

## **[DESCRIPTION]**

### **[INVENTION TITLE]**

SEVEN-YEAR-PERIOD-BASED SKIN MANAGEMENT COUNSELING  
SYSTEM

### 5 **[Technical Field]**

The present disclosure relates to a skin management counseling system and, more particularly, to a skin management counseling system for providing a customized skin management solution including life management and skin management information according to skin trouble of a user, and a method for proposing a skin management solution based on a preset skin trouble inflection cycle by using the skin management counseling system.

### **[Background Art]**

15 The skin condition of people varies depending on various environmental factors such as age, seasonal factors, etc., and since the skin condition can change according to the situation even for the same person, the skin condition in a specific situation should be recognized for skin management, and skin should be properly managed according to the recognized skin condition.

20 However, in the case of conventional skin counseling services, there is a disadvantage in that the skin condition of the user is measured through measuring devices, which is cumbersome and expensive, and even with

consultation with a professional counselor, there was a problem that only a limited counseling service was available, such as getting instructed for skin makeup methods based only on the skin condition at that time.

5        In addition, it is common to provide skin aging information according to general ages such as teens, 20s, 30s, etc., in spite of there being various factors which can affect skin conditions such as mental stress, body health status, lifestyle, climate, environment, etc., and a  
10      method for proposing the same to a skin management method has been limited.

**[Prior Art Citation]**

**[Patent Document]**

(Patent Document 1) Korean Unexamined Patent  
15      Publication No. 10-2004-0024118

(Patent Document 2) Korean Unexamined Patent  
Publication No. 10-2011-0082227

**[DETAILED DESCRIPTION OF THE INVENTION]**

**[Technical Problem]**

20        An object of the present disclosure is directed to provide a skin management counseling system capable of providing a complex customized skin management solution by classifying and analyzing a skin condition of a user for each of the main skin trouble items of nutrition,  
25      complexion, and wrinkles.

Another object of the present disclosure is directed to provide a skin management counseling system capable of providing a customized skin management solution considering various factors which can affect skin condition such as mental stress, body health status, lifestyle, climate, and environment by reflecting both the skin condition analysis result data and lifestyle analysis result data of a user.

Another object of the present disclosure is directed to provide a skin management counseling system capable of providing a more accurate customized skin management solution for a skin condition of a user by setting an inflection cycle (for example, seven-year periods) on the basis of an inflection point in which a skin condition is rapidly changed, generating solution data by referring to skin trouble for each age range belonging to the inflection cycle, and matching the same with the skin condition analysis result data of a user.

Yet another object of the present disclosure is directed to provide a method for proposing a skin management solution based on a preset skin trouble inflection cycle by using a skin management counseling system according to the present disclosure.

#### **[Technical Solution]**

A skin management counseling system according to a feature of the present disclosure for achieving the above-

mentioned object is a skin management counseling system including a database, a skin management server, an information input terminal and a user terminal,

wherein the system includes,

5        a database for storing personal information data, which is received from the skin management server and includes skin condition data and lifestyle data of the user, and solution data;

10       a skin management server including, a data trans-receiving unit communicatively connected to the database, information input terminal and user terminal and is capable of trans-receiving data, a skin condition analyzing unit which classifies skin condition data of the user received from the data trans-receiving unit according to skin  
15       trouble items to generate skin condition analysis result data of the user, a lifestyle analyzing unit which generates lifestyle analysis result data according to lifestyle data of the user received from the data trans-receiving unit, and a solution generating unit which  
20       generates a customized skin management solution for each user by using the solution data according to the skin condition analysis result data and the lifestyle analysis result data;

25       an information input terminal communicatively connected to the skin management server and which receives

input of personal information data of a user; and

a user terminal which is communicatively connected to the skin management server and is capable of outputting a customized skin management solution generated in the solution generating unit.

### **[Advantageous Effects]**

The skin management counseling system according to one embodiment of the present disclosure matches the skin condition analysis result data of a user collected through a series of survey items prepared in advance with pre-measured solution data, to derive the degree of trouble for three main trouble items of nutrition, complexion and wrinkles and can provide a customized skin management solution according thereto.

