Summary ~~of Invention~~

Technical Problem

[0004]

However, to enable a computer system to present recommended cosmetics, it is important to find a method of obtaining correct information of the user's skin color. In the technology of Patent Literature 1, to obtain the skin color of the user, it is necessary to prepare a special lighting environment and special photographic equipment to take a picture of the user. General users may wish to, for example, use the recommended cosmetics presentation service on their own by simply taking a selfie using their own smartphones after they remove the makeup at home. However, it is extremely difficult to do it with the technology of Patent Literature 1.

[0005]

The object to be achieved by the present invention is to provide a technology for easily and accurately obtaining information of the face color of the user without requiring a specially-controlled lighting environment or special photographic equipment.

Solution to Problem

[0006]

According to a first aspect of the present ~~invention~~disclosure, there is provided a recommended cosmetics presentation control system, comprising:

glasses: and

a computer system,

the glasses including a position determination marker at a predetermined position and a predetermined color at a predetermined position,

the computer system comprising:

an image acquisition section for acquiring first image data obtained by capturing an image of a user wearing the glasses, and second image data obtained by

light hits the surface of an object. Examples thereof include phenomena called highlight and reflection. When the shininess occurs, the original color of the object cannot be read correctly. In a shooting environment where the user takes a selfie using a smartphone camera at home, the ambient light is biased in many cases, and the shininess easily occurs. On the other hand, the presence or absence of the shininess, the location of the shininess, and the degree of the shininess change when the shooting angle is changed.

[0015]

Accordingly, by performing the first shininess correction process using, as the first image data, multiple data with different face orientations, even if the shininess appears in a part of the first one of the first image data, the recommended cosmetics presentation control system can read the color of the part using another first image data that does not have the shininess in that part.

[0016]

The second image data may be obtained by capturing an image of the user without the glasses at a different face orientation, and the determination section may carry out a second shininess correction process with respect to each captured image part of the face of the user based on an image of the user with a different face orientation included in the second image data.

[0017]

The shininess also occurs on the user's skin.

By performing the second shininess correction process using, as the second image data, multiple data with different face orientations, even if the shininess appears in a part of the face in the first one of the second image data, the recommended cosmetics presentation control system can read the color of the part using another second image data that does not have the shininess in that part.

[0018]

makeup of the model. Since the role model is a real person (model) and the cosmetics are selected and presented based on the combination of the cosmetics used for the makeup of the model, it becomes easier for the user to understand. More specifically, it improves user's convenience.

[0023]

The determination section may include a facial feature amount determination section for determining a facial feature amount regarding a size, a shape, and a position of the face or face parts of the user based on the position of the marker in the captured image,

the model database may store data of the facial feature amount of the model while associating the data with the model, and

the presentation control section may perform a control for selecting a model having data of the facial feature amount satisfying the matching condition for the determination result of the facial feature amount determination section, and presenting cosmetics associated with the model.

[0024]

This enables the recommended cosmetics presentation control system to present the cosmetics that were used for the makeup of the model having facial features similar to those of the user. In view of the user, it becomes easier to see how they will look after the makeup with the presented cosmetics. More specifically, it further improves user's convenience.

[0025]

According to a second aspect of the present ~~invention~~disclosure, there are provided glasses comprising:

a position determination marker provided at a predetermined position; and

a color with a predetermined color provided at a predetermined position,

the glasses allowing a computer system to determine a color of each position of

The "frame" herein means a frame of common glasses and refers to a structure excluding the lenses. For general glasses, examples of the frame include the rim, the bridge, the endpiece, the nose pad, the pad arm, the hinge, the temple, the temple tip, the belt that replaces the hinge, the belt attachment part, and the like.

[0031]

According to a third aspect of the present ~~invention~~disclosure, there is provided a recommended cosmetics presentation control method executed by a computer system, the method comprising the steps of:

acquiring first image data obtained by capturing an image of the user wearing glasses having a position determination marker at a predetermined position and a predetermined color at a predetermined position, and second image data obtained by capturing an image of the user without the glasses;

determining a color of each position of a face of the user based on the first image data and the second image data using the marker and the color; and

controlling selection of cosmetics to be recommended to the user from a predetermined cosmetics database based on determination results of the determination step, and presentation of the cosmetics to the user.

[0032]

According to this ~~embodiment~~aspect, it becomes possible to achieve a recommended cosmetics presentation control method that ensures the same effect as that of the first ~~embodiment~~ aspect concerning the computer system described above.

Brief Description of Drawings

[0033]

FIG. 1 is a diagram illustrating a configuration example of a recommended cosmetics presentation control system.

FIG. 2 is a front view illustrating a configuration example of a user terminal.

to the thumbnail image, and sends a request for the purchase procedures to the server system 1100 (step S112).

[0179]

In response to the reception of the request for the purchase procedures, the server system 1100 carries out a process for purchasing the requested cosmetics through an online shopping service (step S114).

[0180]

As described above, according to the present embodiment, the images of the standard color for color calibration and the object to be subjected to color reading are captured in the same image at a very close distance because of the use of the glasses 10. Therefore, for example, even in a shooting environment where the user takes a selfie using a smartphone camera at home, it becomes possible to easily and accurately obtain the color information of the face of the user.

[0181]

Since the process is carried out in two steps: (1) the color calibration is performed with the first image data (with-glasses video and images captured from the video), and (2) the face color is read (determined) with the second image data (no-glasses video and images captured from the video). Accordingly, it becomes possible to also read the color of the invisible part hidden behind the glasses, thereby reading the color without being affected by the shadow of the glasses.

[0182]

Technically, in the actual operation situation, the state of the ambient light in the first image data and the state of the ambient light in the second image data may not be the same in some cases. However, since the user moves only slightly to remove the glasses in the process between the former and the latter, it is possible to take the second image data continuously from the acquisition of the first image data. Thus, the state of the ambient light is substantially the same in both data.