

METHOD AND APPARATUS FOR CHANGING COLOR OF A SKIN PICTURE IN AN INTERACTION INTERFACE

FIELD OF THE INVENTION

Embodiments of the present invention relate to image data processing techniques, and particularly to a method and apparatus for changing color of a skin picture in an interaction interface.

BACKGROUND OF THE INVENTION

Along with development of information techniques, various electronic devices of data processing capabilities, such as a computer, a lap top, a mobile terminal and the like, are increasingly popular, which makes people's study, work and life more convenient. As well known, running of an electronic device needs cooperation in hardware and software.

In order to facilitate receiving a user's operation instruction and feed back an operation result timely, a user interaction interface may be formed each time when the software is running. Specifically, whether the user interaction interface is good is an important factor for evaluating whether the software can be accepted by the user. As computer image processing techniques are increasingly enhanced and the user interaction interface is continuously developed, an existing method for optimizing the user interaction interface is to present the most favorite color selected by the user without changing a skin picture, i.e., to implement color change for the skin picture.

Specifically, the skin picture is each picture that can be seen by the user in the user interaction interface, and the existing method for optimizing the user interaction interface includes specific processes as follows: color change codes for all skin pictures in the user interaction interface are edited in advance; after obtaining color change information input by the user, a server determines, with respect to each skin picture in the user interaction interface, whether there is a corresponding color change code for the skin picture, and if there is, performs the color change for the skin picture according to the color change information and the color change code, and otherwise, fails to perform the color change for the skin picture.

It can be seen from the above description that the existing method for optimizing the user interaction interface is to perform the color change for the skin picture using the fixed color change code edited in advance. Since the color change code has been edited in the fixed manner, it is quite difficult to modify the color change code in a subsequent operation. Thus, flexibility of the color change for the skin picture is greatly decreased, and also, diverse requirements of the user cannot be satisfied.

SUMMARY OF THE INVENTION

Embodiment of the present invention provide a method and apparatus for changing color of a skin picture in an interaction interface, so as to increase the color change flexibility of the skin picture.

The method for changing color of a skin picture in an interaction interface provided by the present invention includes:

setting a configuration file for the skin picture in the user interaction interface, wherein the configuration file includes color change configuration information corresponding to the skin picture, the color configuration information indicating whether to perform color change and/or a region of the skin picture on which color change is to be performed; and,

when receiving color change information indicating the color into which the color of the skin picture is changed, for the skin picture in the user interaction interface, if the skin picture has the corresponding color change configuration information, changing the color of the skin picture using the color change information and the corresponding color change configuration information.

The apparatus for changing color of a skin picture in an interaction interface provided by the present invention includes:

a configuration file generation unit, adapted to generate a configuration file for the skin picture in the user interaction interface, wherein the configuration file includes color change configuration information corresponding to the skin picture, the color configuration information indicating whether to perform color change and/or a region of

the skin picture on which color change is to be performed; and,

a color change unit, adapted to receive color change information indicating the color into which the color of the skin picture is changed, and for the skin picture in the user interaction interface, if the skin picture has the corresponding color change configuration information, to change color of the skin picture using the color

change information and the color change configuration information corresponding to the skin picture.

It can be seen from the above solutions that the present invention provides a method and apparatus for changing color of a skin picture in an interaction interface, and in the method, the present invention does not adopt the color change codes suitable for running in a machine in the prior art that is edited in the fixed manner, and instead, a configuration file is set for the skin picture. Since the configuration file is text information suitable for the user to view, after the configuration file is set for the skin picture, the color change configuration information in the configuration file can be modified conveniently by the user according to color change demands of an actual service whenever necessary, thereby flexibility of color change for the skin picture can be considerably improved and diverse requirements of services can be satisfied.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a diagram illustrating a basic flow chart provided by an embodiment of the present invention;

Figure 2 is a diagram illustrating a specific flow chart provided by an embodiment of the present invention;

Figure 3 is a basic structural diagram illustrating an apparatus provided by an embodiment of the present invention;

Figure 4 is a specific structural diagram illustrating the apparatus provided by an embodiment of the present invention; and,

Figure 5 is a structural schematic diagram illustrating a color change sub-unit provided by an embodiment of the present invention.

