior art systems for monitoring the amount of carbon dioxide produced by individual lifestyle have several disadvantages. First, the calculators of Nature, Carbonify, Terrapass, and Carbonfund rely on estimates or best guesses by a user to calculate a carbon footprint or number representing the amount of carbon dioxide produced by the user. Carbon footprint calculators do this by making use of questions providing rigid choices that a user is forced to pick from or force the user to estimate his or her energy use in a home or when driving a vehicle. Although some users might have good records and be able to enter information accurately, at best these calculators provide rough estimates. Furthermore, because a user's activities can vary widely from day to day, this makes these calculators less satisfying to the user, especially for users interested in entering into agreements with organizations who charge money to undertake activities to offset or reduce the amount of carbon dioxide in the atmosphere that the user is producing. Additionally, the user must enter in new information each time they visit the internet calculator as these calculators do not store data.

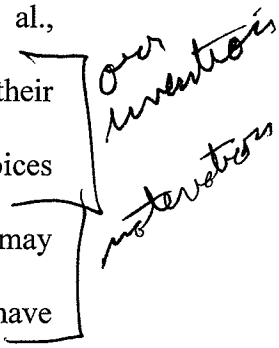
[0013] Second, calculators that are linked to the purchase of carbon credits from organizations practicing carbon dioxide neutralizing activities do not allow a user to control which organizations or activities that an organization uses, nor do they allow the user to make choices based on the cost of such carbon dioxide neutralizing activity. This is important to customers as they would like to choose how their money is spent and further, customers want to know what they are getting in exchange for their money. Although Edholm et. al. allows a user to establish a baseline activity and compare this to

future activities to determine how much carbon dioxide their activities produce, this does little to move the user beyond observing their activity and impact on carbon dioxide production.

[0014] An issue with prior art methods or systems that enable a user to track or control energy used, such as those described by Quirion et. al. is that they are best suited to monitoring energy consumption by users in small spaces or in a multi-unit building as a whole and may not be reliable in residential buildings. Although these systems may possibly be adapted to single household dwellings, they are limited with regard to the type of measurements that are considered for carbon dioxide output into the atmosphere. In addition, because many activities are known to impact a carbon footprint calculation, this limits the amount of activity a user can participate in to offset the production of carbon dioxide by entering into agreements with organizations who practice activities known to neutralize carbon dioxide production by human activities. Therefore, these systems limit the user to neutralizing a portion of their carbon footprint. Furthermore, although a reward system based on discounts works well in a business model for a hotel, may not incentivize an individual to change their activity level in their home if the savings in energy is not linked to a larger global impact.

[0015] Additionally, systems like those described by Shah et. al., that allow a user to determine how much energy is being consumed by each appliance or device is limited by the need to perform statistical calculations by a computing system before meaningful changes can be made by a user. Because of this, it may take several days to determine how much difference a change in activities may make on overall energy use. This does not allow a user to quickly adapt his or her behavior.

[0016] Finally, although several methods are available that allow users to purchase carbon credits or enter into agreements with organizations practicing carbon dioxide removal or neutralizing activities, such as those disclosed by Edholm et. al., Margolis et. al., or Musier et. al., users do not have control over how they spend their money on purchasing the credits or forming agreements because the organization choices are determined by the system they use or by third parties. Because these activities may vary in price and become very expensive, it is likely that consumers would prefer to have more control over their options. Furthermore, a user must be sophisticated enough to understand where to find organizations practicing carbon dioxide neutralizing activities. Likewise, users must find sources other than the system used for monitoring their carbon dioxide production to enter into carbon dioxide neutralizing agreements, to obtain information about carbon dioxide neutralizing activities, or to learn how their activity affects the their carbon dioxide production or in other words, their carbon footprint.



BRIEF SUMMARY OF THE INVENTION

[0017] One or more of the embodiments of the present invention provide a user with a system and methods for monitoring production of carbon dioxide and removing carbon dioxide from the atmosphere. The system is comprised of measuring devices including a weight scale, an energy hub, and a global positioning device, as well as a computing device that communicate with a central server. The measuring devices are in communication with the computing device or central server and transmit data representing user activities. The computing system is in bidirectional communication with the central server and the central sever is in bidirectional communication with servers maintained by other organizations.

[0018] In operation, the user configures an account using a computing device and accessing a website with information stored on the central server. The user then selects the type of weight scale, energy hub, and global positioning system they wish to use in the monitoring system. This information is stored on the central server and is unique to a particular user name and password. Using their personal account, a user then configures the type of trash that their household produces from preconfigured choices, and the type of car that they drive. The weight scale transmits a measurement representing the weight of trash to the central server where it is converted to data representing carbon dioxide output based on the settings the user has chosen. The energy hub also transmits data representing electricity and gas use to the main server where these data are combined with the value obtained from the trash level. Finally, when a user travels in his or her vehicle, the global positioning system transmits the distance travelled back to the central server, where a calculation is performed based on the vehicle information configured by

the user to transform the data to a value representing carbon dioxide output as a result of gasoline combustion.

[0019] Converted data are stored on the central server and can be recalled at any time when a user logs into his or her account using a computing device. The user can view the data representing carbon dioxide produced by the activities they have undertaken and look at historical trends in carbon dioxide production. A user can also use a personal account to enter into agreements with organizations performing carbon dioxide neutralizing activities that remove carbon dioxide from the atmosphere.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] Figure 1 illustrates a block diagram of a system for managing carbon dioxide production according to an embodiment of the present invention.

[0021] Figure 2 illustrates a block diagram of a communication system enabling a user to monitor and neutralize carbon dioxide output using the system for managing carbon dioxide production of Figure 1.

[0022] Figure 3 is an illustration of the entry screen.

[0023] Figure 4 is an illustration of the account login screen.

[0024] Figure 5 is an illustration of the account setup screen.

[0025] Figure 6 is an illustration of the monitoring control screen.

[0026] Figure 7 illustrates a flow chart of an embodiment of the invention for a method for performing calculations by the central server central processing unit of Figure 2.

[0027] Figure 8 illustrates a flow chart for a method for updating data representing trash weight measured by the weight scale of Figure 1.

[0028] Figure 9 illustrates a flow chart for a method resetting the weight scale of Figure 1when a user removes trash.

[0029] Figure 10 illustrates a flow chart of a method for calculating and updating data representing carbon dioxide output produced by a user.

[0030] Figure 11 is an illustration of the carbon footprint screen.

[0031] Figure 12 is an illustration for a footprint display screen.

[0032] Figure 13 illustrates a flow chart for the method for retrieving data representing carbon dioxide output stored on the central server storage compartment of Figure 2.

[0033] Figure 14 is an illustration of the carbon offset screen.

[0034] Figure 15 illustrates a flow chart of how carbon dioxide neutralization purchases are made by a user.

[0035] Figure 16 illustrates a flow chart for a method for enabling a user to neutralize the amount of carbon dioxide they produce.

[0036] Figure 17 illustrates a flow chart of a method of generating revenue related to carbon neutralizing activities.

[0037] Figure 18 illustrates a flow chart of a method to incentivize automated carbon dioxide neutralization purchases by users.

DETAILED DESCRIPTION OF THE INVENTION

[0038] Figure 1 illustrates a block diagram of a system for managing carbon dioxide production 100 according to an embodiment of the present invention. The system for managing carbon dioxide production 100 includes a central server 110, a weight scale 120, an energy hub 130, a global positioning system ("GPS") device 140, a computing device 150, and carbon dioxide neutralizing organization server 190. The central server 110 includes a user account 160, a carbon dioxide calculator 170, and a carbon dioxide neutralizing website 180.

[0039] In the system for managing carbon dioxide production 100, the weight scale 120, energy hub 130, GPS device 140, and computing device 150 are in unidirectional communication with the carbon dioxide calculator 170 of the central server 110. The computing device 150 is in unidirectional communication with the central server 110, carbon dioxide calculator 170 and carbon neutralization selector 180. The user account 160 is in bidirectional communication with the carbon dioxide calculator 170 on the central server 110. The carbon dioxide neutralizing selector 180 is in bidirectional communication with the carbon dioxide output calculator 170 on the central server 110. The carbon dioxide neutralizing website 180 is in unidirectional communication with the carbon dioxide neutralizing organizations 190.

[0040] In operation, the weight scale 120, the energy hub 130, and the GPS device 140 of a user transmit data to the carbon dioxide output calculator 160 on the central server 110, where these data are converted into data representing carbon dioxide output (as described in Figure 7). The data representing carbon dioxide output are

associated with a user account 160 (as described in Figure 4 and 5). The computing device 150 is used to accesses the carbon dioxide output calculator 170 that is associated with a user account 160 to view the data representing carbon dioxide output for a user (as described in Figure 11 and 12). The computing device 150 is also used to operate the carbon neutralization website 180 (as further described in Figure 14). By linking the data that are received by the central server 110 from a user weight scale 120, energy hub 130, and GPS device 140 to a user account 160 after these data are converted to data representing carbon dioxide output for a user using the carbon dioxide output calculator 170 on the central server 110, a user is able to use a computing device 150 to view these data representing their carbon dioxide output (as described in Figure 11 and 12). Also, using a computing device 150, a user is able to interact with the carbon dioxide neutralizing website 180, and using the data linked the user account 160, select carbon dioxide neutralizing organizations 190 (as described in Figure 14) capable of undertaking activities to neutralize the carbon dioxide output data for that user. Carbon dioxide neutralizing organizations 190 remove carbon dioxide from the atmosphere based on various activities, including, but not limited to planting trees, using renewable energy sources, capturing industrial pollutants, or recycling used materials.

[0041] Figure 2 illustrates a block diagram of a communication system 200 enabling a user to monitor and neutralize carbon dioxide output using the system for managing carbon dioxide production 100 of Figure 1. The communication system 200 includes the weight scale 120, the energy hub 130, the GPS device 140, and the computing device 150 of the system for managing carbon dioxide production 100 of Figure 1. The communication system 200 further includes the central server 110 of the

system for managing carbon dioxide production 100 of Figure 1. The central server 110 further includes a central server processing unit 220 and a central server storage component 230. The central server storage component 230 includes a user identification database 231, a device code database 232, a carbon dioxide output database 233, a conversion factor database 234, a website database 235, and a carbon dioxide neutralizing organization database 236. The communication system 200 further includes an energy hub server 240, a merchant server 250, an advertiser server 260, and a carbon dioxide neutralizing organization server 270.

[0042] In the communication system 200, the central server 110 of Figure 1 is in bidirectional communication with the central server central processing unit 220, the energy server 240, the computing device 150, the merchant server 250, the advertiser server 260, and the carbon dioxide neutralizing organization server 270. The central server central processing unit 220 is in bidirectional communication with the central server storage component 230 containing the user identification database 231, the device code database 232, the carbon dioxide output database 233, the conversion factor database 234, the website database 235, and the carbon dioxide neutralizing organization database 236. The weight scale 120 is in unidirectional communication with the computing device 150. The energy hub 130 is in unidirectional communication with the energy server 240. The GPS device 140 is in unidirectional communication with the central server 110.

[0043] In operation, a user creates a user account 160 using the user interface illustrated in Figures 4 and 5. Data for displaying and operating the user interface are stored in the website database 235 on the central server storage component 230. The user

identification ("ID") and password created during account setup are stored in the user ID database 231 of the central server storage component 230. When creating a user account 160, a user configures data collection devices including the weight scale 120, energy hub 130, and GPS device 140 using the user interface described in Figure 4 and 5. During this process, each device is assigned a unique device code which is stored in the device code database 232 of the central server storage component 230. User conversion factors used for calculations described in Figure 7 are derived from settings the user chooses at the user interface described in Figure 6.

[0044] The weight scale 120 measures data representing weight of trash produced by a user in their home and transmits the data representing trash weight to the computing device 150. The computing device 150 then transmits the data representing trash weight to the central server 110. The energy hub 130 measures data representing electricity and natural gas used by a user in their home and transmits it to the energy server 240 using a wireless connection. The energy server 240 then transmits the user data representing electricity and natural gas to the central server 110. The GPS device 140 measures data representing the distance a user's vehicle has travelled and transmits this data to the central server 110.

[0045] After measurements are transmitted from the weight scale 120, the energy hub 130 and the GPS device 140 and are received by the central server 110, the central server central processing unit 220 converts these data to a value representing carbon dioxide output for the user using the carbon dioxide output calculator 170 on the central server 110 in a series of steps described in Figure 7. The central server processing unit 220 matches the device code associated with the data to the user ID database 231 directs

the storage of the updated values representing carbon dioxide output for a user in the carbon dioxide output database 233 on the central server storage component 230.

[0046] In the preferred embodiment, weight scale 120 may be connected to the computing device 150 using either a wireless or wired connection. For example, the weight scale 120 might transmit data using a Bluetooth, ZigBee, or WiFi wireless connection or the scale might be wired directly to the computing device 150 using a cable. In another embodiment, it is possible for the number representing the weight of the trash measured by the weight scale 120 to be directly communicated to the computing device 150 by typing on a keyboard or using another input interface that is in connection with the computing device 150.

[0047] In the preferred embodiment, the energy hub 130 is a dashboard or energy gateway control unit. Examples of dashboard or energy gateway control units may include the EnergyHub, Tendril, Onzo, Agilwaves, Google Power Meter, GreenBox, The Energy Detective, PowerMand, Green Energy Options, or Energy Aware. The energy hub 130 may be in connection with the energy server 240 and central server 110 using any number of wireless connections, for example, Bluetooth, ZigBee, or WiFi. In the alternative, the energy hub 130 may be a person who observes the amount of energy use reported by a gas or electric meter and then inputs these data into the computing device 150 directly by typing on a keyboard or using another input interface that is in connection with the computing device 150.

[0048] In the preferred embodiment, GPS device 140 may be a mobile handheld device that tracks distance driven by a vehicle. Examples of mobile handheld devices may include the iPhone, Blackberry, or other smart phones. When a mobile handheld

device is utilized as the GPS device 140, during device configuration described in Figure 5 and Figure 6, once the mobile handheld device is selected, a user downloads an application for the handheld device and then enters their user account number (created in the steps described in Figure 4 and 5), then starts the application when they begin driving their vehicle. When the user ends their trip, they activate a stop function on the handheld device's application and the distance traveled is relayed from the device to the central server 110, where the central server central processing unit 220 converts where the distance traveled to a value representing carbon dioxide output as described above and in Figure 7. This value is stored in the carbon dioxide output database 233 on the central server storage component 230.

[0049] In another embodiment, the GPS device 140 may be a transportable global positioning system, such as those made by Garmin, TomTom or those used by OnStar. In the alternative, GPS device 140 may be a person who observes the amount of miles travelled by a vehicle and then inputs these data directly into the computing device 150 directly by typing on a keyboard or using another input interface that is in connection with the computing device 150. This option is configured during account setup described in Figure 4 and Figure 5 and accessed by logging into the user account 160.

[0050] In the preferred embodiment of the present invention, the computing device 150 may be a personal computer or handheld notebook or tablet capable of communicating with the central server 110 and receiving a wireless or wired signal for transmitting data to and from the computing device 150 and the central server 110. In another embodiment, the computing device 150 may also be a handheld smart phone, such as an iPhone or Blackberry, capable of communicating with the central server 110

and receiving a wireless or wired signal transmitting data from the weight scale 120, energy hub server 240, and GPS device 140. An application may be uploaded to the smart phone enabling this process.

[0051] In alternative operations, the communication system 200 preferably has at least these other functions: maintaining data for creation of website that a user accesses to purchase merchandise, view advertising, or discuss and receive information about issues related to carbon use and neutralizing (as illustrated in Figure 3); allowing a user to observe values representing the carbon dioxide they produce and using the carbon dioxide neutralizing website 180 of the carbon dioxide management system 100 of Figure 1 to interact with organizations practicing activities that remove carbon dioxide from the atmosphere (as shown in Figure 14); and enabling the a method of generating revenue related to the interaction of users producing carbon dioxide and entering into agreements with organizations practicing activities to remove carbon dioxide from the atmosphere (shown in Figures 17 and 18).

[0052] Figure 3 is an illustration of the entry screen 300 displayed at the website. As described above, the entry screen 300 is displayed and configured by a user by using the computing device 150 in the communication system 200 of Figure 2. The entry screen 300 includes an organization name and trademark banner 310, a first advertising panel 320, a second advertising panel 322, a third advertising panel 323, and a legal and copyright banner 325. The entry screen further contains a cutting carbon link 330, a carbon saint solution link 340, an account login link 350, a forum link 360, a store link 370, and an about link 380. When a user visits the entry screen 300, a view latest news and notices link 390. The entry screen 300 also displays information that is

communicated to the central server 110 from the merchant server 250, advertiser server 260, and the carbon dioxide neutralizing organization server 270 of Figure 2.

[0053] In operation, a user may access a variety of information from the entry screen 300. First, the user can return to the entry screen 300 by engaging the cutting carbon link 330, where the link to display the latest news and notices link 390 will again appear. Also displayed when the cutting carbon link 330 is engaged is information about why users are concerned about reducing their carbon footprints and how to remediate carbon they produce.

[0054] In addition, a user can read about how the organization maintaining the web screen provides users a way to remediate carbon they produce, and describes how data representing carbon dioxide output are measured for individual users, and explains more about the website system that coordinates these activities for the user by engaging the carbon saint solution link 340. The user can engage in forum discussion by selecting the forums link 360. Here, the user can read messages posted by other users or enter messages and questions, for example, about the general subject of carbon footprints, or carbon dioxide neutralizing.

[0055] The user generates a new user profile by engaging the account login link 350 (as described in Figure 4).

