devices, user agents, or a user apparatuses. The terminal equipment may also be cellular phones, cordless phones, session initiation protocol (SIP) phones, wireless local loop (WLL) stations, personal digital assistants (PDAs), handheld devices with wireless communication capabilities, computing devices or other processing devices connected to wireless modems, on-board devices, wearable devices, terminal devices in future 5G networks or public land mobile networks (PLMNs) evolving in the future, and the like, which are not limited by the embodiments of the present disclosure.

[0034] With reference to Fig. 1, which is a schematic structural diagram of a terminal disclosed in an embodiment of the present disclosure, a terminal 100 includes a storage and processing circuit 110, and a sensor 170 connected to the storage and processing circuit 110. The sensor 170 may include a camera, a distance sensor, a gravity sensor, etc. A terminal 100 of the present disclosure may include two transparent display screens arranged at a rear side and a front side of the terminal 100, some or all of components between the two transparent display screens may also be transparent, and when observed, the terminal 100 may thus be a transparent terminal, or may be a hollow-out terminal if some of the components are transparent.

[0035] The terminal 100 may include a control circuit, which may include the storage and processing circuit 110. The storage and processing circuit 110 may be a memory, such as hard disk drive memory, a non-volatile memory (e.g., a flash memory or another electronically programmable read-only memory used to form a solid-state drive, etc.), a volatile memory (e.g., a static or a dynamic random access memory, etc.), and the like, which are not limited by the embodiments of the present disclosure. A processing circuit in the storage and processing circuit 110 may be configured to control the operation of the terminal 100. The processing circuit may be implemented on the basis of one or more microprocessors, microcontrollers, digital signal processors, baseband processors, power management units, audio codec chips, application-specific integrated circuits, display driver integrated circuits, etc.

[0036] The storage and processing circuit 110 may be configured to execute software in the terminal 100, such as an Internet browsing application, a Voice over Internet Protocol (VOIP) phone call application, an email application, a media-playing application, operating

screen may be disposed on the front side of the terminal 100 and another display screen may be disposed on the rear side of the terminal 100, such as a display screen 130. The display screen 130 may include one or a combination of more of a liquid crystal display screen, a transparent display screen, an organic light-emitting diode display screen, an electronic ink display screen, a plasma display screen, or a display screen using other display technologies. The display screen 130 may include an array of touch sensors (i.e., the display screen 130 may be a touch-sensitive display screen). The touch sensor may be a capacitive touch sensor formed from an array of transparent touch sensor electrodes, such as indium tin oxide (ITO) electrodes, or a touch sensor formed using other touch technologies, such as sonic touch, pressure-sensitive touch, resistive touch, optical touch, and the like, which are not limited by the embodiments of the present disclosure.

[0039] The terminal 100 may further include an audio component 140. The audio component 140 may be configured to provide audio input and output functions for the terminal 100. The audio components 140 in the terminal 100 may include a speaker, a microphone, a buzzer, a tone generator, and other components for generating and detecting sound.

[0040] A communication circuit 120 may be configured to provide the terminal 100 with the ability to communicate with external devices. The communication circuit 120 may include analog and digital input/output interface circuits, and a wireless communication circuit based on radio frequency signals and/or optical signals. The wireless communication circuit in the communication circuit 120 may include a radio frequency transceiver circuit, a power amplifier circuit, a low noise amplifier, a switch, a filter, and an antenna. For example, the wireless communication circuit in the communication circuit 120 may include a circuit for supporting near field communication (NFC) by transmitting and receiving near field coupled electromagnetic signals. For example, the communication circuit 120 may include a near field communication antenna and a near field communication transceiver. The communication circuit 120 may further include a cellular telephone transceiver and an antenna, a wireless local area network transceiver circuit and an antenna, etc.

[0041] The terminal 100 may further include a battery, a power management circuit, and other input and output units 160. The input and output units 160 may include buttons,

is determined at first; if the window message is terminated, the newly generated second straight line is determined to be an erroneous operation because the window message would have not been terminated if the newly generated second straight line was correct; if the window message is not terminated, the newly generated second straight line is determined to be a normal operation, which means the newly generated second straight line is correct, and then a response is made to the second straight line.

[0057] Optionally, the above method may further include: acquiring, by the UE, a window message sent by the target object, identifying, by the UE, the target object to determine a first identity of the target object, and extracting, by the UE, weight value data corresponding to the first identity; and extracting, by the UE, data and information about each straight line on the software interface, generating, by the UE, a respective piece of input data of the data and information about each straight line, performing, by the UE, a calculation on the respective piece of input data and the weight value data to obtain a respective calculation result for the respective piece of input data, determining, by the UE, a third straight line matching the window message by comparing the respective calculation result with a predetermined result, and determining, by the UE, the third straight line as a straight line responding to the window message.