EMBODIMENTS OF THE INVENTION

In order to make technical solutions and advantages of the present invention clearer, embodiments of the present invention are described in detail hereinafter in combination

with the accompanying drawings.

Referring to Figure 1, Figure 1 is a diagram illustrating a basic flow chart provided by an embodiment of the present invention. As shown in Figure 1, the flow may include steps as follows.

In Step 101, a configuration file is set for a skin picture in a user interaction interface.

Here, there can be multiple implementation modes for setting the configuration file for the skin picture in the user interaction interface. For example, one configuration file may be set for all the skin pictures in the user interaction interface, or a corresponding configuration file may be set for each skin picture in the user interaction interface, or etc. The implementation modes are not specifically limited in the embodiment of the present invention.

Specifically, when one configuration file is set for all the skin pictures, names of the skin pictures, as well as color change configuration information corresponding to the skin pictures respectively may be included in the one configuration file. That is, a correspondence relationship between the names of the skin pictures and the color change configuration information is contained in the configuration file being set. For example, all of the skin pictures include skin picture 1, skin picture 2 and skin picture 3, then the configuration file may include: skin picture 1, the color change configuration information corresponding to skin picture 1, skin picture 2, the color change configuration information corresponding to skin picture 2, skin picture 3 and the color change configuration information corresponding to skin picture 3.

Specifically, when one configuration file is set for each skin picture, the name of the skin picture, as well as the color change configuration information corresponding to the name of the skin picture can be included in the configuration file. That is, the correspondence relationship between the name of the skin picture and the color change configuration information is contained in the configuration file being set for each skin picture. For example, all of the skin pictures include skin picture 1, skin picture 2 and skin picture 3, then a corresponding configuration file is set for skin picture 1, skin picture 2 and skin picture 3 respectively, where the configuration file corresponding to

skin picture 1 includes skin picture 1 and the color change configuration information corresponding to skin picture 1.

In this step, preferably, the configuration file can be set using an eXtensible Markup Language (XML). In this way, the color change configuration information in the configuration file can be set and modified more easily compared to the color change codes in the prior art because the color change configuration information is text information which can be viewed conveniently by the user.

In Step 102, Color change information is received.

Here, Step 102 can specifically include receiving the color change information input to the user interaction interface by the user. Of course, in order to make this embodiment implemented more easily, multiple pieces of color change information which can be selected conveniently by the user can also be set in advance. For example, multiple brightness values, multiple hue values, multiple saturation values and the like are defined in advance. In this way, Step 102 may alternatively include receiving the color change information selected in the user interaction interface by the user. Preferably, the color change information in this embodiment may include one or more of the luminance value, the hue value and the saturation value.

In Step 103, with respect to the skin picture in the user interaction interface that has the corresponding color change configuration information, color change is performed for the skin picture using the color change information and the corresponding color change configuration information.

In the specific implementation of this embodiment, the skin pictures making up the user interaction interface typically may be stored in a unified manner at first, e.g., stored into one mapping table where the mapping table includes a mapping relationship for the skin pictures and the names thereof, and may specifically include the names of the skin pictures and the skin pictures corresponding to these names respectively. Thus, Step 103 may specifically include: obtaining the skin pictures making up the user interaction interface from the mapping table in turn, and with respect to an obtained skin picture, if the skin picture has the corresponding color change configuration information, the color change is performed for the skin picture using the color change information and the color

change configuration information corresponding to the skin picture.

Preferably, in this embodiment, after the color change is performed for the skin pictures, color information of each skin picture for which the color change has been performed may be stored in a registration table item, or the previous skin picture in the mapping table may be directly updated as the current skin picture for which the color change has been performed, or the color information of each skin picture for which the color change has been performed may be stored in the configuration file set in above Step 101, or etc., which is not limited in the embodiment of the present invention. In this way, the skin picture for which the color change has been performed will be displayed when the user interaction interface is activated next time.

In order to make the technical solution of this embodiment clearer, the procedure of the method for changing color of the skin picture in the embodiment of the present invention is described in detail hereinafter.

Reference is made to Figure 2. Figure 2 is a diagram illustrating a detailed flow chart provided by the embodiment of the present invention. As shown in Figure 2, with respect to a user interaction interface taken as an example, in this embodiment, if one configuration file is set for all the skin pictures on the user interaction interface, and the configuration file may include: the names of the skin pictures, and color change configuration information respectively corresponding to the names of the skin pictures, and the procedure may include the following steps as shown in Figure 2.