According to another embodiment of the present disclosure, it is possible to provide a customized skin management solution considering various factors which can affect the skin condition such as mental stress, body health status, lifestyle, climate, and environment by reflecting both the skin condition analysis result data and the lifestyle analysis result of a user.

According to another embodiment of the present disclosure, it is possible to provide a more accurate customized skin management solution for a skin condition of a user by setting an inflection cycle (preferably a seven-

year period) on the basis of an inflection point in which the skin condition is rapidly changed, generating solution data with reference to the degree of skin trouble for each age range (frequency of occurrence of trouble, the duration of trouble, trouble distribution, etc. of the same age range) belonging to a corresponding inflection cycle, and matching the same with skin condition analysis result data of the user.

#### **[BRIEF DESCRIPTION OF THE DRAWINGS]**

FIG. 1 is a schematic diagram of a skin management counseling system according to an embodiment of the present disclosure.

FIG. 2 is a schematic diagram of a skin management server and database constituting a skin management counseling system according to an embodiment of the present disclosure.

FIG. 3 is a diagram illustrating condition classification criteria for each of the skin trouble items according to an embodiment of the present disclosure.

FIG. 4 is a view illustrating pre-measured solution data according to an embodiment of the present disclosure.

FIG. 5 is a view illustrating customized skin management solution items derived according to the condition for each skin trouble item according to an embodiment of the present disclosure.

## **[DETAILED DESCRIPTION OF THE EMBODIMENTS]**

According to the present disclosure, a user, as one who receives skin management counseling, refers to one receiving a customized skin management solution provided in  
5 a skin management counseling system according to an embodiment of the present disclosure.

Hereinafter, a skin management counseling system according to the present disclosure and a method for proposing a skin management solution based on a preset skin  
10 trouble inflection cycle using a skin management counseling system according to the present disclosure is described in detail with reference to the accompanying drawings.

The terms or words used in the specification and claims set forth below should not be construed as being  
15 limited to the ordinary or dictionary meaning, and based on the principle that inventors can suitably define concepts of terms in order to describe their inventions in the best mode, should be construed in a meaning and concept consistent with the teachings of the present disclosure.  
20 Therefore, it is to be understood that the embodiments described herein and the configurations shown in the figures are only one preferred embodiment of the present disclosure, and that there may be various equivalents and modifications that may be substituted for those in the  
25 present application, since they all do not represent all of

the technical ideas of the present disclosure.

FIG. 1 is a schematic diagram of a skin management counseling system according to an embodiment of the present disclosure. As shown in FIG. 1, the skin management counseling system according to the present disclosure may be configured to include an information input terminal 100, a user terminal 200, a skin management server 300, and a database 400.

The information input terminal 100 receives personal information data of a user and is communicatively connected to the skin management server 300. That is, the information input terminal 100 can receive input of personal information data from a user and transmit the received personal information data to the skin management server 300.

At this time, the personal information data includes data related to the skin trouble of the user, that is, the skin condition data of the user, and the skin condition data of the user can be collected through a pre-prepared series of survey items.

An example of the survey content is shown in Table 1 below. However, the present disclosure is not limited thereto.

[Table 1]

| Category | Survey | Check |
|----------|--------|-------|
|----------|--------|-------|

|            |                                                                                                                   |  |
|------------|-------------------------------------------------------------------------------------------------------------------|--|
| Nutrition  | Select one of the following three which is of greatest concern.                                                   |  |
|            | 1. Skin is dry but surface is visibly shiny                                                                       |  |
|            | 2. Want to revive due to lack of nutrition                                                                        |  |
|            | 3. Can feel intense dryness in skin and lack of nutrition, elasticity decrease, and sagging skin at the same time |  |
| Complexion | Select one of the following five which is of greatest concern                                                     |  |
|            | 1. Skin tone seems to have gotten yellow and dull                                                                 |  |
|            | 2. Skin tone is not clear and easily exfoliates depending on condition                                            |  |
|            | 3. Skin tone gets visibly dull and red                                                                            |  |
|            | 4. Have been noticing one or two pigmentation and blemishes appearing recently                                    |  |
|            | 5. Concerned with pigmentation, blemishes and complexion as a whole and needs intensive improvement               |  |
| Wrinkles   | Select one of the following five which is of greatest concern.                                                    |  |