[0058] Identifying the target object to determine a first identity of the target object in step S202 may specifically include: E1, acquiring a target facial image from a target image of the target object; E2, performing an authentication on the target facial image; and E3, determining that the target object is the first identity corresponding to a predetermined human face module when the authentication of the target facial image passes.

[0059] In a specific implementation, a predetermined human face template can be pre-stored in the terminal, and an original image of the target object can be acquired with a camera; further, when the target facial image successfully matches the predetermined human face template, the terminal can determine the first identity of the target object, otherwise, the terminal does not determine the first identity of the target object. In this way, recognition of the identity of the target object is enabled to determine whether the first identity is a patient who has an appointment, thereby preventing others from starting the remote medical treatment.

[0060] Further, in one possible example, performing the authentication on the target facial image in step E2 may include following steps:

[0061] E21: performing a regional division on the target facial image to obtain a target facial region, wherein the target facial region is a regional image of a human face;

[0062] E22: binarizing the target facial region to obtain a binarized facial image;

[0063] E23: dividing the binarized facial image into a plurality of regions each having a same area greater than a predetermined area size;

[0064] E24: performing feature point extraction on the binarized facial image to obtain a plurality of feature points;

[0065] E25: determining a feature point distribution density corresponding to each of the plurality of regions based on the plurality of feature points to obtain a plurality of feature point distribution densities;

[0066] E26: determining a target mean square error based on the plurality of feature point distribution densities;

[0067] E27: determining a target quality evaluation value corresponding to the target mean square error according to a predetermined mapping relationship between mean square errors and quality evaluation values;

[0068] E28: performing an image enhancement on the target facial image when the target quality evaluation value is smaller than a predetermined quality evaluation value, and matching the target facial image after the image enhancement with a predetermined human face template to obtain a matching value; and

[0069] E29: determining that the authentication of the target facial image passes when the matching value is greater than a predetermined threshold value.

[0070] In a specific implementation, the predetermined threshold value and the predetermined area size mentioned above can be set by the user himself/herself or by default of the system, and the predetermined human face template can be pre-stored in the terminal. The terminal can perform a regional division on the target facial image to obtain the target facial region which may be a region that includes only a human face and excludes any other background, namely, a regional image having only a human face. Further, the target facial region is binarized to obtain a binarized facial image, and thus the complexity of the image

can be reduced; and the binarized facial image is divided into a plurality of regions each having the same area greater than the predetermined area size. Furthermore, feature points can be extracted from the binarized facial image to obtain a plurality of feature points, and an algorithm for feature point extraction can be at least one of scale-invariant feature transform (SIFT), the SURF algorithm, the Pyramid algorithm, the Harris corner detection, or others, which are not limited herein.

[0071] Furthermore, the terminal can determine a feature point distribution density corresponding to each of the plurality of regions according to the plurality of feature points to obtain a plurality of feature point distribution densities, and determine a target mean square error based on the plurality of feature point distribution densities; the terminal can pre-store a predetermined mapping relationship between mean square errors and quality evaluation values, determine a target quality evaluation value corresponding to the target mean square error according to the predetermined mapping relationship between mean square errors and quality evaluation values, where a smaller mean square error indicates a greater quality evaluation value; when the target quality evaluation value is greater than the predetermined quality evaluation value, directly match the target facial image with the predetermined human face template, when a matching value therebetween is greater than the predetermined threshold value, determine that authentication of the target facial image passes, or otherwise, determine that the authentication of the target facial image fails.

[0072] Furthermore, when the target quality evaluation value is smaller than the predetermined quality evaluation value, the terminal may perform an image enhancement on the target facial image and match the target facial image after the image enhancement with the predetermined human face template; when the matching value therebetween is greater than the predetermined threshold value, determine that the authentication of the target facial image passes, or otherwise, determine that the authentication of the target facial image fails.

[0073] Extracting the weight value data corresponding to the first identity mentioned above may specifically include: configuring in advance a plurality of pieces of weight value data corresponding to a plurality of identities, and extracting, from the plurality of pieces of weight value data corresponding to the plurality of identities, the weight value data corresponding to the first identity.

here.

[0091] With reference to Fig. 5, which shows a device 50 provided in an embodiment of the present disclosure, the device 50 includes a processor 501, a memory 502, and a communication interface 503, and the processor 501, the memory 502, and the communication interface 503 are interconnected through a bus 504.

[0092] The memory 502 includes but is not limited to a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM), or a compact disc read-only memory (CD-ROM), and is used for relevant computer programs and data. The communication interface 503 is configured to receive and transmit data.

[0093] The processor 501 may be one or more central processing units (CPUs), and in the case where the processor 501 is a CPU, the CPU may be a single-core CPU or a multi-core CPU.