In Step 201, the color change information is received.

Specifically, Step 201 includes receiving the color change information input to the user interaction interface by the user.

In Step 202, with respect to the skin picture in the user interaction interface, it is determined whether there is color change configuration information corresponding to the skin picture in the above configuration file, and if there is, Step 204 is executed, and otherwise, Step 203 is executed.

In the specific implementation of this embodiment, the skin pictures making up the user interaction interface typically may be stored in a unified manner at first, e.g., stored

into one mapping table where the mapping table includes a mapping relationship for the skin pictures and the names thereof, and may specifically include the names of the skin pictures and the skin pictures corresponding to these names respectively. Thus, Step 202 may specifically include: obtaining the skin pictures making up the user interaction interface from the mapping table in turn, and with respect to an obtained skin picture, determining whether the skin picture has the corresponding color change configuration information, and if it has, Step 204 is executed, and otherwise, Step 203 is executed.

If one configuration file is set for all the skin pictures in the user interaction interface, the above step of determining whether there is color change configuration information corresponding to the skin picture in the configuration file may include: determining the name of the obtained skin picture, searching the color change configuration information corresponding to the name of the skin picture in the configuration file being set, if the color change configuration information is searched out, determining that there is the color change configuration information corresponding to the skin picture in the configuration file, and otherwise, determining that there is no color change configuration information corresponding to the skin picture in the above configuration file.

Of course, if the corresponding configuration file is set for each skin picture in this embodiment, the above step of determining whether there is color change configuration information corresponding to the skin picture in the configuration file may include: determining the name of the skin picture, searching the configuration file corresponding to the name of the skin picture in all the configuration files, if it is searched out, determining that there is the color change configuration information corresponding to the skin picture in the configuration file, and otherwise, determining that there is no color change configuration information corresponding to the skin picture in the above configuration file.

In Step 203, the color of the entire skin picture is changed according to the color change information. Heretofore, the current procedure is ended.

In this embodiment, after the color of the entire skin picture is changed, the corresponding previous skin picture in the above mapping table may be updated as the one with the color being changed, or the skin picture with the color being changed may be

directly stored into a registration table item. In this way, the skin picture with the color being changed will be displayed when the user interaction interface is activated next time.

In Step 204, it is determined whether a current attribute value in the color change configuration information is a third value indicating that no color change is to be performed for the skin picture, and if it is, color change will not be performed for the skin picture and the procedure is ended, and otherwise, Step 205 is executed.

In this embodiment, the color change configuration information may include an attribute value. Specifically, the attribute value denotes type information of the color change to be performed for the skin picture which may include a first value indicating that the color change is to be performed on a regular region in the skin picture, a second value indicating that the color change is to be performed on an irregular region in the skin picture, and a third value indicating that no color change is to be performed for the skin picture. Here, the regular region is a region that can be easily represented in an intuitive manner via coordinates and parameters, e.g., a rectangle, a square, an oblong, a circle, or etc. For example, supposing the color change is to be performed on a rectangular region in the skin picture, the first value is a rectangle "Rect". The irregular region is the one that can not be easily represented in an intuitive manner via coordinates and parameters. Typically, the second value is a bitmap "Bitmap" for indicating that the color change is to be performed on the irregular region in the skin picture while the third value is "none" for indicating that no color change is to be performed for the skin picture. Thus, Step 204 specifically includes: determining whether the current attribute value in the color change configuration information is "none", and if it is, no color change is to be performed for the skin picture and the procedure is ended, and otherwise, Step 205 is executed.

In Step 205, it is determined whether the current attribute value in the color change configuration information is the first value indicating that the color change is to be performed on the regular region in the skin picture or is the second value indicating that the color change is performed on the irregular region in the skin picture, and if it is the first value, Step 206 is executed, and otherwise, if it is the second value, Step 209 is executed.

Here, if the first value is the rectangle "Rect" and the second value is the bitmap

“Bitmap”, it is determined in Step 205 whether the attribute value in the color change configuration information is currently the “Rect” or the “Bitmap”. If it is the “Rect”, it is indicated that the color change is to be performed on the rectangle region in the skin picture, and Step 206 is executed. If it is the “Bitmap”, it is indicated that the color change is to be performed on the irregular region in the skin picture, and Step 209 is executed.