|  |                                                                                                        |  |
|--|--------------------------------------------------------------------------------------------------------|--|
|  | 1. No visible wrinkles yet but want to manage in advance for healthy skin                              |  |
|  | 2. Skin is thin and is the type where fine wrinkles form easily                                        |  |
|  | 3. Visible wrinkles have started to appear around eyes and cheeks recently                             |  |
|  | 4. Overall concerns for laugh lines around eyes and sagging of eyelids increased                       |  |
|  | 5. Needs overall intensive improvement as wrinkles around eyes and cheeks have become deeper and wider |  |

The user terminal 200 can output the customized skin management solution generated by the solution generating unit 370 and is communicatively connected to the skin management server 300. That is, the user terminal 200 receives the customized skin management solution from the skin management server 300 and can output the customized skin management solution to display the customized skin management solution to the user.

The information input terminal 100 and the user terminal 200 may be the same terminal, and in this case, the input of personal information data of a user and output of customized skin management solution can be achieved via

one terminal.

Such information input terminal 100 and user terminal 200 include one or more computing devices capable of receiving input from a user and trans-receiving data over a communication network. For example, they may be conventional computer systems that execute the Microsoft Windows compatible operating system (OS), Apple OS X and/or Linux distribution version and may be devices having computer functionality such as smartphones, tablets, portable digital assistants (PDAs), cellular phones.

The skin management server 300 is communicable with the information input terminal 100, the user terminal 200, and the database 400, receives user personal information data received from the information input terminal 100 to transmit to the database 400, and generates a customized skin management solution for each user using the user personal information data and the solution data. A skin management solution may be proposed by using the customized skin management solution for each user.

The specific configuration of the skin management server 300 will be described in detail with reference to FIG. 2.

The database 400 is communicatively connected to the skin management server 300 and may store data received from the skin management server 300. More specifically, the skin

condition of a user may be stored in personal information data including skin condition data and lifestyle data classified by skin trouble items.

According to an embodiment of the present disclosure,  
5 the solution data is pre-stored in the database 400.

Specific storage data of the database 400 will be described in detail with reference to FIGS. 3 and 4. Further, the database 400 may be installed in the skin management server 300 and one computing device.

10 According to one embodiment of the present disclosure, the skin management counseling system may further include a web server (not shown) that is communicatively connected to the skin management server 300, the information input terminal 100, and the user terminal 200. In this case, the  
15 web server is connected to the Internet network, and the information input terminal 100 can transmit the personal information data of the user to the web server through the Internet network, and the web server can receive the data and transmit it to the skin management server 300. The skin  
20 management server 300 also transmits the customized skin management solution to the web server and the web server receives the customized skin management solution and can transmit it to the user terminal 200 through the Internet network. Further, the web server may be installed in the  
25 skin management server 300 and one computing device.

That is, the user can input user personal information data, that is, skin condition data and lifestyle data of a user through a pre-prepared series of questions, through the user terminal 200 and the information input terminal 100, and can output to receive and see the customized skin management solution generated by the skin management server 300.

FIG. 2 is a schematic view of a skin management server 300 and a database 400 constituting a skin management counseling system according to an embodiment of the present disclosure, FIG. 3 is a view illustrating a condition classification criterion for each skin trouble item according to an embodiment of the present disclosure, FIG. 4 is a view illustrating an example of a pre-measured solution data, and FIG. 5 is a view illustrating a customized skin management solution item derived according to a condition for each skin trouble item according to an embodiment of the present disclosure.

As shown in FIG. 2, the skin management server 300 of the skin management counseling system according to an embodiment of the present disclosure is configured to include a data trans-receiving unit 310, a skin condition analyzing unit 330, a lifestyle analyzing unit 350, and a solution generating unit 370.