[0056] The entry screen 300 also provides three advertising panels 320, 322, and 323, which not only provide information to a user viewing the entry screen 300 of the website to see these advertisements, but also helps to create a method for generating revenue for the organization maintaining the website (as described in Figures 17 and 18). New advertising can be transmitted to the entry screen 300 through communication link

between the central server 110 and the advertising server 260. The user can purchase merchandise related to the activity of monitoring data representing carbon dioxide by engaging the store link 370. New merchandise and prices can be transmitted to the entry screen 300 through communication link between the central server 110 and the merchant server 250. The user can find out more about the organization maintaining the website by engaging the about link 380. The store link 370 also contributes to the method for generating revenue for the organization maintaining the website (as described in Figures 17 and 18). Carbon dioxide neutralizing organizations can communicate information about carbon dioxide neutralization activities or their services to the entry screen 300 using the communication link between the central server 110 and the carbon dioxide neutralizing organization server 270.

[0057] Figure 4 is an illustration of the account login screen 400. As described above, the account login screen 400 is displayed and configured by a user by using the computing device 150 in the communication system 200 of Figure 2. The account login screen 400 provides access for the user way for a user to configure the weight scale 120, the energy hub 130, and the GPS device 140 in the communication system 200 of Figure 2 using the computing device 150 of the communication system 200 of Figure 2. Like the entry screen 300, the account login screen 400 displays the links and images described in Figure 3 . The account login screen 400 further includes an account setup link 490, a monitoring control link 492, a carbon footprint link 494, and a carbon offset link 496.

[0058] In operation of the account login screen 400, a user first selects the account login link 350, which allows the user to gain access to the account setup link 490,

a monitoring control link 492, a carbon footprint link 494, and a carbon offset link 496 menu. These links are linked to an account setup screen, monitoring control screen, carbon footprint screen, and carbon offset screen described below in Figures 4, 5, 6, and 10. If a user does not have a user account that is stored and recognized by the central server central processing unit 220 in the communication system 200 of Figure 2 when the user first accesses the account login link 350 from the computing device 150 of Figure 1, the user is prompted to create a user name and password before the user is allowed access to the account setup link 490, a monitoring control link 492, a carbon footprint link 494, and a carbon offset link 496 menus. If a user has a user name and password, the user is able to enter this user name and password into a box that appears on the screen after selecting the account login link 350.

[0059] Figure 5 is an illustration of the account setup screen 500. As described above, the account setup screen 500 is displayed and configured by a user by using the computing device 150 in the communication system 200 of Figure 2. The account setup screen 500 further includes an account information banner 590, with links: screen name 599, location 591, household statistics 592, password 593, and payment display banner 594. The account setup screen 500 further includes a device registration display banner 595 with links: household waste scale 596, energy hub 597, and vehicle 598.

[0060] In operation, as described above, a user with an active account is able to access the account setup screen 500 by selecting the account login link 350 and entering a valid user name and password. The user may return to the account login screen by selecting the account login link 350, which will return them to the account login screen 400 of Figure 4. A user may change the user name and password by selecting the screen

name link 599. When this is done, a small window appears and the user is prompted to enter a new screen name and change the password.

[0061] From the account setup screen 500, a user configures the account by selecting one of the links under the account information link 590. First, when the location link 591 is selected, a small window appears that allows the user to enter their zip code to allow the computing device 150 to communicate with the central server central processing unit 220 to perform a search a preloaded database stored on the central server storage component 230 of Figure 2 corresponding to a geographic location in the preferred embodiment. Once a geographic location appears, the user selects it, returning them to the account setup screen 500.

[0062] Next, when the household statistics link 592 is selected, a small window appears that allows the user to enter the number of people in their home, prompting the computing device 150 to communicate with the central server central processing unit 220 to transmit the number and load it into the central server storage component 230 of Figure 2. The user is returned to the account setup screen 500.

[0063] Next, when the password link 593 is selected, a window appears that allows a user to change their password. Once the password is changed and confirmed, the computing device 150 communicates with the central server central processing unit 220 to transmit the password and load it into the central server storage component 230 of Figure 2. The user is returned to the account setup screen 500.

[0064] Next, when the payment services link 594 is selected, a window appears that allows the user to enter in an account number in the preferred embodiment. The user is also able to select a radio button to choose either automated or manual payment

methods for carbon dioxide neutralizing (described in Figures 14 and 15). Once the account information is entered and confirmed, the computing device 150 communicates with the central server central processing unit 220 to transmit the account information and load it into the central server storage component 230 of Figure 2. The user is returned to the account setup screen 500.

[0065] From the account setup screen 500, a user registers their data collection devices from the system in Figure 1 by selecting one of the links under the account information link 590. If a user has not provided information under the account information links 390, the user is prompted to do so at this time and cannot configure data collection devices until this is done. In the preferred embodiment, when this occurs, an error message appears, prompting the user to register for and account and providing instructions how do proceed.

[0066] First, a user that has used the account information link 390 to enter and setup the components of their account, selects the household waste scale link 596 form the account setup screen 500 to configure the weight scale 120 in the communication system 200 of Figure 2. In the preferred embodiment, a separate window appears that allows the user to search for and select the weight scale they uses to collect data pertaining to household trash production. Once selected, the central server central processing unit 220 transmits a configuration utility to the computing device 150 of Figure 1. This utility automatically installs on the computing device 150 and searches for the user account loaded on the central server storage component 230 of Figure 2, then assigns the weight scale 120 a unique data code that is recognized by the link system 100 for this unique user. The utility transmits a test signal from the computing device 150 to

the weight scale 120, which then receives the signal and transmits a confirmation code back to the computing device 150 to initialize use. The utility transmits a test signal from the computing device 150 to the weight scale 120, which then receives the signal and transmits a confirmation code back to the computing device 150 to initialize use.

[0067] In another embodiment, when the location link 591 is selected, the user can, for example, type in a geographic location and perform a search, select geographic location from a preloaded drop down menu, or select a radio button next to a preloaded display of geographic locations.

[0068] Next, a user selects the energy hub link 597 form the account setup screen 500 to configure the energy hub 130 in the communication system 200 of Figure 2. In the preferred embodiment, when the energy hub link 597 is selected, a separate window appears that allows the user to search for and select the energy hub or dashboard device they uses to collect data pertaining to household energy production. Once selected, the configuration utility downloaded during configuration of the weight scale 120 described above, transmits a test signal from the computing device 150 to the energy hub 130, which then receives the signal and transmits a confirmation code back to the computing device 150 to initialize use. This utility automatically installs on the computing device 150 and searches for the user account loaded on the central server storage component 230 of Figure 2, then assigns the energy hub 130 a unique data code that is recognized by the link system 100 for this unique user.

[0069] Next, a user selects the vehicle link 598 form the account setup screen 500 to configure the GPS device 140 in the communication system 200 of Figure 2. In the preferred embodiment, when the vehicle link 598 is selected, a separate window appears

that allows the user to search for and select the make, model, and year of the vehicle they are driving. Once selected, the computing device 150 transmits the information to the central server central processing unit 220 in the communication system 200 of Figure 2, then stores the data with the user's account information on the central server storage component 230. In an alternate embodiment, the user may select from other transportation options in addition to a personal vehicle, for example, bus, train, or airplane, bike, or walking.

[0070] In the preferred embodiment, the user is then prompted to select a vehicle geographical tracking device from a search menu to configure the GPS device 140 of Figure 1. Once selected, the configuration utility downloaded during configuration of the weight scale 120 described above, transmits a test signal from the computing device 150 to the GPS device 140, which then receives the signal and transmits a confirmation code back to the computing device 150 to initialize use. This utility automatically installs on the computing device 150 and searches for the user account loaded on the central server storage component 230 of Figure 2, then assigns the GPS device 140 a unique data code that is stored in the device code database 232.

[0071] In an alternative embodiment, the user selects manual entry for the weight scale 120 if they do not wish to use a scale that communicates automatically with the computing device 150 or if the weight scale 120 they are using cannot be found with the search utility.

[0072] In an alternative embodiment, the user selects manual entry for the energy hub 130 if they do not wish to use an energy hub or dashboard device that communicates

automatically with the computing device 150 or if the energy hub 130 they are using cannot be found with the search utility.

[0073] In an alternative embodiment, the user selects manual entry for the third GPS device 140 if they do not wish to use a geographical tracking device that communicates automatically with the computing device 150 or if the GPS device 140 they are using cannot be found with the search utility.

[0074] Figure 6 is an illustration of the monitoring control screen 600. As described above, the monitoring control screen 600 is displayed and configured by a user by using the computing device 150 in the communication system 200 of Figure 2. The monitoring control screen 600 further includes a household waste banner 610, and trash data collection configuration links 620. The monitoring control screen 600 further includes a vehicle use banner 630, vehicle type links 640 and vehicle data collection links 650. The monitoring control screen 600 further includes a home energy use banner 660 and user energy consumption configuration links 670.

[0075] In operation, as described above, a user with an active account is able to access the monitoring control screen 600 by first entering the account setup screen 500 by selecting the account login link 650 and entering a valid user name and password. The user may return to the account login screen by selecting the account login link 650, which will return them to the account login screen 400 of Figure 4.

[0076] From the monitoring control screen 600, a user configures the method for household waste collection by selecting either wireless scale or manual entry in the trash data collection links 620. This configuration determines how the weight scale 120 will communicate with the computing device 150 of Figure 1. If the wireless scale option was

previously selected during account setup described above when the user selected the household waste link 596 from the account setup screen 500, the user is prompted to select a new device following the prompts outlined above for the configuration of the weight scale 120 in Figure 5 and Figure 6.

[0077] Next, the user configures the trash level that best describes the type of trash they produce by selecting level 1, 2 or 3 from the trash data collection links 620. By selecting a trash level using the links in 620, this sets a preconfigured conversion factor which is a multiplier used by the central server central processing unit 220 of Figure 1 to multiply data communicated from the weight scale 120 to the computing device 150, which is then transmitted to the central server central processing unit 220 to data representing carbon dioxide output, which is then stored on the central server storage component 230 in the database representing carbon use 160 of Figure 1. The multiplier preferably is a whole digit number which corresponds to the relative amount of organic matter that is in a user's household waste.

[0078] Next, the user makes any changes to the vehicle entered in the account setup screen 500 described above by selecting make, model, and year of their vehicle from vehicle type links 640 provided in the preferred embodiment. The user may also add a new vehicle by using the vehicle type links 640. If options are selected from the vehicle type links 640, the user is prompted within a separate window to decide if they wish to change, add or delete a vehicle.

[0079] Next, the user makes changes to the way they will track miles traveled or gallons of fuel consumed by selecting the vehicle data collection links 650. By selecting the automated option from the vehicle data collection links 650, the communication

system 200 uses settings stored during account setup when the user selected the vehicle link 598 using the account setup screen 500 (as described above in Figure 5). This configuration determines how the GPS device 140 will communicate with the computing device 150 of Figure 1. If the geographical tracking device was previously selected during account setup described above when the user selected the vehicle link 598 from the account setup screen 500, the user is prompted to select a new device following the prompts outlined above for the configuration of the weight scale 120 in Figure 5.

[0080] In another embodiment, if the user selects gallons of fuel from the vehicle data collection links 650, the user is prompted at the user login screen in the entry screen 600 to enter the gallons of fuel used during their last trip using the an input interface connected to the computing device 150, which is then transmitted to the central server central processing unit 220 to data representing carbon dioxide output, which is then stored on the central server storage component 230 in the database representing carbon use 160 of Figure 1. With this setting, the central server central processing unit 220 of Figure 1 uses the gallons of fuel by to directly calculate a value for the carbon produced by the fuel.

[0081] If the user selects miles driven from the vehicle data collection links 650, the user is prompted to enter both the miles travelled during their last trip at the user login screen in the entry screen 600. This setting creates a distance per fuel unit conversion factor by combining the average fuel efficiency of the vehicle parameters entered in monitoring control screen 600, which is a multiplier used by the central server central processing unit 220 of Figure 1 to multiply data entered into the computing device 150, which is then transmitted to the central server central processing unit 220 to data

representing carbon dioxide output, which is then stored on the central server storage component 230 in the database representing carbon use 160 of Figure 1.

[0082] Next, the user makes changes to the type of energy monitoring for their household by selecting either the energy hub or manual entry links from the energy consumption configuration links 670. This configuration determines how the energy hub 130 will communicate with the computing device 150 of Figure 1. If the energy hub or dashboard device was previously selected during account setup described above when the user selected the energy hub link 597 from the account setup screen 500, the user is prompted to select a new device following the prompts outlined above for the configuration of the weight scale 120 in Figure 5.

[0083] Each time a change is made by the user on the monitoring control screen 600, the updated changes are transmitted from the computing device 150 to the central server central processing unit 220 where the unique user codes are matched with those stored on the central server storage component 230 on the identifying code database 150 of Figure 1. These changes are saved with the user account information stored on the central server storage component 230 of Figure 2.

[0084] Figure 7 illustrates a flow chart for a method 700 for performing calculations by the central server central processing unit 220 using the carbon dioxide output calculator 170 on the central server 110. Conversion factors are configured when the user configures an account as described above in Figures 5 and 6. First, in step 710, data are detected by the weight scale 120, energy hub 130, or GPS device 140 as a result of user activity.

[0085] Next, in step 720, data are transmitted to the central server 110 either directly if from the GPS device 140 or through a computing device 150 if from the weight scale 120 or the energy server 240 if from the energy hub 130.

[0086] Next, in step 730, the central server central processing unit 220 accesses the central server storage component 230 and matches the device code with those stored in the device code database 232.

[0087] Next, in step 740, if a device code matches an energy hub, the central server central processing unit 220 matches this device code to the user ID database 231 in step 745. Then, in step 780, the value representing carbon dioxide output from the energy hub is stored in the carbon dioxide output database 233 associated with a user account 160. If the device code does not match an energy hub, in step 750, the central server central processing unit 220 matches the device code with the matching conversion factor stored in the conversion factor database 234 on the central server storage component 230.

[0088] Next, in step 760, the carbon dioxide calculator 170 of the central server central processing unit 220 converts the data that was transmitted to the central server 110 to a value representing carbon dioxide output for that device.

[0089] Next, in step 770, the device code from the device code database 232 is matched to the user ID database 231.

[0090] Next, in step 780, the value representing carbon dioxide output is stored in the carbon dioxide output database 233 associated with a user account 160.

[0091] In the preferred embodiment, data collection devices such as the weight scale 120, energy hub 130, or GPS device 140 automatically transmit measurements that are ultimately received by the central server 110. The process for updating weight measurements taken by the scale is illustrated in Figures 8 and 9.

[0092] Figure 8 illustrates a flow chart for a method 800 for updating data representing trash weight measured by the weight scale 120 of Figure 1. First, in step 805, trash weight is measured by the weight scale 120.

[0093] Next, in step 810, data representing weight is transmitted from the weight scale 120 to the computing device 150.

[0094] Next, in step 820, data representing weight of trash is transmitted from the computing device 150 to the central server 110 where it is received by the central server central processing unit 220.

[0095] Next, in step 830, data representing weight of trash is compared with the weight saved in the carbon dioxide output database 233 associated with the particular device code and user ID stored on the server storage component 230.

[0096] Next, in step 840, if the data representing weight of trash are greater than the last value stored, the last value is replaced in step 850. If the data representing weight are not greater than the value last stored, the last recorded value is saved in step 845 and the method repeats starting with step 805.

[0097] Next, in step 860, an updated calculation is performed by the central server central processing unit 220 carbon dioxide output calculator 170.

[0098] Next, in step 870, updated values representing carbon dioxide output for the user are stored in the carbon dioxide output database 233 on the server storage component 230.

[0099] Next, in step 880, the data are displayed on a computing device 150 display when a user logs into the user account (as described in Figure 3) and selects a carbon footprint screen (as described in Figures 11 and 12).

[00100] In an alternative embodiment, the amount of time may be set to delay for a period of time before the next weight measurement is received by the central server 110 and a new value is calculated. Alternately, data from the weight scale 120 is transmitted frequently or nearly continuously, for example, each second and calculations are performed as often as new weight measurements are received.

[00101] Figure 9 illustrates a flow chart for a method 900 for updating data representing trash weight measured by the weight scale 120 of Figure 1 when a new set of measurements is needed after the trash is removed from the house by the user. First, in step 905, trash weight is measured by the weight scale 120.

[00102] Next, in step 910, data representing weight is transmitted from the weight scale 120 to the computing device 150.

[00103] Next, in step 920, data representing weight of trash is transmitted from the computing device 150 to the central server 110 where it is received by the central server central processing unit 220.

[00104] Next, in step 930, data representing weight of trash is compared with the weight saved in the carbon dioxide output database 233 associated with the particular device code and user ID stored on the server storage component 230.

[00105] Next, in step 940, if the data representing weight of trash has declined to nearly zero, the last value is stored is saved in step 950 and the scale is reset in step 955. After resetting the scale, the method repeats starting with step 905.

[00106] Next, in step 960, an updated calculation is performed by the central server central processing unit 220 carbon dioxide output calculator 170.

[00107] Next, in step 970, updated values representing carbon dioxide output for the user are stored in the carbon dioxide output database 233 on the server storage component 230.

[00108] Next, in step 980, the data are displayed on a computing device 150 display when a user logs into the user account (as described in Figure 3) and selects a carbon footprint screen (as described in Figures 11 and 12).

[00109] In an alternative embodiment, the weight difference in step 940 can be changed according to user preferences, for example, to reset the scale only when the difference between the last weight measured and the new weight measured is greater than 5 pounds.

[00110] Figure 10 illustrates a flow chart of a method 1000 for calculating and updating data representing carbon dioxide output produced by a user according to an embodiment of the present invention. First, at step 1010, a user establishes conversion factor and device code for the weight scale 120, energy hub 130, and GPS device 140 of

Figure 1 using the account setup screen 500 of Figure 5 and monitoring control screen 600 of Figure 6.