In Step 206, a region parameter corresponding to the first value is obtained.

In this embodiment, if the attribute value is the first value, the color change configuration information further includes the region parameter corresponding to the first value. Therefore, Step 206 may specifically include: obtaining the region parameter corresponding to the first value in the color change configuration information searched out as described above. In this embodiment, the region parameter corresponding to the first value specifically includes position information of the regular region. For example, if it is found in the configuration file that the attribute value in the color change configuration information of the skin picture is “Rect” (the first value) and the region parameter corresponding to the “Rect” is “0,0,10,10”, then it is indicated that a rectangle is located at a position of “0,0,10,10” in the skin picture.

In Step 207, all pixel points in the skin picture are traversed, and pixel points included in the above region parameter are obtained.

For example, if the first value indicates that the color change is to be performed on a rectangle “Rect” in the skin picture and the rectangle is located at the position of “0,0,10,10” in the skin picture, and Step 207 may specifically include: obtaining pixel points located within the region of “0,0,10,10”.

In Step 208, the color change is performed for each obtained pixel point according to the color change information received as described above, and the current procedure is ended.

In Step 209, a name of a color change definition picture corresponding to the second value is obtained.

In this step, if the attribute value is the second value, the name of the color change

definition picture corresponding to the second value is also contained in the color change configuration information. Therefore, Step 209 may specifically include: obtaining the name of the color change definition picture corresponding to the second value in the color change configuration information searched out as described above. Here, the name of the color change definition picture is obtained first, so that the color change definition picture corresponding to this name can be obtained more easily subsequently. For example, it is found in the configuration file that the attribute value in the color change configuration information of the skin picture is the bitmap "Bitmap" (the second value) and the region parameter corresponding to the "Bitmap" is "STA_CAP_DEF.BMP", then it is indicated that the name of the color change definition picture is "STA_CAP_DEF.BMP".

In Step 210, according to the obtained name of the color change definition picture, the corresponding color change definition picture is obtained.

In the implementation of this embodiment, color change definition pictures respectively set for the skin pictures on the irregular region of which the color change is needed to be performed can be stored, specifically, they can be stored onto a magnetic disk or into a preconfigured storage system. Here, take storing each color change definition picture onto the magnetic disk as an example, thus, when Step 210 is implemented, the corresponding color change definition picture can be directly searched for on the magnetic disk at a client according to the obtained color change definition picture. For example, if the name of the color change definition picture obtained in the above Step 209 is "STA_CAP_DEF.BMP", the color change definition picture having the name of "STA_CAP_DEF.BMP" is searched for on the magnetic disk at the client, and if it is searched out, the color change definition picture is obtained.

Since the irregular region can not be easily represented in an intuitive manner via coordinates and parameters, in this embodiment, the corresponding color change definition picture is set for the skin picture on the irregular region of which the color change is to be performed. Specifically, when setting the corresponding color change definition picture for the skin picture on the irregular region of which the color change is to be performed, it is needed to ensure that the positions of the pixel points in the color change definition picture being set correspond to the positions of the pixel points in the skin picture one to one. Moreover, the color change definition picture being set only

includes icons requiring no color change, and the color value in the icons requiring no color change is different from the color value of the regions requiring color change in the color change definition picture where the color value of the region requiring color change is generally a predetermined value, e.g., #ff00ff. For example, if the color change is performed on all the regions (the irregular regions) other than icon 1 in the skin picture with the name of "STA_CAP.BMP", the color change definition picture with the name of "STA_CAP_DEF.BMP" is set where the positions of the pixel points in the color change definition picture correspond to the positions of the pixel points in the skin picture one to one. Moreover, the color change definition picture only includes icon 1, and in the color change definition picture, the color value of the region requiring color change is #ff00ff which is different from the color value of the icon requiring no color change.

It can be seen that in this embodiment, the color change can be implemented on an irregular region in the skin picture by setting the corresponding color change definition picture for the skin picture on the irregular region of which the color change is needed to be performed, and the user's demands for performing the color change for the skin picture according to color change requirements of an actual service can be further facilitated, color change flexibility of the skin picture can be improved and diverse demands of services can be significantly satisfied.