The database 400 receives data from the data trans-

receiving unit 310 and stores the data in the respective DB. The database 400 according to an embodiment of the present disclosure includes a personal information DB and a solution DB, wherein the personal information DB includes a profile DB (not shown) in which basic information data such as the name, gender, age, etc. of a user is stored, a skin condition DB in which data relating to nutrition, complexion, and wrinkle condition of the user's skin is stored, and a lifestyle DB in which skin affecting element data relating to mental stress, body health status, lifestyle, etc. of the user is stored. The solution DB stores various solution data related to dietary, cosmetics, exercise, massage, life habits, and the like for each detailed item of skin trouble.

The data trans-receiving unit 310 is communicatively connected to the database 400, the information input terminal 100, and the user terminal 200, and can trans-receive the skin condition data of the user, the lifestyle data of the user, and the solution data with the database 400, the information input terminal 100, and the user terminal 200. The skin condition data includes nutrition, complexion, and wrinkle condition data of the user's skin. In addition, as shown in FIG. 3, the skin trouble items may include detailed items consisting of nutrition, complexion, and wrinkles, and the nutrition item may include detailed

items consisting of oil, moisture, and elasticity, and the complexion items may include detailed items consisting of skin lightness, redness, and yellowness, and the wrinkle items may include detailed items consisting of number of wrinkles, depth of wrinkles, and area of wrinkles.

The skin condition analyzing unit 330 may classify the skin condition data of the user received by the data trans-receiving unit 310 according to the detailed items of nutrition, the complexion, and the wrinkles of the user's skin to generate the user's skin condition analysis result data. For example, the condition of the skin condition analysis result data may be generated by classifying the conditions into a total of five stages of a good condition, a slightly severe, severe, very severe, and a most severe for each detailed item of skin trouble.

The skin condition analysis result data of the user may be classified into five stages by pre-measured solution data.

The conditions of five stages may be measured using the skin condition analyzing unit 330. In one embodiment of the present disclosure, the skin condition analyzing unit 330 is used to divide 1,343 female subjects into six groups of 21-27 years old, 28-34 years old, 35-41 years old, 42-48 years old, 49-55 years old, and 56-65 years old, and then measure the skin index.

Examples of solution data are shown in FIG. 4, including: nutritional data of measured oil, moisture, elasticity; complexion data of skin lightness, redness, yellowness; wrinkle data of number of wrinkles, depth of wrinkles, area of wrinkles; and the like. The solution data may be stored in the solution DB and utilized as the pre-measured solution data, and the skin condition analysis result data of the user may be further stored in the DB and utilized as the pre-measured solution data.

Table 2 below is an example of classifying the pre-measured solution data into five stages of, good condition, slightly severe, severe, very severe, and most severe for each detailed item.

[Table 2]

| Category   |                | Good Condition | Slightly Severe | Severe        | Very Severe | Most Severe |
|------------|----------------|----------------|-----------------|---------------|-------------|-------------|
| Nutrition  | Oil            | 16.07≤         | —               | 16.07~10.84   | 10.84~3.63  | <3.63       |
|            | Moisture       | 44.94≤         | 42.43~44.94     | 42.43~39.79   | —           | <39.79      |
|            | Elasticity     | 0.3812≤        | —               | 0.3812~0.3406 | <0.3406     | —           |
| Complexion | Skin Lightness | 61.48≤         | —               | 61.48~59.65   | 59.65~58.83 | <58.83      |

|          |            |        |             |             |             |        |
|----------|------------|--------|-------------|-------------|-------------|--------|
|          | s          |        |             |             |             |        |
|          | Redness    | <12.36 | –           | 12.36~12.75 | –           | 12.75≤ |
|          | Yellowness | <15.65 | –           | 15.65~16.79 | –           | 16.79≤ |
| Wrinkles | Number of  | <27.31 | –           | 27.31~74.91 | 74.91~83.17 | 83.17≤ |
|          | Depth      | <32.63 | 32.63~36.37 | 36.37~38.07 | –           | 38.07≤ |
|          | Area       | <1.79  | 1.79~3.77   | 3.77~4.98   | 4.98~6.06   | 6.06≤  |

The lifestyle analyzing unit 350 generates the lifestyle analysis result data of the user according to the lifestyle data of the user received from the data trans-  
 5 receiving unit 310. The lifestyle data of the user may include skin affecting element data which consists of, a mind and body condition which includes mental stress, body health and the like, lifestyle which includes eating habits and such, and sensitivity to changes in climate and  
 10 environment.