[00111] Next, at step 1020, data representing measurements of weight, gas and electricity, and distance travelled is collected by the weight scale 120, energy hub 130, and GPS device 140, respectively, of Figure 1.

[00112] Next, in step 1030, the collected data representing measurements are communicated to the central server 110 of Figure 1.

[00113] Next, at step 1040, the data representing measurements received by the central server 110 are compared with data stored in the central server storage component 230 databases when the central server central processing unit 220 accesses these databases. The central server central processing unit 220 matches device codes configured in the account setup screen 500 that are associated with the transmitted data with those stored in the device code database 232.

[00114] Next, in step 1050, the device codes identified in step 1040 by the central server central processing unit 220 are matched to conversion factors configured by the user at the monitoring control screen 600 and conversion factors stored in the conversion factor database 234 on the central server storage component 230.

[00115] Next, in step 1060, the carbon dioxide output database 233 is updated for a user when the carbon dioxide output calculator 170 on the central server 110 performs a calculation by multiplying the identified conversion factors with data representing measurements received by the weight scale 120, energy hub 130, or GPS device 140 to obtain data representing carbon dioxide output for the user. The conversion step 1060 is

preferably performed by using a multiplier performed by a suitable combination of digital logic.

[00116] Next, in step 1070, the central server central processing unit 220 matches the device code that is associated with the converted data with the user ID database 231 that is stored on the central server storage component 230 and updates the last data stored with the new data.

[00117] Next, in step 1080, stored data representing carbon dioxide output are transmitted from the central server 110 to the computing device 150 of Figure when a user accesses a user account by selecting the account login link 350 on the entry screen 300.

[00118] Next, in step 1090, the computing device of 150 of Figure 1 is capable of displaying the updated user data representing carbon dioxide output generated in step 1060 when called on to do so by a user accessing their account and using the carbon footprint screen 1100.

[00119] Figure 11 is an illustration of the carbon footprint screen 1100. As described above, in Figure 4, the carbon footprint screen 1100 is displayed and configured by a user by using the computing device 150 in the communication system 200 of Figure 2. The carbon footprint screen 1100 provides a user a way to summarize their data representing carbon dioxide output collected by the communication system 200. The carbon footprint screen 1100 includes a carbon footprint link 1110, a select data display link 1130, a select comparison link 1150, and a select trend link 1170.

[00120] In operation, as described above, a user with an active account is able to access the monitoring control screen 600 by first entering the account setup screen 500 by selecting the account login link 550 and entering a valid user name and password. The user may return to the account login screen by selecting the account login link 1250, which will return them to the account login screen 500 of Figure 5.

[00121] The user begins by selecting either household or device from the select data display link 1130, then chooses compare with others or with user from the select comparison link 1150, then chooses the type of trend desired from the select trend link 1170 box. The user then selects the carbon footprint link 1110. If any of the boxes are not selected, from the select data display link 1130, the select comparison link 1150, and the select trend link 1170 the user is prompted with an error message to complete the selection. The data corresponding to the user logged into their account on the computing device 150 of Figure 1 are retrieved from the central server storage component 230. The data representing carbon dioxide output are then displayed in a footprint display screen described in Figure 12.

[00122] Figure 12 is an illustration for a footprint display screen 1200. As described above, the footprint display screen 1200 is displayed and configured by a user by using the computing device 150 in the communication system 200 of Figure 2. The footprint display screen 1200 provides a user a way to visualize their data representing carbon dioxide output collected by the communication system 200. The footprint display screen 1200 includes a graphical display panel 1210 and a tabular display panel 1220.

[00123] In operation, as described above in Figure 11, a user selects the way they want to view their data using the carbon footprint screen 1100. Once the user selects the carbon footprint link 1310, the footprint display screen 1200 displays the user data by selected trend. The user is ideally able to save the image of the graphical display panel 1210 and the tabular data in the tabular display panel 1220 to the computing device 150 of Figure 1 so that they can refer to it offline.

[00124] Figure 13 illustrates a flow chart for the method 1300 for retrieving data representing carbon dioxide output stored on the server storage compartment 230 using the communication system 200 of Figure 2 and displaying the data in the footprint display screen 1200 of Figure 12.

[00125] First, at step 1310, a user logs into their user account using the computing device 150 of Figure 1 which is displaying the entry screen 300 of Figure 3. The user then configures how they want their carbon footprint displayed by using the carbon footprint screen 1100 of Figure 11.

[00126] Next, at step 1320, when the user selects the carbon footprint link 1110 from the carbon footprint screen 1100, the computing device transmits the unique user codes associated with the user account to the central server central processing unit 220, which then communicates with the central server storage component 230 to retrieve data representing carbon dioxide output corresponding to the unique user code. This is done by comparing the unique user codes with the identifying code database 150 on the central server storage component 230.

[00127] Next, in step 1330, if the data were not selected to be displayed by device using the display link 1130 of Figure 11, the data are displayed as representing total carbon dioxide in step 1335.

[00128] Alternately, in step 1330, if data were selected to be displayed by device using the display link 1130 of Figure 11, the stored data retrieved from the central server storage component 230 are divided by the server processing unit 140 to individual carbon dioxide values by using the unique data codes stored with the data once it was first transmitted by the weight scale 120, the energy hub 130, and the GPS device 140 in the communication system 200 of Figure 2 to partition the data by device.

[00129] Next, in step 1350, if a data trend was not selected by using the trend link 1370 of Figure 13, the data are displayed by device in step 1355.

[00130] Alternately, in step 1360, if the data were selected by using the trend link 1370 of Figure 13, the central server central processing unit 220 of Figure 1 will convert the data to display them as either daily, monthly, or yearly on a footprint display screen 1200 shown by Figure 12.

[00131] Figure 14 is an illustration of the carbon offset screen 1400. As described above, the carbon offset screen 1400 is displayed using the computing device 170 in the communication system 200 of Figure 2. The carbon offset screen 1400 includes a select link 1410, an organization link 1412, a rate link 1414, a remediation link 1420, a remediation organization display panel 1430, a sequestering link 1440, a sequestering organization display panel 1450, an A12 organization link 1460, and a purchase offset link 1470.

[00132] In operation, the carbon offset screen 1400 provides the user a way to neutralize their values representing carbon dioxide output that are calculated by the communication system 200 of Figure 2. First, to choose organizations, the user selects the select link 1410 which sends a request from the computing device 150 to the central server central processing unit 220. The server central processing unit then retrieves data from the carbon dioxide neutralizing organization database 236 stored on the central server storage component 230 and communicates this back to the computing device 150. The list of retrieved organizations appears in a separate window on the computing device 150 display and the user may select organizations using a selection tool.

[00133] Next, a user can review past and present organization selections by remediation or sequestering activity in the carbon offset screen 1400 by viewing the remediation organization display panel 1430 and sequestering organization display panel 1450. In these panels, once an organization has been chosen by a user, they are displayed with a radio button selection tool next to them in the preferred embodiment. If a user wishes to change the selected organizations, they may toggle the radio button next to the organization in the remediation organization display panel 1430 and sequestering organization display panel 1450. If a user wishes to delete an organization, this is done by right clicking on the name of the organization listed in either the remediation organization display panel 1430, or the sequestering organization display panel 1450. In doing so, a separate window is displayed which prompts the user to choose between deleting, saving, or cancelling this action.

[00134] In the preferred embodiment, the user is able to select the percent contribution of the carbon dioxide neutralizing organizations used to neutralize their data

representing carbon dioxide output. This is accomplished by providing a separate screen to user when they select the purchase offset link 1470. In the window that appears, the organizations are listed and the user can input a whole number into the boxes next to the carbon dioxide neutralizing organizations. The auto-complete function built into this part of carbon offset screen 1400 will fill in the final organization's percent such that the total of all selected organizations is equal to 110. The user will then be prompted to select, ok, cancel, or change amounts before a purchase is made.

[00135] Once the purchase offset link 1470 has been executed, the dioxide neutralization purchase is made according to the parameters used to configure the user account in the account setup screen 500 using the payment services link 594 of Figure 5. The method for carbon dioxide neutralization purchases is illustrated in more detail in Figure 15. As discussed in the description of Figure 5, if a user chooses an automated payment plan, the purchases is made automatically using the last organizations configured using the carbon offset screen 1400 preferably on a monthly basis.

[00136] In an alternate embodiment, if the user wishes to select all organizations previously selected, they may choose to do so with the A12 link 1460. This will highlight all of the radio buttons on the displayed organizations and display these in the carbon offset screen 1400. The dioxide neutralization purchase may be divided up evenly among the selected organizations or in one alternative, the user may choose the percent of dioxide neutralization purchase toward each organization.

[00137] In an alternate selection method, the user may choose the organization link 1412 which displays the carbon dioxide neutralizing organizations stored on the central

server storage component 230 in the carbon dioxide neutralizing organization database 236 by organization name.

[00138] In another alternate selection method, the user may choose the rate link 1414 which displays the carbon dioxide neutralizing organizations stored on the central server storage component 230 in the carbon dioxide neutralizing organization database 236 by current offset rate for neutralizing carbon in currency per unit.

[00139] In another alternate selection method, the user may choose the remediation link 1420 which displays only the carbon dioxide neutralizing organizations stored on the central server storage component 230 in the carbon dioxide neutralizing organization database 236 that undertake carbon remediation practices.

[00140] In yet another alternate selection method, the user may choose the sequestering link 1440 which displays only the carbon dioxide neutralizing organizations stored on the central server storage component 230 in the carbon dioxide neutralizing organization database 236 that undertake carbon sequestration practices.

[00141] Figure 15 illustrates a flow chart of how carbon dioxide neutralization purchases described in Figure 14, are made by a user.

[00142] First, in step 1510, the central server central processing unit 220 of Figure 2 receives data from a user when the user, accessing their account from a computing device 150, configures a payment method in the account setup screen 500 of Figure 5 or when new carbon dioxide neutralizing organizations are chosen in the carbon offset screen 400 of Figure 4.

[00143] Next, in step 1520, the user data received by the central server central processing unit 220 is compared to the user database representing carbon use 160 on the central server storage component 230. If the user data received by the central server central processing unit 220 is compared to the user database representing carbon use 160 on the central server storage component 230 and no match is found, an error message is displayed in step 1528 and the user is taken back to the entry screen 300.

[00144] Next, in step 1530, if the server central processing unit finds the unique user code associated with the data it has received from the computing device 150 in step 1410, the user is able to select an offset entity from the carbon dioxide neutralizing organization database 236 relayed to the central server central processing unit 220 from the central server storage component 230 and displayed on the computing device 150 display. Step 1530 is repeated by the user until they have chosen all of the organizations they want to select.

[00145] Next, in step 1535, if an automated payment option was selected using the payment services link 1194 on the account setup screen 500, the user's payment information is located by the central server central processing unit 220 on the central server storage component 230 in step 1540. If an automated payment option was not selected using the payment services link 594 on the account setup screen 500, the user is prompted to enter their payment information in a separate window at step 1538.

[00146] Next, in step 1545, if more than one entity was selected by the user in the carbon offset screen 1300, the user is prompted to enter percents for each organization selected in a separate screen in step 1590. Alternately, if only one carbon dioxide neutralizing organization was chosen, in step 1545, the central server central processing

unit 220 locates the data from the carbon dioxide neutralizing organization database 236 stored on the central server storage component 230 in step 1450.

[00147] Next, in step 1570, the data corresponding to the price to offset carbon is located for each offset entity by the central server central processing unit 220 in the carbon dioxide neutralizing organization database 236 stored on the central server storage component 230 in step 1550.

[00148] Next, in step 1560, the central server central processing unit 220 retrieves the database representing carbon use 160 for the user by its unique user code.

[00149] Next, in step 1580, the central server central processing unit 220 compares the data representing carbon dioxide from the database representing carbon use 160 to the offset rate in currency per unit obtained from the carbon dioxide neutralizing organization database 236 and the central server central processing unit 220 calculates the amount of carbon offset needed to offset the user's data representing carbon dioxide output.

[00150] Next, in step 1595, the carbon dioxide neutralization purchase is made based on the amount of carbon offset needed to neutralize the amount of carbon produced by the user. Once completed, the purchase information is transmitted from the central server central processing unit 220 back to the computing device 150 display and the user can review it.

[00151] Figure 16 illustrates a flow chart for a method 1600 for enabling a user to neutralize the amount of carbon dioxide they produce by seeking out organizations that practice activities that reduce carbon dioxide in the atmosphere. First, in step 1610, user data are collected by the carbon dioxide monitoring system 100 of Figure 1.

[00152] Next, at step 1620, the carbon dioxide calculator 170 on the central server central processing unit 220 of the central server 110 in the communication system 200 of Figure 2 converts the user data to value representing carbon dioxide output following the steps in Figure 7.

[00153] Next, in step 1630, the value representing carbon output of the user is stored on a central server 110 in a carbon dioxide output database 233.

[00154] Next, in step 1640, the user monitors their value representing carbon dioxide output using a computing device 150 with a display when they access log into their account using the account login link 350 on the entry screen 300 and navigate to the carbon footprint screen 1100.

[00155] Next, in step 1650, the carbon dioxide website 180 in the carbon dioxide management system 100 allows the user to view and choose carbon dioxide neutralizing organizations 190 that are practicing carbon dioxide neutralizing activities.

[00156] Next, in step 1660, the user forms an agreement between themselves and the carbon dioxide neutralization organizations using the carbon offset screen 1400.

[00157] Next, in step 1670, the user is able to neutralize the amount of carbon dioxide their activities produce and release into the atmosphere with the activities of the carbon dioxide neutralization organizations by purchasing an offset when they select the purchase offset link 1470 on the carbon offset screen 1400.

[00158] Figure 17 illustrates a flow chart of a method of generating revenue related to carbon dioxide neutralizing activities 1700 during an organization startup phase by

conducting transactions between a user possessing a carbon dioxide value and organizations associated with providing offsets to carbon dioxide values.

[00159] First, at step 1710, a carbon dioxide neutralizing service provider is established and a website is created to manage provided services. The website is accessed from the central server central processing unit 220 of the communication system 200 of Figure 2.

[00160] Next, at step 1720, organizations possessing the ability to sequester carbon dioxide are recruited to by the carbon dioxide neutralizing service provider to be listed on the website of step 1310. Entity information is stored in the carbon dioxide neutralizing organization database 236 on the central server storage component 230.

[00161] Next, at step 1724, organizations possessing the ability to remediate carbon dioxide are recruited to by the carbon dioxide neutralizing service provider to be listed on the website of step 1310. Entity information is stored in the carbon dioxide neutralizing organization database 236 on the central server storage component 230.

[00162] Next, at step 1726, a listing fee is charged by the carbon dioxide neutralizing service provider of step 1310 to the organizations possessing the ability to sequester carbon dioxide in step 1720 or remediate carbon dioxide in step 1724.

[00163] Next, at step 1730, organizations interested in advertising carbon sequestering and remediating activities are recruited to by the carbon dioxide neutralizing service provider to be listed on the website of step 1710. Advertising information is stored in the advertiser database 170 on the central server storage component 230.

[00164] Next, at step 1735, advertising fees are established by the carbon dioxide neutralizing service provider and collected from the organizations wishing to advertise on the website of step 1710.

[00165] Next, at step 1740, retail items are purchased from suppliers making goods related to measuring carbon dioxide, and remediation or sequestering carbon dioxide. Retailer information is stored in the merchant database 180 on the central server storage component 230.

[00166] Next, at step 1745, the retail items purchased in step 1740 are offered for sale on the carbon offset service organizations website.

[00167] Next, at step 1750, carbon-producing individuals are identified and invited to sign up for a user account at the website established by the carbon offset service organizations in step 1710 that will allow them to offset their carbon use. As discussed above, carbon-producing individuals use the communication system 200 to track their carbon-producing activities. These data are stored in the database representing carbon use 160 on the central server storage component 230 of the communication system 200 of Figure 2.

[00168] Next, at step 1755, processing fees are charged when users offset their carbon use by purchasing carbon offsets using the website established by the carbon offset service organizations in step 1710.

[00169] Next, in step 1790, the listing fees of 1726, the advertising fees of step 1735, the profits from selling retail items in step 1745 and the processing fees collected

on transactions made by users neutralizing their carbon use in step 1755 are collected and pooled into a collection account.

[00170] In another embodiment, items sold in step 1745 may be sold at cost to generate early adoption by carbon-generating users.

[00171] In another embodiment, users is given a free wireless trash scale for signing up to offset their carbon use in step 1750 when they choose to automate their carbon dioxide neutralization purchases over a period of time determined at sign-up. The trash scale is capable of being used as a weight scale 120 in the communication system 200 of Figure 2.

[00172] In another embodiment, the processing fees charged in step 1755 are adjusted according to market conditions in order to adjust cash flow.

[00173] In an alternate embodiment, the fees charged to users in step 1755 may be changed depending on market conditions (see Figure 18) to change the amount of revenue generated.

[00174] In another embodiment, the processing fees charged to users in step 1755 are waived for a period of time in coordination with signing up with participating cellular service providers.

[00175] In another embodiment, electronic and postal mail addresses may be collected to further advertising and promotions for recruitment of new users as a part of step 1750.

[00176] Figure 18 illustrates a flow chart of a method to incentivize automated carbon dioxide neutralization purchases by users discussed in step 1755 of Figure 17.

First, in step 1810, a carbon-producing user is identified by the central server central processing unit 220 in the database representing carbon use 160 stored on the central server storage component 230 in the communication system 200 of Figure 2.

[00177] Next, current market information about the cost to undertake carbon dioxide neutralization activities is obtained from organizations stored in the carbon dioxide neutralizing organization database 236 on the central server storage component 230.