In Step 211, all the pixel points in the color change definition picture are traversed, and each pixel point the color value of which is the predetermined value is obtained from the color change definition picture.

Here, the predetermined value is the color value used in the color change. If the predetermined value is #ff00ff, all the pixel points having the color value of #ff00ff in the color change definition picture are obtained.

In Step 212, the color change is performed on the pixel points corresponding to the positions of the pixel points obtained above in the skin picture using the color change information.

Heretofore, the procedure of the color change for the skin picture is implemented.

In order to make the embodiment of the present invention implemented more easily,

preferably, an embodiment of the present invention also provides an apparatus for changing the color of a skin picture in an interaction interface. Reference is made to Figure 3. Figure 3 is a basic structural diagram illustrating an apparatus provided by the embodiment of the present invention. As shown in Figure 3, the apparatus includes a configuration file generation unit 301 and a color change unit 302.

Specifically, the configuration file generation unit 301 is adapted to generate a configuration file for a skin picture in a user interaction interface, wherein color change configuration information corresponding to the skin picture is included in the configuration file.

The color change unit 302 is adapted to receive color change information from a user, and with respect to the skin picture in the user interaction interface, if the skin picture has the corresponding color change configuration information, to perform a color change for the skin picture using the color change information and the color change configuration information corresponding to the skin picture.

Preferably, in order to make a structure of the apparatus for changing the color of the skin picture in the interaction interface clearer, reference is made to Figure 4, and Figure 4 is a detailed structural diagram illustrating the apparatus provided by the embodiment of the present invention. In addition to a configuration file generation unit 401 and a color change unit 402, the apparatus may further include a file storage unit 403 and a determination unit 404. Specifically, the configuration file generation unit 401 and the color change unit 402 have the same functions as the configuration file generation unit 301 and the color change unit 302 in Figure 3, which will not be discussed repeatedly herein.

In particular, the file storage unit 403 is adapted to store the configuration file generated by the configuration file generation unit 401.

The determination unit 404 is adapted to determine whether there is the color change configuration information corresponding to the skin picture in the user interaction interface in the configuration file stored by the file storage unit 403, and if there is, to send a presence notification to the color change unit 402, and otherwise, to send an absence notification to the color change unit 402.

The color change unit 402 changes, after receiving the presence notification from the determination unit 404, the color of the skin picture using the color change information and the color change configuration information corresponding to the skin picture in the configuration file stored by the file storage unit 403, and changes the color of the entire skin picture after receiving the absence notification.

Preferably, the color change configuration information includes an attribute value. Specifically, the attribute value includes a first value indicating that the color change is to be performed on a regular region in the skin picture, a second value indicating that the color change is to be performed on an irregular region in the skin picture, and a third value indicating that no color change is to be performed for the skin picture. The color change unit 402 may include a determination sub-unit 4021 and a color change sub-unit 4022.

Specifically, the determination sub-unit 4021 determines whether the attribute value in the color change configuration information is currently the third value after receiving the presence notification from the determination unit 404, and if it is, carries information indicating that the attribute value is the third value in a no color change notification and sends the same to the color change sub-unit 4022, and otherwise, sends a color change notification to the color change sub-unit 4022.

The color change sub-unit 4022 performs no color change for the skin picture after receiving the no color change notification, and performs the color change for the skin picture according to the color change information when receiving the color change notification.

Specifically, if the determination sub-unit 4021 determines that the attribute value is the first value, where the color change configuration information also contains the region parameter corresponding to the first value, then a structure of the color change sub-unit 4022 for performing the color change for the skin picture according to the color change information when receiving the color change notification is specifically as shown in Figure 5. As shown in Figure 5, the color change sub-unit 4022 may further include a reception module 501, an obtaining module 502, a traversal module 503 and a color change module 504.

Specifically, the reception module 501 is adapted to receive the color change notification from the determination sub-unit 4021.

The obtaining module 502 is adapted to obtaining a region parameter corresponding to the first value from the color change configuration information.

The traversal module 503 is adapted to traverse all the pixel points in the skin picture, and to obtain the pixel points within in the above region parameter.

The color change module 504 is adapted to perform the color change for each obtained pixel point according to the color change information received as described above.