That is, the lifestyle analyzing unit 350 may generate data of the lifestyle analysis result of the user according to the lifestyle data of the user including the skin affecting element data.

The solution generating unit 370 generates a customized skin management solution for each user by using the solution data according to the skin condition analysis result data and the lifestyle analysis result data. A skin management solution may be proposed by using the customized skin management solution for each user.

The solution data includes life management information and skin management information according to each detailed item for each of the main skin trouble items of nutrition, complexion, and wrinkles.

Further, as shown in FIG. 4, the solution data according to an embodiment of the present disclosure may be generated in consideration of skin trouble for each age range group according to a preset inflection cycle based on an inflection point in which a skin condition is rapidly changed, for example, skin trouble for each group of an age range according to a seven-year period, for example, the frequency of occurrence of trouble in a group of an age range corresponding to 21-27 years old, duration of trouble, trouble distribution, and such degree of trouble.

That is, the skin condition analysis result data of the user is matched with the solution data, so that a customized skin management solution may be generated such that other accompanying skin troubles or main skin condition deteriorating elements in an age range group (for

example, a predetermined age range group following a seven-year period) in which the skin condition analysis result data is included can be referred together to be handled. A skin management solution can be proposed by using the customized skin management solution for each user.

For example, when a survey item "recently, overall skin elasticity has begun to drop rapidly" is collected via the information input terminal 100, skin management information is provided in the solution data in the database 400 such that the age range group (for example, a preset age range group according to a seven-year range) in which skin elasticity (device measurement and/or survey result) rapidly decreases is found so that other skin troubles or main deteriorating elements accompanying the corresponding age range group can be referred together and can be handled in advance.

The life management information and the skin management information include management information for each solution item, wherein the solution item may consist of oil-water balancing, wrinkle prevention, skin yellowness care, elasticity care, fine wrinkle care, skin blackness and redness care, oil-moisture and elasticity care, wrinkle improvement, and total skin brightening care, as shown in FIG. 5.

The solution generating unit 370 matches the skin

condition analysis result data of the user with the solution data to generate a customized skin management solution for each skin trouble item of nutrition, complexion, and wrinkles. A skin management solution may be proposed by using the generated customized skin management solution for each user.

In addition, according to an embodiment of the present disclosure, the solution generating unit 370 may generate a customized skin management solution for each user including one or more items among dietary, cosmetics, exercise, massage, and life habit items. A skin management solution may be proposed by using the generated customized skin management solution for each user.

On the other hand, the embodiments of the present disclosure disclosed in the specification and drawings are only illustrative of specific examples and are not intended to limit the scope of the disclosure. In addition to the embodiments disclosed herein, it is obvious to those skilled in the art that in addition to the embodiments disclosed herein, other modifications based on the technical spirit of the invention can be implemented.

#### **[Description of Reference Numerals]**

100 information input terminal

200 User Terminal

- 300 skin management server
- 310 data trans-receiving unit
- 330 skin condition analyzing unit
- 350 lifestyle analyzing unit
- 5 370 solution generating unit
- 400 database

10 |

## **[CLAIMS]**

[Claim 1]

5 A skin management counseling system comprising a database, a skin management server, an information input terminal and a user terminal,

wherein the skin management counseling system based on a preset skin trouble inflection cycle is characterized in that the system comprises,

10 a database for storing personal information data, which is received from the skin management server and includes skin condition data and lifestyle data of the user, and solution data;