[00178] Next, in step 1825, market conditions are analyzed by the carbon dioxide neutralizing service provider established in the method for stabilizing revenues 1700. If market conditions are not favorable, the current processing fees are retained in step 1830 and the customer is identified at a later time in step 1810 to repeat the process in steps 1810 through 1825.

[00179] Next, in step 1840, the carbon dioxide neutralizing service provider considers raising transaction fees.

[00180] Next, in step 1845, the carbon dioxide neutralizing service provider determines if the market is favorable for offering a discount to users when they enroll in an automated payment plan.

[00181] Next, in step 1860, if the processing fees charged to users in step 1755 of the method for stabilizing revenues 1700 is increased under current market conditions, a discount is offered to users when they sign up for an automated payment plan. If the market conditions are not favorable, the current processing fee is retained in step 1850 and the customer is identified at a later time in step 1810.

[00182] In the view of the foregoing teaching, embodiments of the present invention provide numerous advantages over other known systems, methods, and devices for allowing a user to monitor the amount of carbon dioxide they produce from daily activities. Importantly, the carbon dioxide management system 100 and the communication system 200 allow a user to measure their impact on the environment with regard to carbon dioxide production when they configure the system to adjust calculations that fit their lifestyle and habits. There are several ways that the system for managing carbon dioxide production 100 and the communication system 200 are more accurate compared with prior art systems and therefore give a more accurate and more updated estimate of the amount of carbon dioxide produced by user activities.

[00183] First, unlike the calculators that are available on the internet, such as those offered by Nature, Carbonify, Terrapass, and Carbonfund, the carbon dioxide management system 100 and the communication system 200 allow a user to configure an account that enables them to obtain a calculation that is based on the actual activities they undertake to produce carbon dioxide. For example, because the instant system allows users to set an a conversion factor based on the type of trash their household produces the trash generated by the user is adjusted for the amount of composting recycling the household practices. Similarly, because the carbon dioxide management system 100 and the communication system 200 is able to communicate with an energy hub, the user is able to obtain a more accurate measurement of actual natural gas and electricity consumed in their home. Finally, by not only entering the type of vehicle a user drives or uses to commute, but also by using a GPS device to track the distance a user travels more

accurately, the calculation representing his or her carbon dioxide output is more accurate that those provided by other calculators.

[00184] Second, because the weight scale, energy hub, and GPS device used in the instant system for managing carbon dioxide production 100 and the communication system 200 are capable of automatically and frequently measuring trash weight, natural gas and electricity use, and distance travelled in a vehicle, the user is able to obtain an updated, accurate carbon footprint without having to reenter or estimate their activities when they visit the internet calculator to obtain a new carbon footprint value. Because no two users are alike, this eliminates the need to apply a standardized number to users who estimate their trash production, energy consumption or effect of gasoline combustion that results from using a vehicle using the existing calculator systems, which also increases the calculation accuracy.

[00185] Third, unlike the system of Edholm, where a user must wait to observe how changes in their activity affect the amount of carbon dioxide produced by their activities, the instant system allows the user to observer the impact of an activity almost immediately after the activity is completed. Because the instant system is frequently updated and data are stored, this further allows the user to better understand how their activities impact the amount of carbon dioxide produced and released into the atmosphere.

[00186] Next, unlike the systems of Quirion and Shah, the instant system for managing carbon dioxide production 100 and the communication system 200 enables a user to estimate their carbon dioxide production related to not only energy use, but also other important activities that have an impact on carbon dioxide production. This too

allows the user to obtain a more accurate estimate of their carbon dioxide production when they perform various activities. Furthermore, the instant system is more reliable for larger scale activities, as the measuring devices are interchangeable, allowing many different types of users to obtain reliable and accurate results.

[00187] The system for managing carbon dioxide production 100 and the communication system 200 further has the advantage over prior art systems with regard to facilitation of entering into agreements with carbon dioxide neutralization organizations that practice activities that remove carbon dioxide from the atmosphere, thus neutralizing or offsetting the carbon dioxide produced by a user. First, by allowing users to have an active role in choosing the organizations they choose to interact with to remove carbon dioxide from the atmosphere, users are better incentivized to participate in carbon dioxide neutralizing activities. For example, in the systems of Margolis or Musier, a user does not choose the organizations it purchases credit for undertaking carbon dioxide neutralizing activities, rather a computing system filters companies from a database of choices based on some selection criteria. This removes the user's ability to choose the type of activities they would prefer to have done, for example, planting trees, and instead relies primarily on price and market conditions, thus decreasing a user's incentive to seek out ways to offset their carbon dioxide production with carbon dioxide removal and sequestering activities.

[00188] Second, by not allowing users to choose firsthand how they would like to pick organizations that practice activities that remove carbon dioxide from the atmosphere, if certain activities become more expensive, they will again have less control over what they would like to choose to spend their money on. Because customers often

have ideas about what their ideal activity would be to neutralize their carbon dioxide output, this further dis-incentivizes users from seeking out ways to reduce their impact on the environment.

[00189] Third, the system for managing carbon dioxide production 100 and the communication system 200 is able to provide a service to users, but remain profitable by the generation of revenue through various activities of users, advertisers, merchants, and organizations who are featured on the service providing organization's website. This further increases the incentive for users to reduce their carbon dioxide output because they are able to go to one central website to not only monitor their carbon dioxide output, but also learn more about activities to offset their carbon dioxide production and to enter into agreements with organizations to do so. Because the service providing organization is able to facilitate all of these activities in one central location, they are able to not only help save the planet by incentivizing users to reduce their carbon footprint, but are also able to generate income to operate and provide such a service to others, making it more sustainable for all involved.

[00190] While particular elements, embodiments, and applications of the present invention have been shown and described, it is understood that the invention is not limited thereto because modifications may be made by those skilled in the art, particularly in light of the foregoing teaching. It is therefore contemplated by the appended claims to cover such modifications and incorporate those features which come within the spirit and scope of the invention.

CLAIMS

1. A method for removing an amount of carbon dioxide from the atmosphere, said method including:

enabling a user to create an account, wherein said account is created using a website, wherein said account is stored on a server, wherein said server is in bidirectional communication with a computing system;

setting multipliers for activities known to generate carbon dioxide by said user, wherein said multipliers are chosen by said user and stored in said account on said server;

selecting organizations capable of removing carbon dioxide from the atmosphere, wherein said organizations are displayed by said website, wherein said selections are made by said user based on cost of removing carbon dioxide from the atmosphere per unit of carbon dioxide removed, wherein said selections are stored with said user account on said server;

configuring transaction settings, wherein said user enters information facilitating the exchange of currency, wherein said information is stored on with said user account on said server;

collecting data representing said activities known to generate carbon dioxide by said user, wherein said data known to generate carbon dioxide by said user is transmitted from said user activities to said server, wherein said server matches said data representing said activities known to generate carbon dioxide by said user with said user account, wherein said server uses said multipliers to convert said data generated by user activity to values representing carbon dioxide production, wherein said values representing carbon dioxide production are stored with said user account on said server; and

removing an amount of carbon dioxide from the atmosphere, wherein said values representing carbon dioxide production stored in said user account, said selections of organizations capable of removing carbon dioxide from the atmosphere stored in said user account, and said transaction settings stored in said user account are used to purchase agreements with said selected organizations capable of removing carbon dioxide from the atmosphere based on the values representing carbon dioxide production for said user and cost of removing carbon dioxide from the atmosphere per unit of carbon dioxide removed.

2. The method of claim 1, further including scheduling said transactions on a repeated basis, wherein the frequency of said scheduling is based upon calculation of updated values representing carbon dioxide produced by said user by said server.

3. The method of claim 1, wherein said selection of said organizations capable of removing carbon dioxide from the atmosphere by said user is based on the percent of said transaction said user desires to purchase from said organization.

4. The method of claim 1 wherein said user activities include measuring weight of trash produced by said user.

5. The method of claim 4, wherein said multiplier is based on said user trash composition.

6. The method of claim 1 wherein said user activities include measuring electricity and natural gas consumed by said user.

7. The method of claim 6, wherein said electricity and natural gas use are measured using an energy hub.

8. The method of claim 1 wherein said user activities include measuring gasoline combustion resulting from said user traveling in a vehicle.

9. The method of claim 8, wherein said gasoline combustion is calculated using the distance travelled as collected by a global positioning system device and multiplying said distance by vehicle make and model.

10. A method for generating revenue for practices removing carbon dioxide from the atmosphere, said method including:

configuring a main server to display a website, wherein said website allows the interaction of many users using bidirectional communication and transmission of data among users, wherein said website is maintained using a main server, wherein said main server is maintained by a company providing services to users;

identifying a customer base of customers to establish accounts, wherein said customers use said website to establish said accounts, wherein said accounts are stored on said main server;

collecting values representing carbon dioxide produced by activities undertaken by said customers, wherein said values are stored on said main server associated with said customer accounts;

identifying organizations capable of removing carbon dioxide from the atmosphere by undertaking various activities, wherein said organizations transmit information about their services to said website using an organization specific server in bidirectional communication with said main server;

identifying merchandisers possessing goods used for the practice of reducing the amount of carbon dioxide released into the atmosphere by a customer, wherein said merchandisers transmit information about their products to said website using an merchandiser specific server in bidirectional communication with said main server;

identifying advertisers associated with products and services related to the practice of reducing the amount of carbon dioxide in the atmosphere, wherein said advertisers transmit information about said products and services to said website using an advertiser specific server in bidirectional communication with said main server; and

generating revenue for practices removing carbon dioxide from the atmosphere, wherein said company maintaining said website receives said revenue, wherein said customers interact with said website to enter into agreements with organizations to remove the amount of carbon dioxide they produce from the atmosphere, wherein said customers purchase goods from said merchandisers, wherein a percent of said agreements and said purchases is collected by said company maintaining said website.

11. The method of claim 10, wherein said customers are charged a transaction fee when they enter into agreements with said organizations capable of practicing activities to remove carbon dioxide from the atmosphere, wherein said fee is collected by said company maintaining said website.

12. The method of claim 11, further including incentivizing customers to establish automated transactions with said organizations, wherein said transaction fees collected from said customers are waived for a period of time when said customer configures an automated purchasing plan.

13. The method of claim 10, wherein said advertisers are charged listing fees to transmit information about their products and services to said website, wherein said fee is collected by said company maintaining said website.

14. The method of claim 10, wherein said merchandisers are charged fees for transmitting information about said goods to said website, wherein said fee is collected by said company maintaining said website.

15. The method of claim 10, wherein said organizations are charged fees when said customers enter into said agreements with said organizations that are listed on said website, wherein said fee is collected by said company maintaining said website.

16. A communication system for monitoring and removing carbon dioxide in the atmosphere produced by user activities, said system including:

a server in bidirectional communication with a central processing unit on said server, wherein said central processing unit is capable of performing calculations;

a server storage component in bidirectional communication with said server central processing unit on said server, wherein said storage component allows for the compilation of several databases;

a computing device in bidirectional communication with said server, wherein said computing system is capable of establishing a connection with at least one website, wherein said computing system is capable of displaying information to a user of said computing device;

at least one data collection device in bidirectional communication with said computing device, wherein said data collection device transmits data from said computing device to said server, wherein said server converts said data into values representing carbon dioxide production using said central processing unit to perform said calculations, whereby said server stores said values on said server storage component each time new values are received, wherein said user can access these values representing carbon dioxide production, whereby said user can enter agreements with organizations to remove said carbon dioxide from the atmosphere by interaction with said organizations using said website.

17. The system of claim 16, wherein said bidirectional communication between said computing device and said data collection device is wireless communication.

18. The system of claim 16, wherein said bidirectional communication between said computing device and said data collection device wired communication.

19. The system of claim 16 wherein at least one said data collection device is a weight scale, wherein said weights represent weight of trash produced by said user.

20. The system of claim 19, further including setting said multipliers used during said calculations to convert trash weight to a value representing carbon dioxide production.

21. The system of claim 16 wherein at least one said data collection device is an energy hub, wherein said energy hub transmits data representing electricity and natural gas consumed in the building of said user.

22. The system of claim 16 wherein at least one said data collection device is a global positioning system device, wherein said global positioning device collects data representing distance travelled by said user.

23. The system of claim 22, further including setting said multipliers used during said calculations to convert distance travelled by said user to a value representing carbon dioxide production by multiplying distance travelled with multipliers related to vehicle characteristics to obtain a value representing the amount of carbon dioxide produced when gasoline is combusted by said vehicle.

ABSTRACT

A system and method for monitoring production of carbon dioxide and removing carbon dioxide from the atmosphere is provided which includes a central server, computing device, weight scale, energy hub, and global positioning system. Personalized settings are configured by a user and the system repeatedly measures data representing weight of trash, gasoline combustion, and energy and natural gas consumption, which are converted to data representing carbon dioxide output for the user on a central server. User data are stored on the central server and can be recalled at any time when a user logs into his or her account using a computing device. The user can view the data representing carbon dioxide produced by the activities they have undertaken and evaluate historical trends in carbon dioxide production. A user can use their personal account to enter into agreements with organizations performing carbon dioxide neutralizing activities that remove carbon dioxide from the atmosphere.

Figure 1

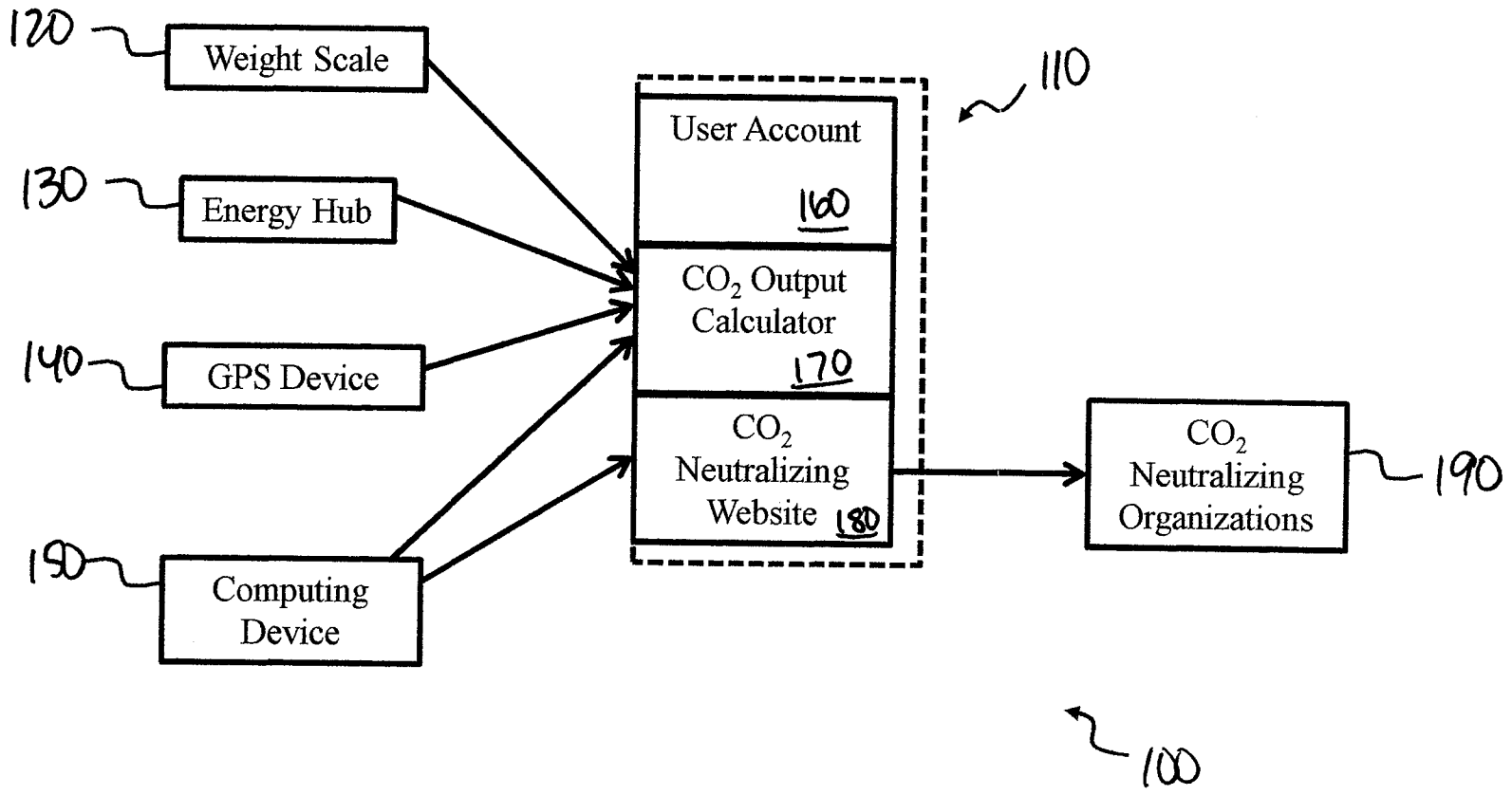
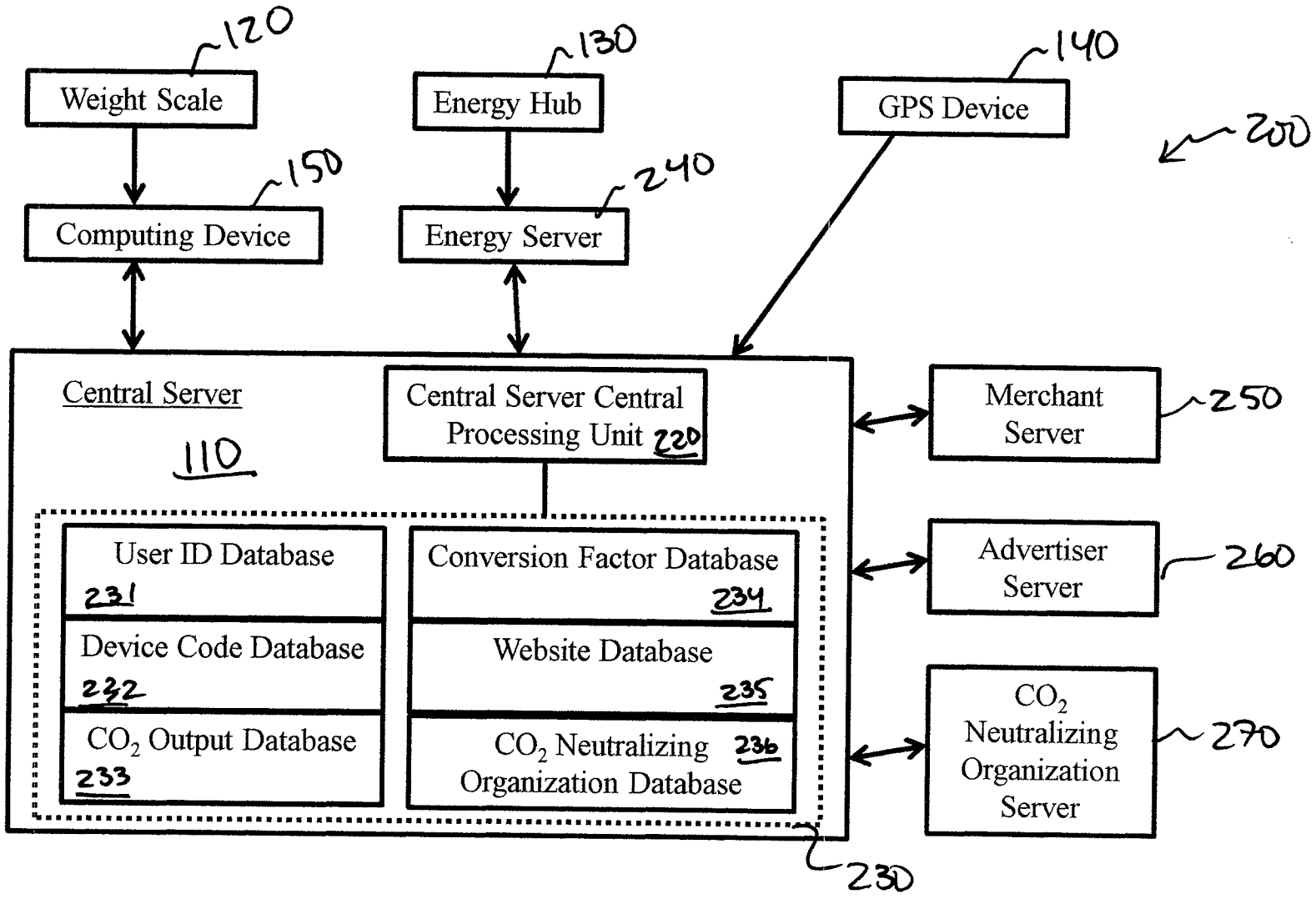