Preferably, if the determination sub-unit 4021 determines that the attribute value is the second value, where the name of the color change definition picture corresponding to the second value is also included in the color change configuration information, then a structure of the color change sub-unit 4022 for performing the color change for the skin picture according to the color change information when receiving the color change notification includes the followings:

The reception block module 501 is adapted to receive the color change notification from the determination sub-unit 4021.

The obtaining module 502 is adapted to obtain a name of a color change definition picture corresponding to the second value in the color change configuration information from the color change configuration information, and to obtain the corresponding color change definition picture according to the obtained name of the color change definition picture.

The traversal module 503 is adapted to traverse all the pixel points in the color change definition picture, and to obtain all the pixel points having a color value of the predetermined value in the color change definition picture.

The color change module 504 is adapted to perform the color change for each pixel point corresponding to the position of the pixel point obtained as described above in the skin picture using the color change information.

It can be seen that in a method for changing the color of the skin picture in the interaction interface provided by this embodiment, the color change is performed for the obtained skin picture requiring color change mainly according to the configuration file set for the skin picture. Specifically, the color change configuration information corresponding to the skin picture is included in the configuration file. It can be seen that the present invention does not adopt the edited color change codes suitable for running in a machine in the prior art. Instead, the configuration file is set for the skin picture. Since the configuration file is the text information suitable for the user to view and can be set and modified easily, after the configuration file is set for the skin picture, the color change configuration information in the configuration file can also be modified according to the color change demands of the actual service whenever necessary, thereby considerably improving the color change flexibility of the skin picture and meeting the diverse demands of the service. Moreover, in this embodiment, the color change can also be performed on the irregular region in the skin picture, which also significantly satisfies demands of the user.

The specific embodiments described above have explained the objects, technical solutions and advantageous effects of the present invention in further detail. It should be understood that the forgoing is merely preferred embodiments of the present invention, and is in no way intended to limit the scope of the present invention. Any modifications, equivalents, improvements and the like made within the spirit and principle of the present invention should be encompassed in the scope of the present invention.

CLAIMS

1. A method for changing color of a skin picture in an interaction interface, characterized by, comprising:

setting a configuration file for the skin picture in the user interaction interface, wherein the configuration file comprises color change configuration information corresponding to the skin picture, the color configuration information indicating whether to perform color change and/or a region of the skin picture on which color change is to be performed; and,

when receiving color change information indicating the color into which the color of the skin picture is changed, if the skin picture has the corresponding color change configuration information, changing the color of the skin picture using the color change information and the corresponding color change configuration information.

2. The method according to claim 1, wherein, if the skin picture has no corresponding color change configuration information, changing the color of the entire skin picture using the color change information.

3. The method according to claim 1 or 2, wherein, the color change configuration information comprises an attribute value, wherein the attribute value comprises a first value indicating that color change is to be performed on a regular region in the skin picture, a second value indicating that color change is to be performed on an irregular region in the skin picture, and a third value indicating that no color change is to be performed for the skin picture; and,

the changing the color of the skin picture using the color change information and the corresponding color change configuration information comprises: determining whether the attribute value in the color change configuration information is the third value, and if it is, performing no color change for the skin picture, and otherwise, changing the color of the skin picture according to the color change information.

4. The method according to claim 3, wherein, if the attribute value is the first value, the color change configuration information further comprises a region parameter corresponding to the first value; and,

when the attribute value is the first value, the changing the color of the skin picture according to the color change information comprises: obtaining the region parameter corresponding to the first value, traversing all pixel points in the skin picture, obtaining the pixel points within the region indicated by the region parameter, and, performing color change for the obtained pixel points according to the color change information.

5. The method according to claim 3, wherein, if the attribute value is the second value, the color change configuration information further comprises a name of a color change definition picture; and ,

when the attribute value is the second value, the changing the color of the skin picture according to the color change information comprises: obtaining from the color change configuration information the name of the color change definition picture corresponding to the second value, obtaining the color change definition picture corresponding to the obtained name, traversing all pixel points in the obtained color change definition picture to obtain all the pixel points having a color value of a predetermined value in the color change definition picture, and, performing color change for the pixel points in the skin picture which respectively correspond to the positions of the obtained pixel points according to the color change information.