15 a skin management server including, a data trans-receiving unit communicatively connected to the database, information input terminal and user terminal and is capable of trans-receiving data, a skin condition analyzing unit which classifies skin condition data of the user received from the data trans-receiving unit according to skin  
20 trouble items to generate skin condition analysis result data of the user, a lifestyle analyzing unit which generates lifestyle analysis result data according to lifestyle data of the user received from the data trans-receiving unit, and a solution generating unit which  
25 generates a customized skin management solution for each

user by using the solution data according to the skin condition analysis result data and the lifestyle analysis result data;

an information input terminal communicatively  
5 connected to the skin management server and which receives input of personal information data of a user; and

a user terminal which is communicatively connected to the skin management server and is capable of outputting a customized skin management solution generated in the  
10 solution generating unit.

[Claim 2]

The system of claim 1,

wherein the personal information data of the database comprises the skin condition data of the user classified  
15 according to each of the skin trouble items of the user.

[Claim 3]

The system of claim 1,

wherein the skin condition data includes nutrition, complexion, and wrinkle condition data of the user's skin.

20 [Claim 4]

The system of claim 3,

wherein the skin trouble items consist of nutrition, complexion, and wrinkles, and the nutrition item comprises detailed items consisting of oil, moisture, and elasticity,  
25 and the complexion item comprises detailed items consisting

of skin lightness, redness, and yellowness, and the wrinkle item comprises detailed items consisting of number of wrinkles, depth of wrinkles, and area of wrinkles.

[Claim 5]

5           The system of claim 4,  
          wherein the skin condition analyzing unit classifies the skin condition data of the user according to detailed items of each of main trouble items of the nutrition, complexion, and wrinkles to generate skin condition  
10 analysis result data of the user.

[Claim 6]

          The system of claim 1,  
          wherein the lifestyle data comprises skin affecting element data consisting of a mind and body condition,  
15 lifestyle, and sensitivity to changes in climate and environment.

[Claim 7]

          The system of claim 6,  
          wherein the lifestyle analyzing unit generates  
20 lifestyle analysis result data of the user according to lifestyle data of the user comprising the skin affecting element data.

[Claim 8]

          The system of claim 1,  
25           wherein the solution data comprises life management

information and skin management information according to detailed items of each of main trouble items of nutrition, complexion, and wrinkles,

wherein the nutrition item consists of oil, moisture,  
5 and elasticity, the complexion item consists of skin lightness, redness, and yellowness, and the wrinkles item consists of a number of wrinkles, depth of wrinkles, and area of wrinkles.

[Claim 9]

10 The system of claim 8,

wherein the solution data is generated in consideration of skin trouble of each age range according to a preset inflection cycle based on an inflection point in which skin condition changes rapidly.

15 [Claim 10]

The system of claim 9,

wherein the inflection cycle is set on a basis of seven years.

[Claim 11]

20 The system of claim 8,

wherein the life management information and skin management information comprise management information for each solution item, wherein the solution item consists of oil-moisture balancing, wrinkle prevention, skin yellowness  
25 care, elasticity care, fine wrinkle care, skin blackness

and redness care, oil-moisture and elasticity care, wrinkle improvement, and total skin lightening care.

[Claim 12]

The system of claim 1,

5        wherein the solution generating unit generates a customized skin management solution for each user including any one or more items among dietary, cosmetics, exercise, massage, and life habit items.

[Claim 13]

10        The system of claim 1,

         further comprising a web server communicatively connected to the skin management server, the information input terminal, and the user terminal.

[Claim 14]

15        The system of claim 13, wherein the web server,

         receives the personal information data from the information input terminal, and transmits the received personal information data to the data trans-receiving unit of the skin management server, and

20        receives the customized skin management solution from the data trans-receiving unit of the skin management server and transmits the received custom skin management solution to the user terminal.

[Claim 15]

25        The system of claim 1,

wherein the information input terminal and the user terminal are the same terminal.

[Claim 16]

5 A method for proposing a skin management solution based on a preset skin trouble inflection cycle using the skin management counseling system described in any one of claims 1 to 15.