120
Weight Scale
130
Energy Hub
140
GPS Device
150
Computing Device
110
User Account
160
CO_2 Output Calculator
170
CO_2 Neutralizing Website
180
CO_2 Neutralizing Organizations
190
100

Figure 2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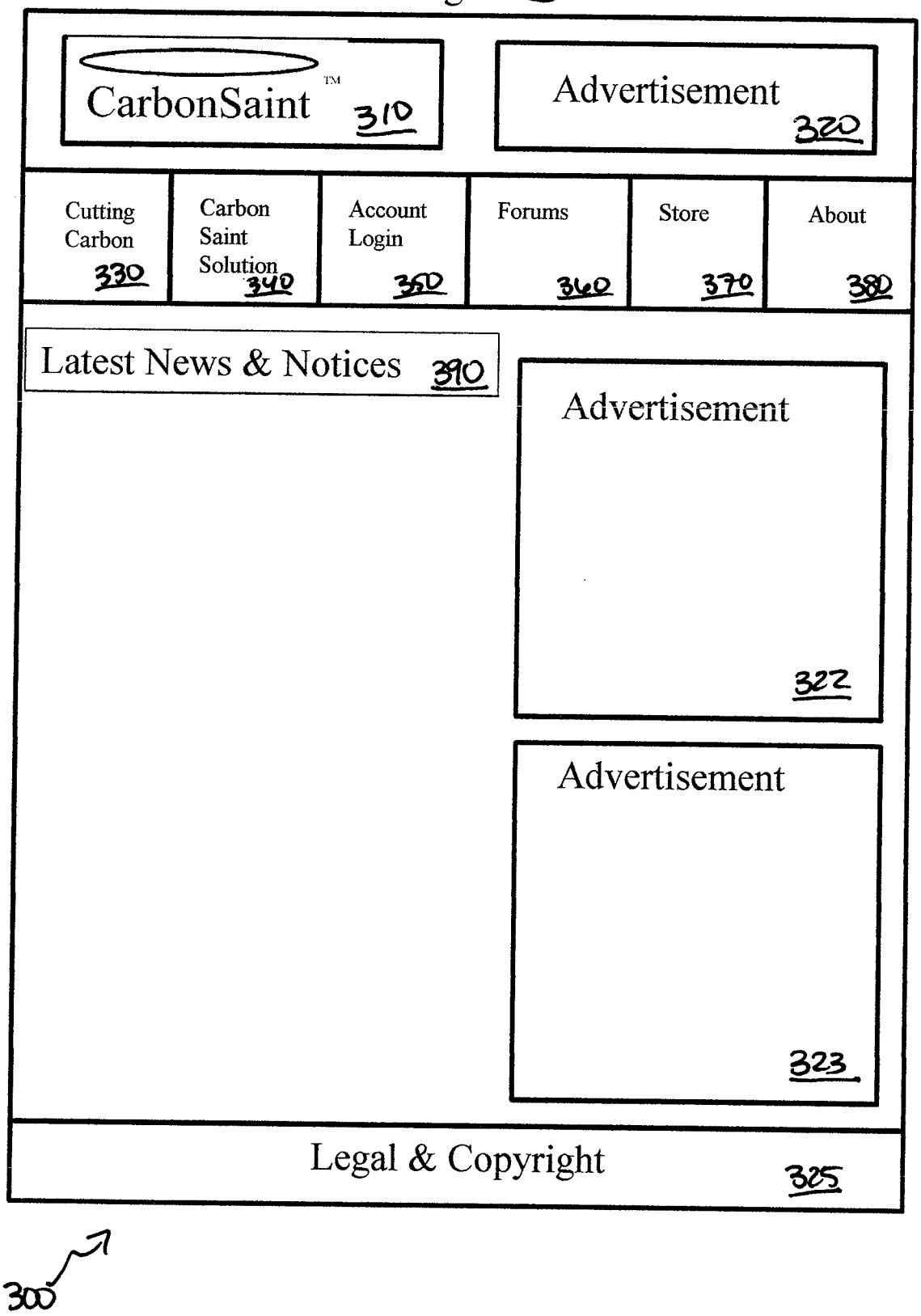
Weight Scale
130
Energy Hub
140
GPS Device
200
150
Computing Device
240
Energy Server
Central Server
110
Central Server Central Processing Unit 220
Merchant Server
250
User ID Database 231
Conversion Factor Database 234
Advertiser Server
260
Device Code Database 232
Website Database 235
CO_2 Output Database 233
CO_2 Neutralizing Organization Database 236
CO_2 Neutralizing Organization Server
270
230

Figure 3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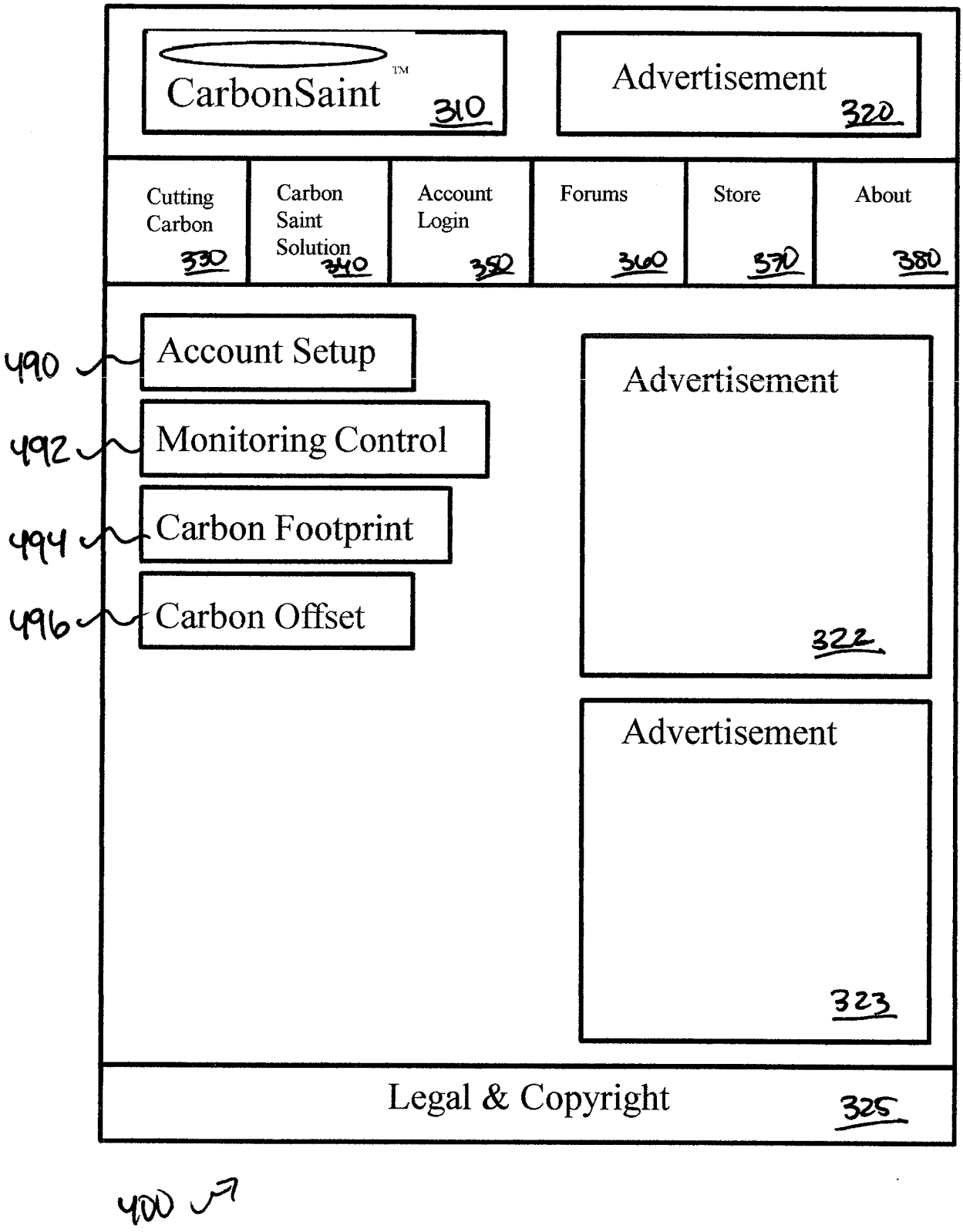
Advertisement 320
Cutting Carbon 330
Carbon Saint Solution 340
Account Login 350
Forums 360
Store 370
About 380
Latest News & Notices 390
Advertisement 322
Advertisement 323
Legal & Copyright 325
300

Figure 4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Carbon Saint Solution
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Forums
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Store
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About
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Monitoring Control
494
Carbon Footprint
496
Carbon Offset
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322
Advertisement
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Legal & Copyright
325
400

Figure 5

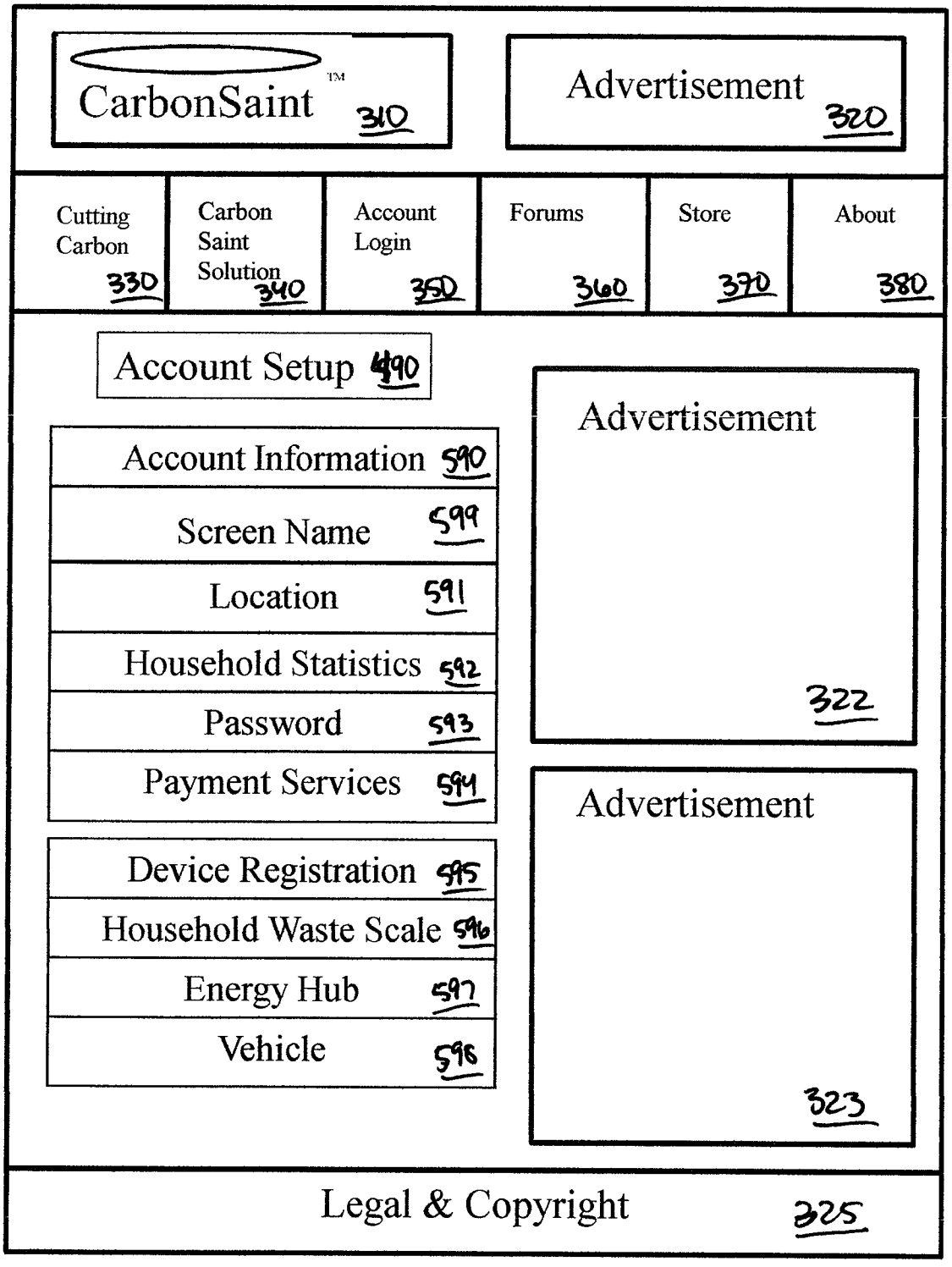
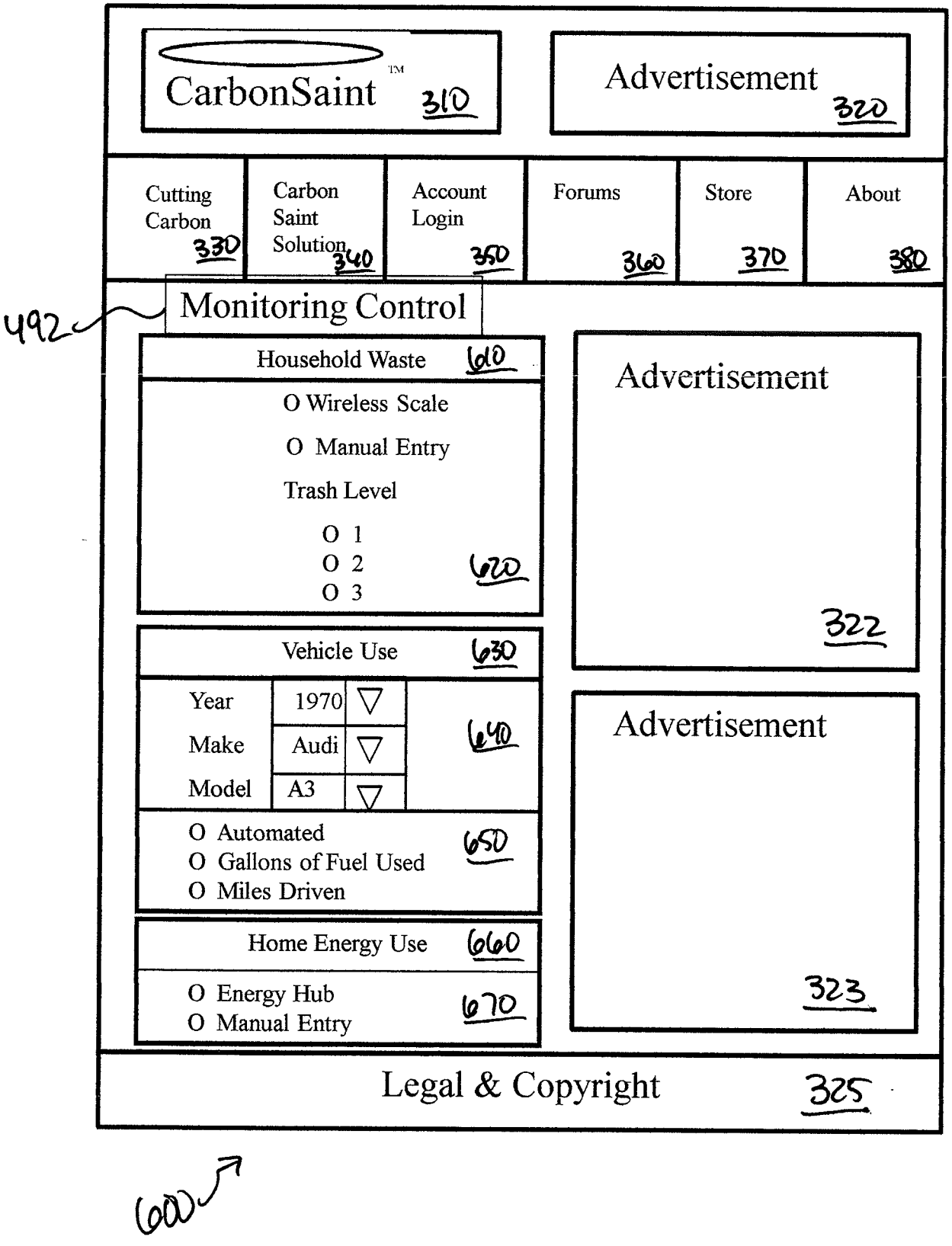