6. The method according to claim 2, wherein, the setting a configuration file for the skin picture in the user interaction interface comprises: setting one configuration file for all the skin pictures in the user interaction interface, the configuration file comprising a correspondence relationship between a name of each skin picture and the color change configuration information; and,

the name of the skin picture is searched for in the configuration file, and if it is searched out, it is determined that the skin picture has the corresponding color change configuration information, and otherwise, it is determined that the skin picture has no corresponding color change configuration information.

7. The method according to claim 2, wherein, the setting a configuration file for the skin picture in the user interaction interface comprises: setting a corresponding configuration file for each skin picture in the user interaction interface, each configuration

file comprising a correspondence relationship between a name of one corresponding skin picture and the color change configuration information; and,

the name of the skin picture is searched for in all currently existing configuration files, and if it is searched out, it is determined that the skin picture has the corresponding color change configuration information, and otherwise, it is determined that the skin picture has no corresponding color change configuration information.

8. An apparatus for changing color of a skin picture in an interaction interface, characterized by, comprising:

a configuration file generation unit, adapted to generate a configuration file for the skin picture in the user interaction interface, wherein the configuration file comprises color change configuration information corresponding to the skin picture, the color configuration information indicating whether to perform color change and/or a region of the skin picture on which color change is to be performed; and,

a color change unit, adapted to receive color change information indicating the color into which the color of the skin picture is changed, and if the skin picture has the corresponding color change configuration information, to change color of the skin picture using the color change information and the color change configuration information corresponding to the skin picture.

9. The apparatus according to claim 8, further comprising:

a file storage unit, adapted to store the configuration file generated by the configuration file generation unit;

a determination unit, adapted to determine whether there is the color change configuration information corresponding to the skin picture in the configuration file stored by the file storage unit, and if there is, to send a presence notification to the color change unit, and otherwise, to send an absence notification to the color change unit;

the color change unit, after receiving the presence notification from the determination unit, changes the color of the skin picture using the color change information and the color change configuration information corresponding to the skin

picture in the configuration file stored by the file storage unit, and otherwise, after receiving the absence notification, changes the color of the entire skin picture.

10. The apparatus according to claim 9, wherein, the color change configuration information comprises an attribute value, wherein the attribute value comprises a first value indicating that color change is to be performed on a regular region in the skin picture, a second value indicating that color change is to be performed on an irregular region in the skin picture, and a third value indicating that no color change is to be performed for the skin picture; and,

the color change unit comprises a determination sub-unit and a color change sub-unit, wherein:

the determination sub-unit is adapted to determine whether the attribute value in the color change configuration information is the third value after receiving the presence notification from the determination unit, and if it is, to carry information indicating that the attribute value is the third value in a no color change notification and send the no color change notification to the color change sub-unit, and otherwise, to send a color change notification to the color change sub-unit, and,

the color change sub-unit performs no color change for the skin picture after receiving the no color change notification, and otherwise, change the color of the skin picture according to the color change information when receiving the color change notification.

11. The apparatus according to claim 10, wherein, if the determination sub-unit determines that the attribute value in the color change configuration information is the first value, the color change sub-unit comprises a reception module, an obtaining module, a traversal module and a color change module, wherein:

the reception module is adapted to receive the color change notification from the determination sub-unit;

the obtaining module is adapted to obtaining from the color change configuration information a region parameter corresponding to the first value;

the traversal module is adapted to traverse all pixel points in the skin picture, and to obtain each pixel point within the region indicated by the region parameter; and,

the color change module is adapted to perform the color change for each obtained pixel point according to the color change information.

12. The apparatus according to claim 10, wherein, if the determination sub-unit determines that the attribute value in the color change configuration information is the second value, the color change sub-unit comprises a reception module, an obtaining module, a traversal module and a color change module, wherein:

the reception module is adapted to receive the color change notification from the determination sub-unit;

the obtaining module is adapted to obtain from the color change configuration information a name of a color change definition picture corresponding to the second value, and to obtain the color change definition picture corresponding to the obtained name;

the traversal module is adapted to traverse all pixel points in the color change definition picture, and to obtain all the pixel points having a color value of a predetermined value in the color change definition picture; and,

the color change module is adapted to perform color change using the color change information for the pixel points in the skin picture which respectively correspond to positions of the obtained pixel points.