CarbonSaint™ 310
Advertisement 320
Cutting Carbon 330
Carbon Saint Solution 340
Account Login 350
Forums 360
Store 370
About 380
Account Setup 490
Account Information 590
Screen Name 599
Location 591
Household Statistics 592
Password 593
Payment Services 594
Device Registration 595
Household Waste Scale 596
Energy Hub 597
Vehicle 596
Advertisement 322
Advertisement 323
Legal & Copyright 325
500

Figure 6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Advertisement 320
Cutting Carbon 330
Carbon Saint Solution 340
Account Login 350
Forums 360
Store 370
About 380
492
Monitoring Control
Household Waste 610
O Wireless Scale
O Manual Entry
Trash Level
O 1
O 2
O 3
620
Advertisement 322
Vehicle Use 630
Year 1970
Make Audi
Model A3
640
O Automated
O Gallons of Fuel Used
O Miles Driven
650
Home Energy Use 6660
O Energy Hub
O Manual Entry
670
Advertisement 323
Legal & Copyright 325
600

Figure 7

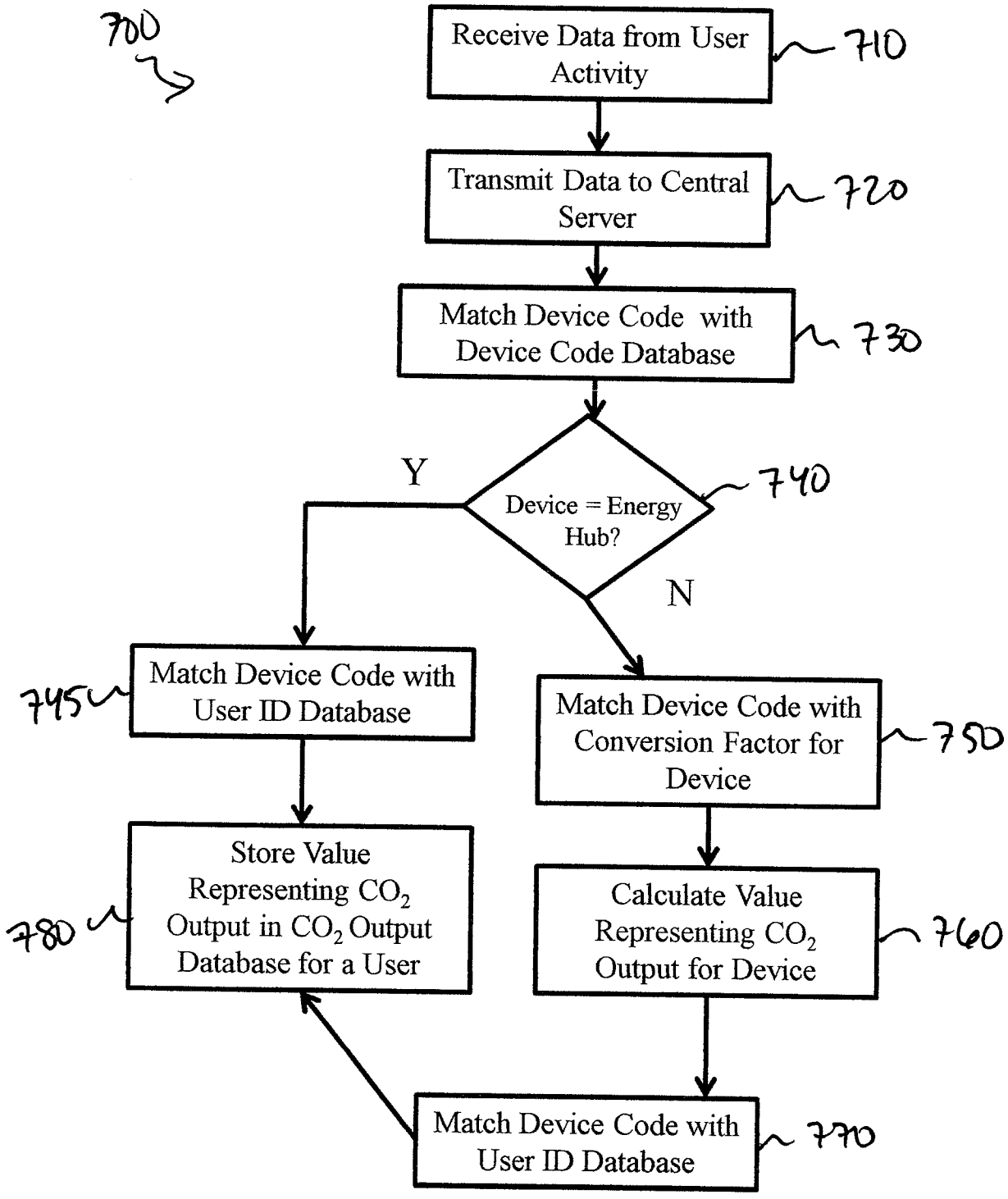

700
Receive Data from User Activity
710
Transmit Data to Central Server
720
Match Device Code with Device Code Database
730
Device = Energy Hub?
740
Y
N
Match Device Code with User ID Database
745
Match Device Code with Conversion Factor for Device
750
Store Value Representing CO_2 Output in CO_2 Output Database for a User
780
Calculate Value Representing CO_2 Output for Device
760
Match Device Code with User ID Database
770

Figure 8

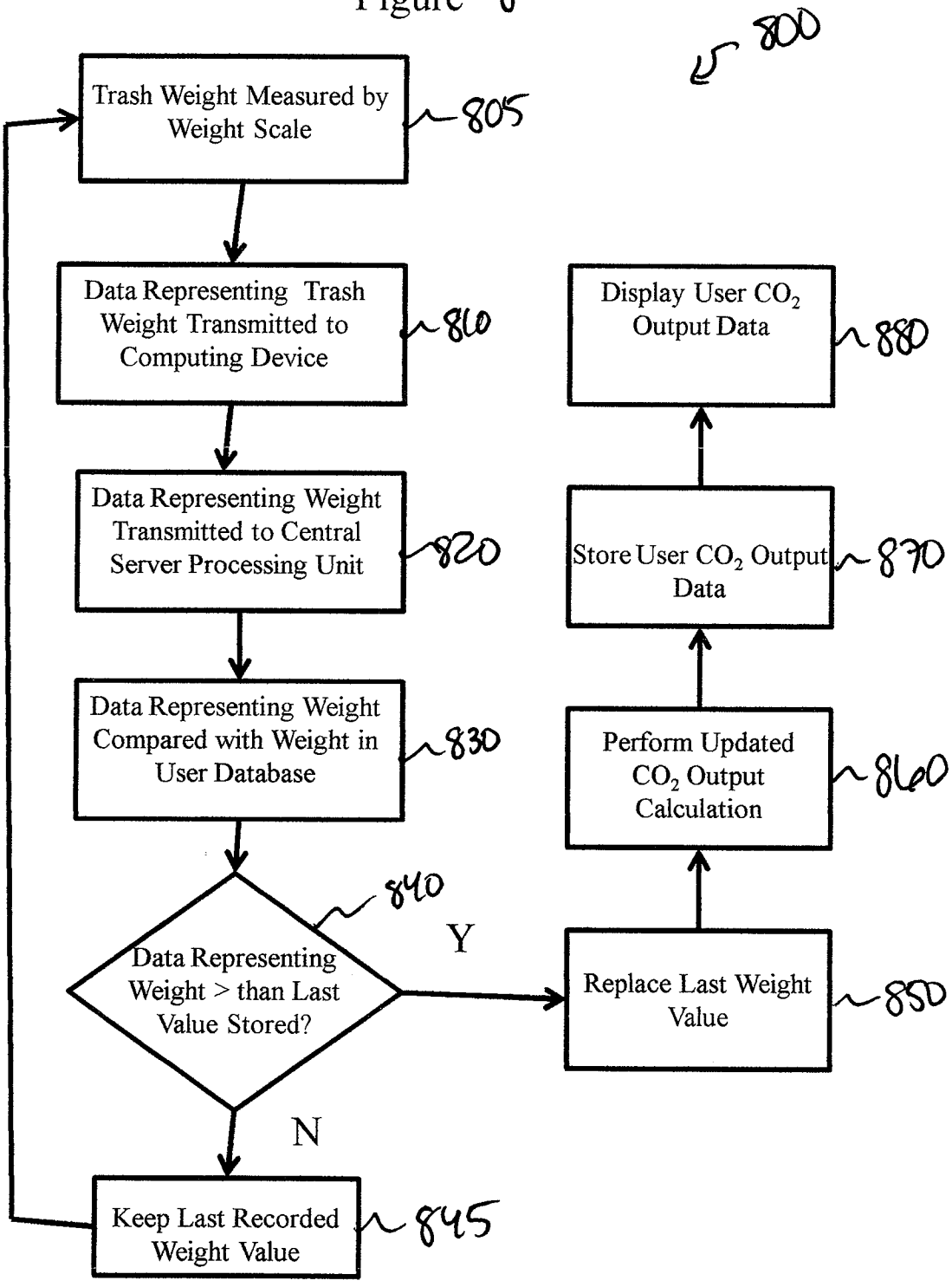

800
Trash Weight Measured by Weight Scale
805
Data Representing Trash Weight Transmitted to Computing Device
810
Data Representing Weight Transmitted to Central Server Processing Unit
820
Data Representing Weight Compared with Weight in User Database
830
Data Representing Weight > than Last Value Stored?
840
Y
N
Keep Last Recorded Weight Value
845
Replace Last Weight Value
850
Perform Updated CO_2 Output Calculation
860
Store User CO_2 Output Data
870
Display User CO_2 Output Data
880

Figure 9

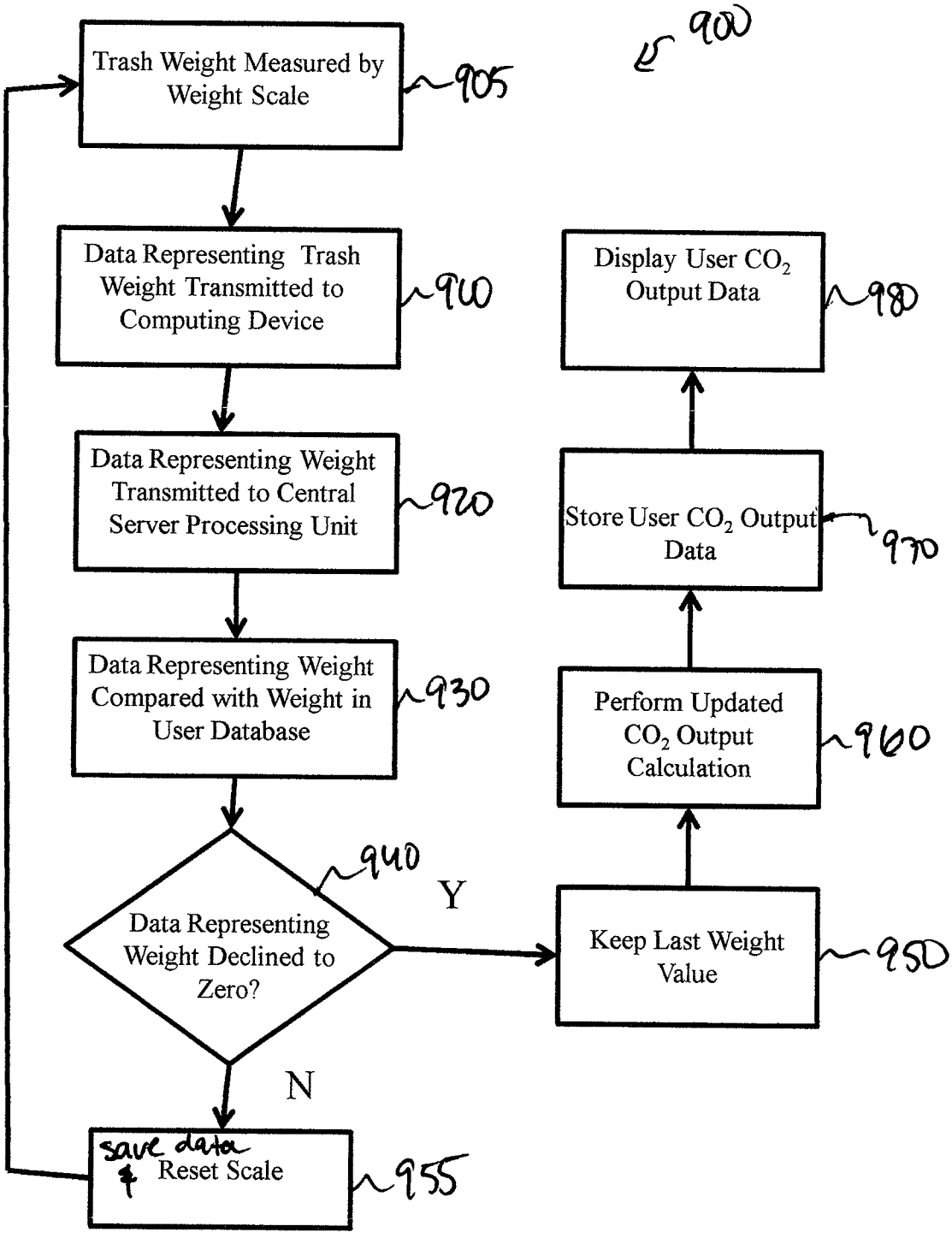

900
Trash Weight Measured by Weight Scale
905
Data Representing Trash Weight Transmitted to Computing Device
910
Data Representing Weight Transmitted to Central Server Processing Unit
920
Data Representing Weight Compared with Weight in User Database
930
Data Representing Weight Declined to Zero?
940
Y
N
save data & Reset Scale
955
Keep Last Weight Value
950
Perform Updated CO_2 Output Calculation
960
Store User CO_2 Output Data
970
Display User CO_2 Output Data
980

Figure 10

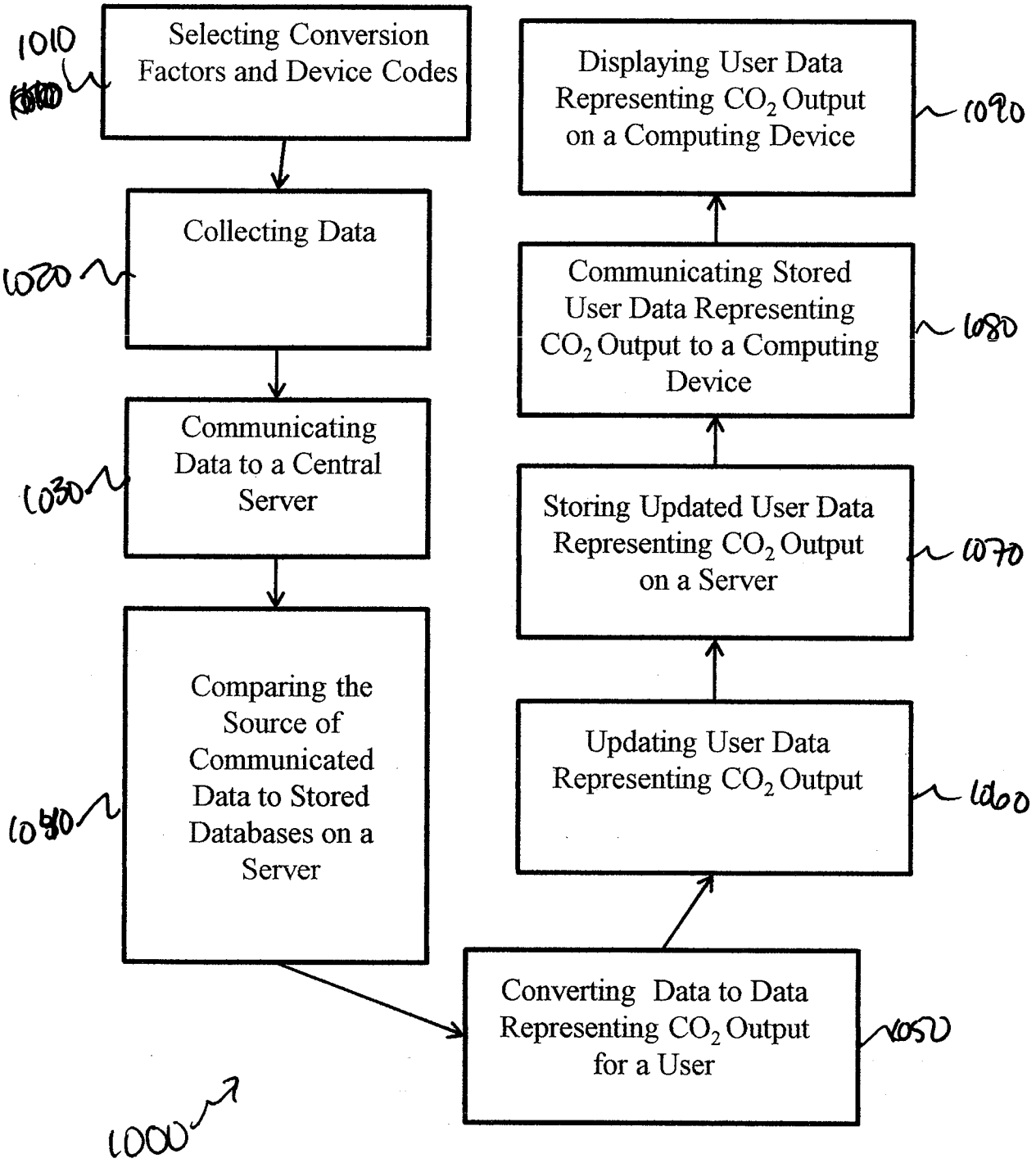

1010
Selecting Conversion Factors and Device Codes
1020
Collecting Data
1030
Communicating Data to a Central Server
1040
Comparing the Source of Communicated Data to Stored Databases on a Server
1050
Converting Data to Data Representing CO_2 Output for a User
1060
Updating User Data Representing CO_2 Output
1070
Storing Updated User Data Representing CO_2 Output on a Server
1080
Communicating Stored User Data Representing CO_2 Output to a Computing Device
1090
Displaying User Data Representing CO_2 Output on a Computing Device
1000

Figure 11

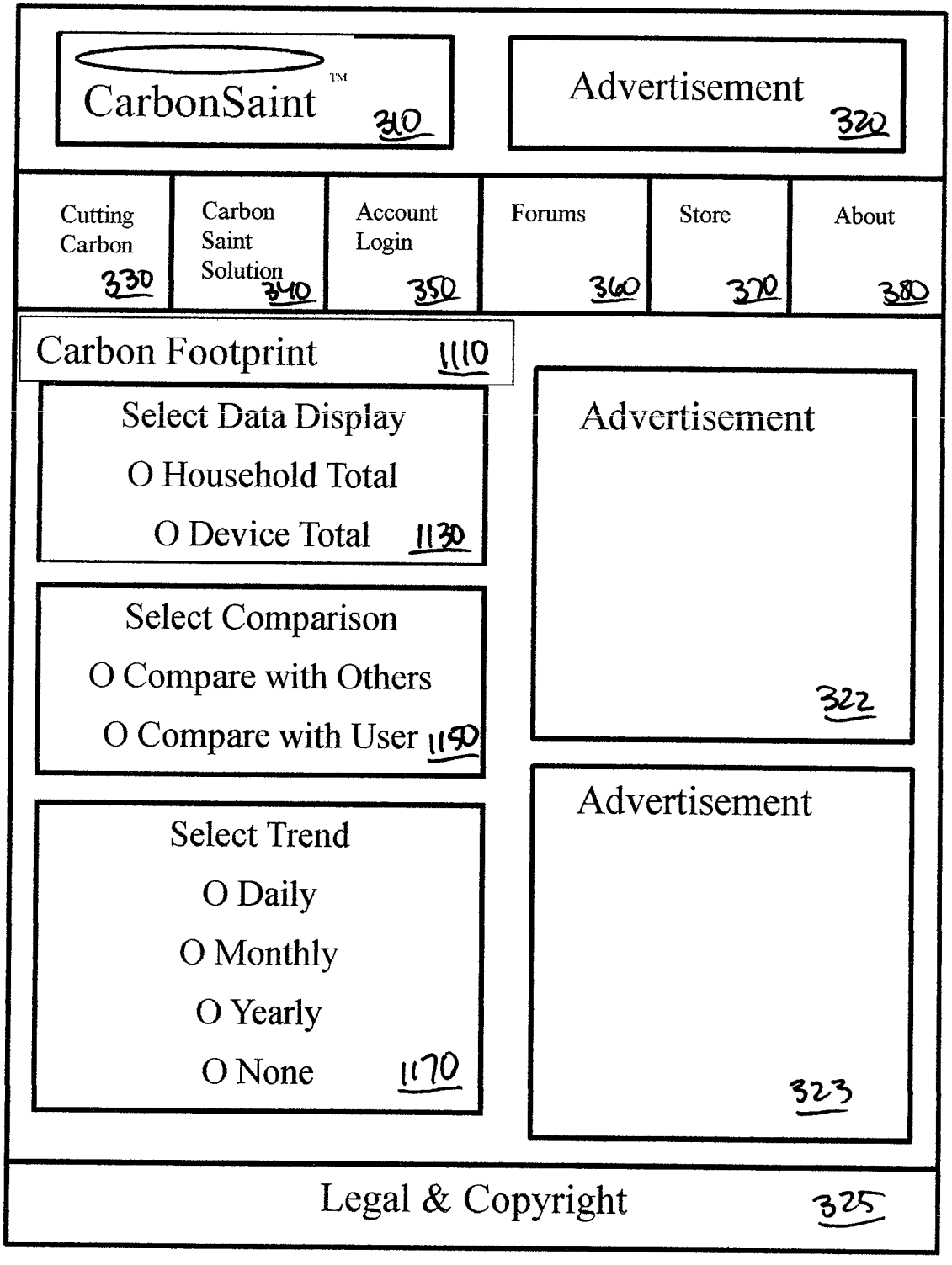
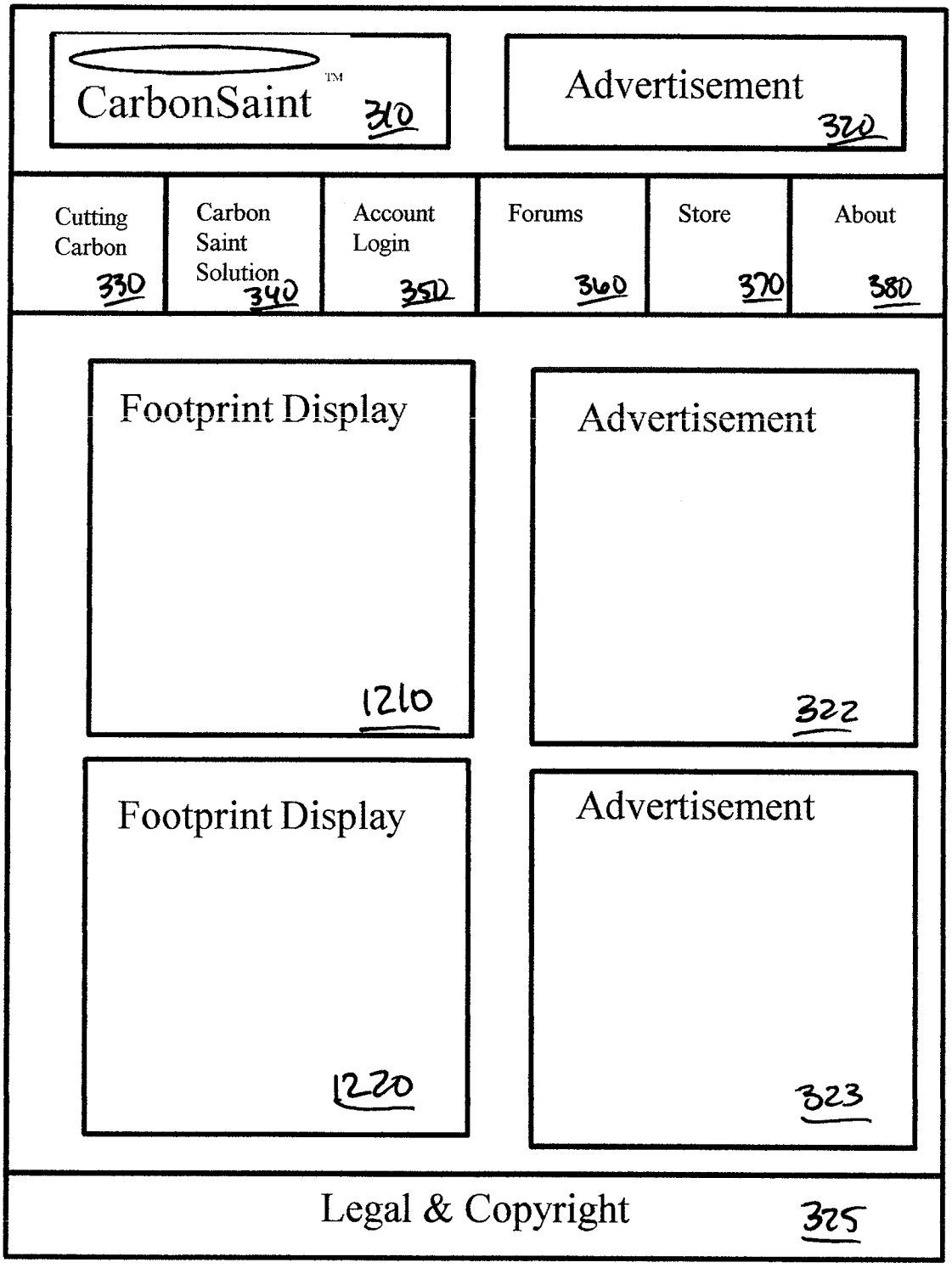

CarbonSaint™
310
Advertisement
320
Cutting Carbon
330
Carbon Saint Solution
340
Account Login
350
Forums
360
Store
370
About
380
Carbon Footprint
1110
Select Data Display
O Household Total
O Device Total
1130
Advertisement
322
Select Comparison
O Compare with Others
O Compare with User
1150
Select Trend
O Daily
O Monthly
O Yearly
O None
1170
Advertisement
323
Legal & Copyright
325
1100

Figure 12



1200

Figure 13

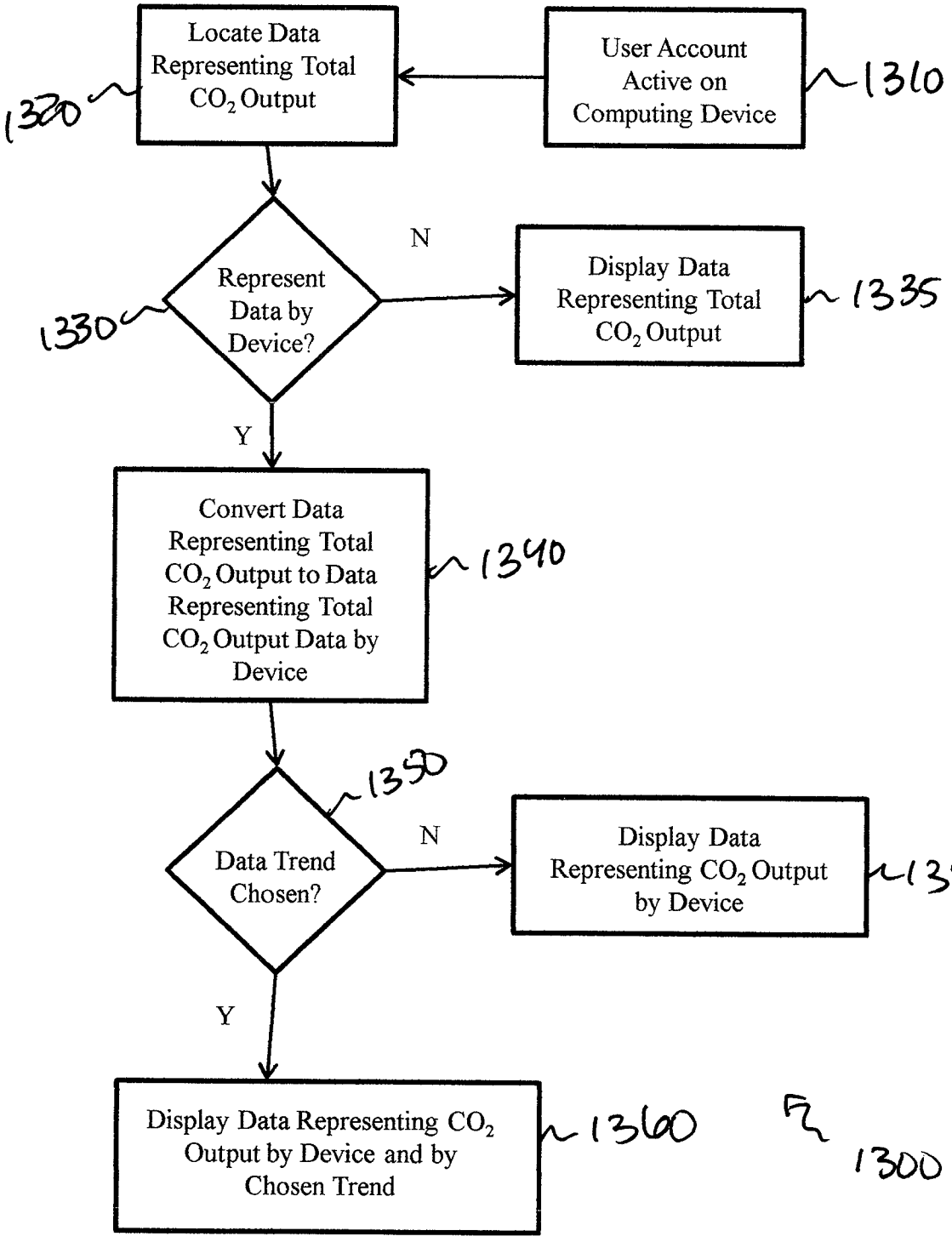
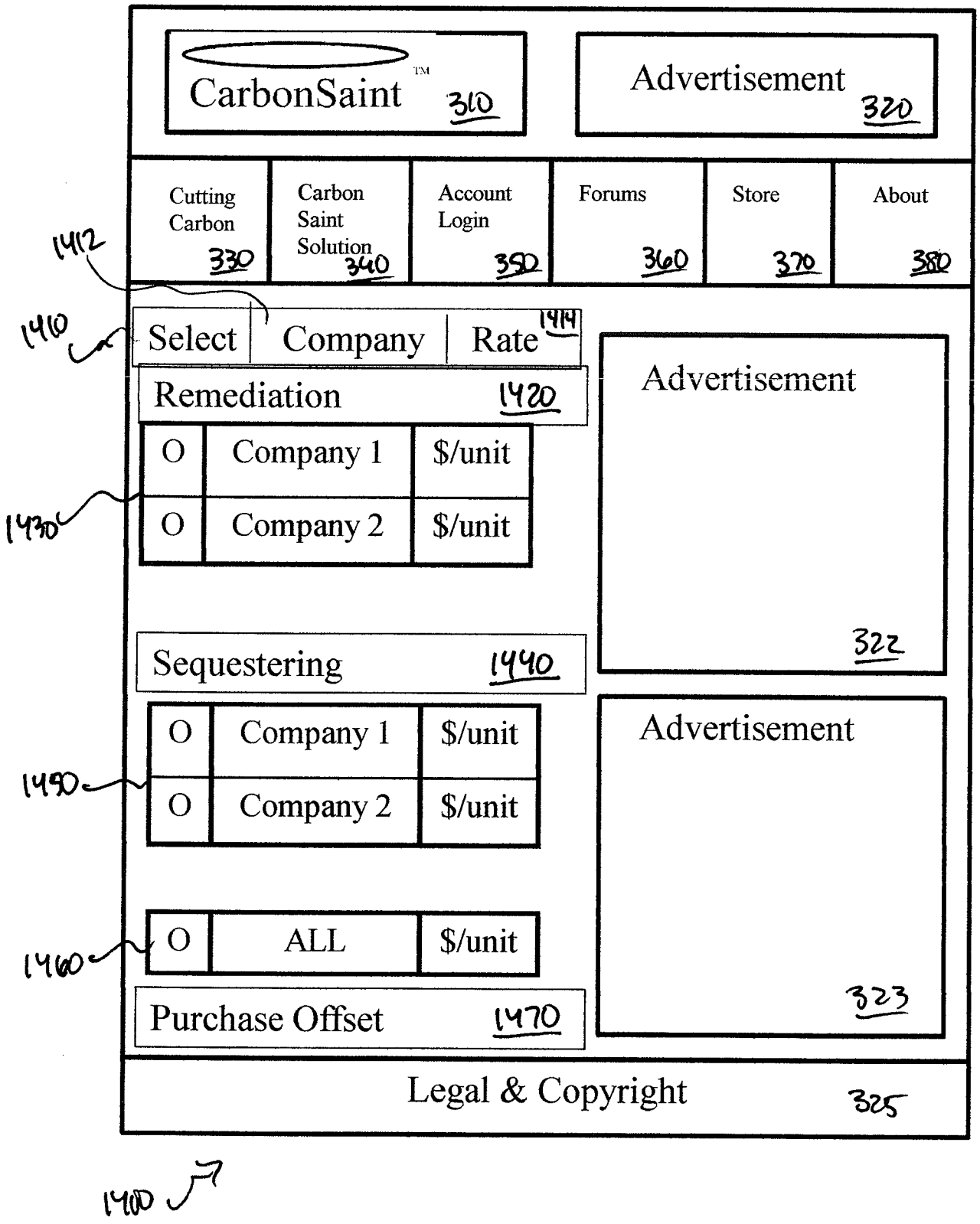


Fig 1300

Figure 14


CarbonSaint™ 310
Advertisement 320
Cutting Carbon 330
Carbon Saint Solution 340
Account Login 350
Forums 360
Store 370
About 380
1412
1410
Select
Company
Rate
1414
Remediation 1420
O
Company 1
$/unit
O
Company 2
$/unit
1430
Advertisement 322
Sequestering 1440
O
Company 1
$/unit
O
Company 2
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Advertisement 323
O
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$/unit
1460
Purchase Offset 1470
Legal & Copyright 325
1400

Figure 15

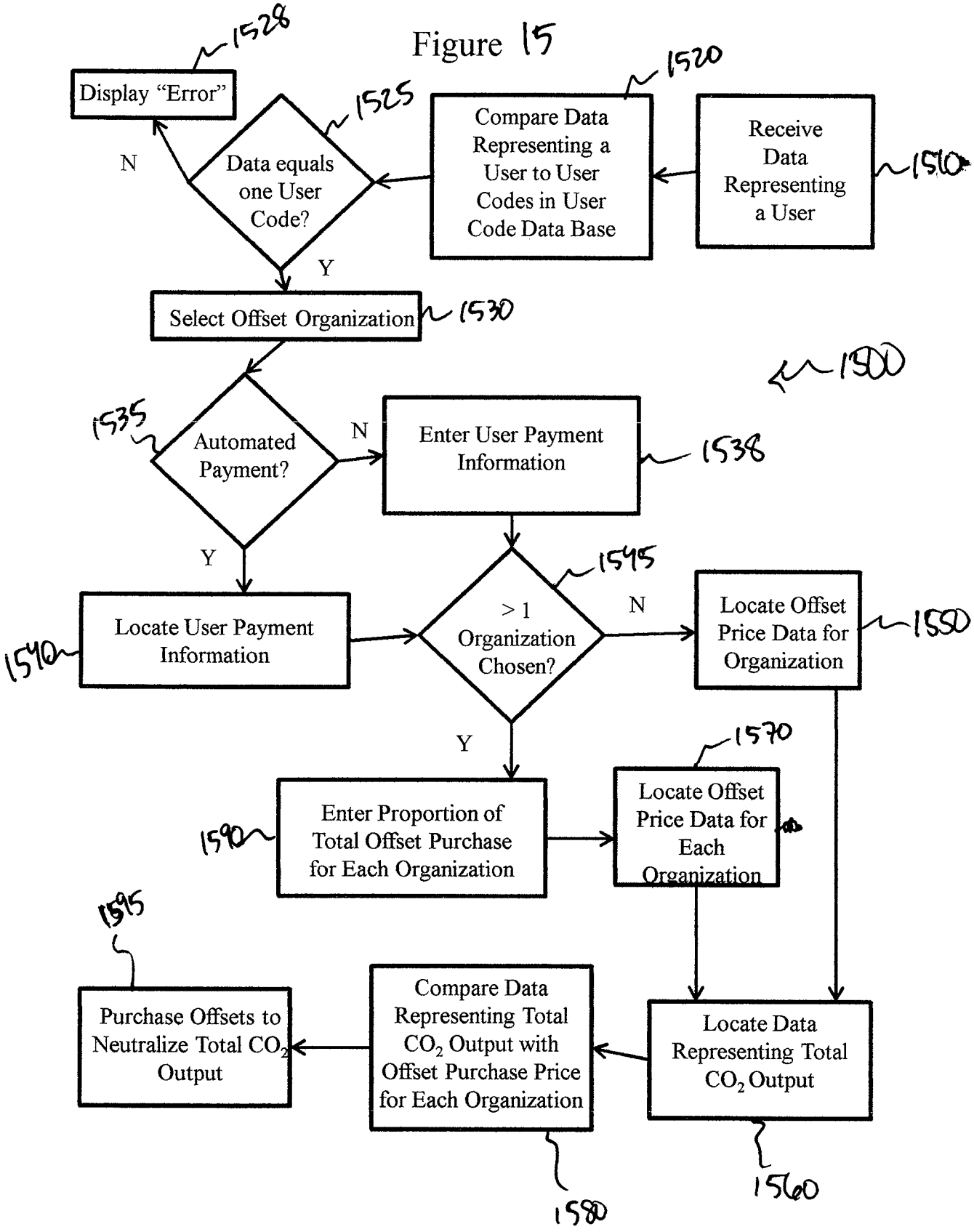

1528
Display "Error"
1525
Data equals one User Code?
N
Y
1520
Compare Data Representing a User to User Codes in User Code Data Base
Receive Data Representing a User
1510
Select Offset Organization
1530
1900
1535
Automated Payment?
N
Enter User Payment Information
1538
Y
1545
> 1 Organization Chosen?
N
Locate Offset Price Data for Organization
1550
1540
Locate User Payment Information
Y
1570
Locate Offset Price Data for Each Organization
1590
Enter Proportion of Total Offset Purchase for Each Organization
1595
Purchase Offsets to Neutralize Total CO_2 Output
Compare Data Representing Total CO_2 Output with Offset Purchase Price for Each Organization
Locate Data Representing Total CO_2 Output
1580
1560

Figure 16

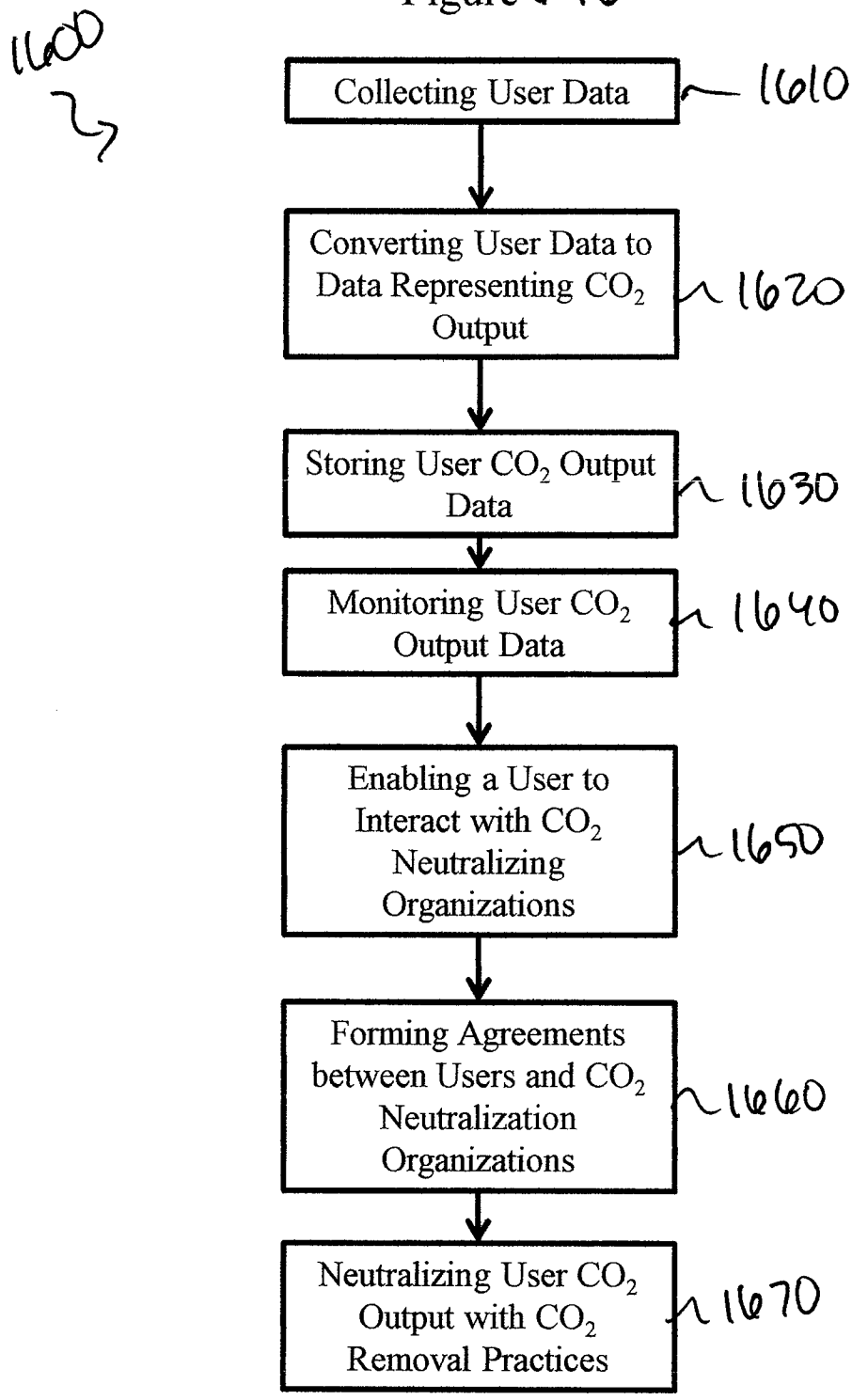

1600
Collecting User Data
1610
Converting User Data to Data Representing CO_2 Output
1620
Storing User CO_2 Output Data
1630
Monitoring User CO_2 Output Data
1640
Enabling a User to Interact with CO_2 Neutralizing Organizations
1650
Forming Agreements between Users and CO_2 Neutralization Organizations
1660
Neutralizing User CO_2 Output with CO_2 Removal Practices
1670

Figure 17

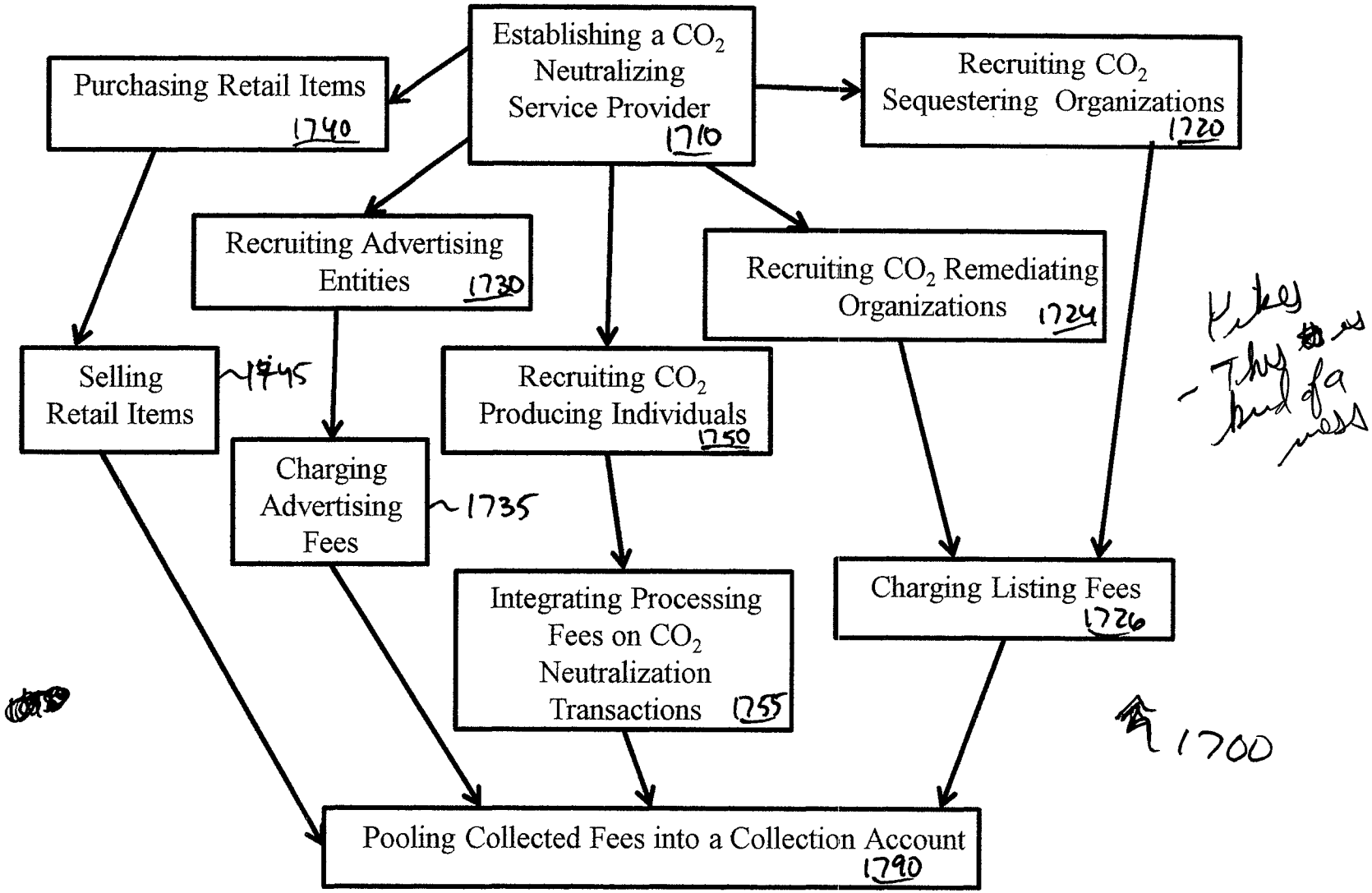
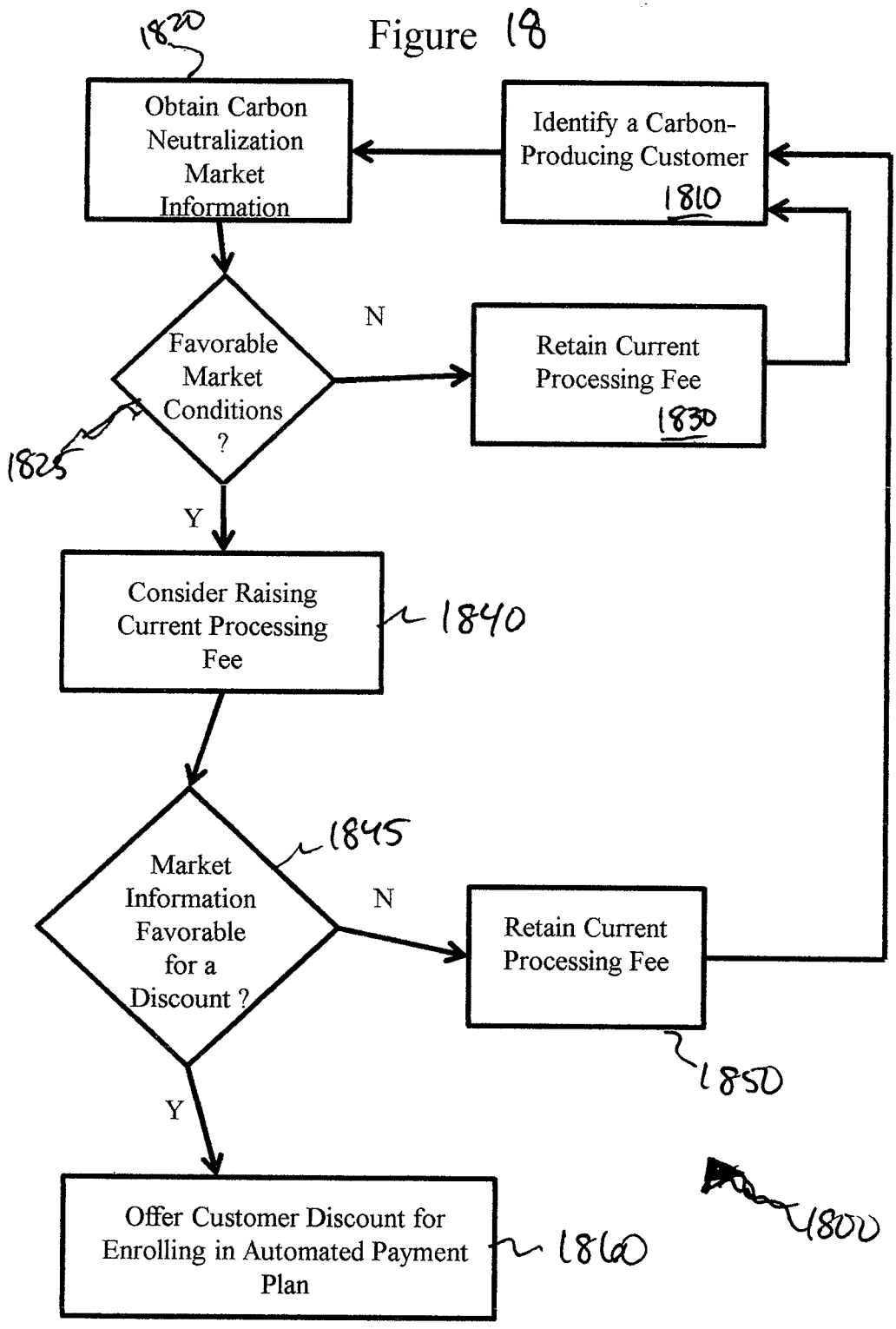

Establishing a CO_2 Neutralizing Service Provider 1710
Purchasing Retail Items 1740
Recruiting CO_2 Sequestering Organizations 1720
Recruiting Advertising Entities 1730
Recruiting CO_2 Remediating Organizations 1724
Selling Retail Items 1745
Recruiting CO_2 Producing Individuals 1750
Charging Advertising Fees 1735
Integrating Processing Fees on CO_2 Neutralization Transactions 1755
Charging Listing Fees 1726
Pooling Collected Fees into a Collection Account 1790
1700

Figure 18


1820
Obtain Carbon Neutralization Market Information
Identify a Carbon-Producing Customer
1810
Favorable Market Conditions ?
1825
N
Retain Current Processing Fee
1830
Y
Consider Raising Current Processing Fee
1840
Market Information Favorable for a Discount ?
1845
N
Retain Current Processing Fee
1850
Y
Offer Customer Discount for Enrolling in Automated Payment Plan
1860
1800