[0094] The processor 501 in the device 50 is configured to read computer program codes stored in the memory 502 to perform the operations of the method as shown in Fig. 2.

[0095] Embodiments of the present disclosure also provide a computer-readable storage medium having a computer program stored therein, and the computer program, when executed on a network device, implements the method flow shown in Fig. 2.

[0096] Embodiments of the present disclosure also provide a computer program product, which, when executed on a terminal, implements the method flow shown in Fig. 2.

[0097] Embodiments of the present disclosure also provide a terminal including a processor, a memory, a communication interface, and one or more programs stored in the memory and configured to be executed by the processor, the programs including instructions for performing the steps of the method of the embodiment shown in Fig. 2.

[0098] The solutions of the embodiments of the present disclosure have been described above mainly from the perspective of method implementation. It will be appreciated that the terminal may include corresponding hardware structures and/or software templates for performing the functions described above. Those skilled in the art should readily appreciate that the present disclosure can be implemented in hardware or a combination of hardware and computer software, in connection with the units and algorithm steps described in the examples of the embodiments disclosed herein. Whether a function is implemented as hardware or

hardware driven by computer software depends upon the particular application and design constraints imposed on the solution. Skilled artisans may implement the described function in varying ways for each particular application, but such implementation should not be interpreted as causing a departure from the scope of the present disclosure.

[0099] Embodiments of the present disclosure may divide the terminal into functional units according to the method example mentioned above, for example, each functional unit is separated corresponding to a function, or two or more functions may be integrated in one processing unit. The integrated unit may be implemented in the form of a hardware or software functional unit. It should be noted that the division of units in the embodiments of the present disclosure is schematic, and is merely a logical and functional division, and other divisions may be possible in actual implementations.

[0100] It should be noted that for simplicity of description, each of the foregoing method embodiments has been presented as a combination of a series of acts, but those skilled in the art will recognize that the present disclosure is not limited by the order of acts described, as some steps may, in accordance with the present disclosure, be performed in other orders or concurrently. Besides, a person skilled in the art would also know that the embodiments described in the description are all preferred embodiments, and the acts and templates involved are not necessarily required by the present disclosure.

[0101] In the above embodiments, the description of each embodiment has its emphasis, and reference can be made to the description of other embodiments for omitted details of an embodiment.

[0102] It should be understood that in the several embodiments provided herein, the disclosed apparatus may be implemented in other ways. For example, the apparatus embodiments described above are merely illustrative, the division of units described above is merely a logical and functional division, and additional divisions are possible in actual implementations, for example, multiple units or components may be combined or integrated into another system, or some features may be omitted or not performed. In another aspect, the couplings or direct couplings or communicative connections shown or discussed with respect to each other may be indirect couplings or communicative connections through some interfaces, means, or units, and may be electrical or otherwise.

CLAIMS

What is claimed is:

1. An order generation method for a software interface, the method being applied in a user equipment (UE) and comprising steps of:

collecting, by the UE, operation information about a target object, and determining, by the UE, an operation type and an operation coordinate of the target object on the software interface based on the operation information;

acquiring, by the UE, a coordinate set in a price coordinate system of the software interface, the coordinate set comprising a plurality of coordinate values; calculating, by the UE, differences between the operation coordinate and the plurality of coordinate values to obtain a plurality of difference values, extracting, by the UE, a minimum difference value from the plurality of difference values, and obtaining, by the UE, a first price corresponding to the minimum difference value;

generating, by the UE, a first straight line matching the first price and the operation type to generate an order corresponding to the first straight line, and sending, by the UE, a transaction request to a background server after superimposing, by the UE, the first straight line onto the software interface, the transaction request comprising the first price and the operation type; and

acquiring, by the UE, a window message sent by the target object, acquiring, by the UE, a second straight line responding to the window message and a state the second straight line is in, and terminating, by the UE, the window message and stopping, by the UE, the responding of the second straight line when the second straight line is in a predetermined state.

2. The method according to claim 1, wherein said terminating the window message when the second straight line is in the predetermined state comprises:

determining that the window message indicates a non-order modification and determining the second straight line not to respond to the window message, when the predetermined state is that the window message is terminated.

3. The method according to claim 1, further comprising:

acquiring, by the UE, a window message sent by the target object, identifying, by the UE, the target object to determine a first identity of the target object, and extracting, by the UE, weight value data corresponding to the first identity; and

extracting, by the UE, data and information about each straight line on the software interface, generating, by the UE, a respective piece of input data of the data and information about each straight line, performing, by the UE, a calculation on the respective piece of input data and the weight value data to obtain a respective calculation result for the respective piece of input data, determining, by the UE, a third straight line matching the window message by comparing the respective calculation result with a predetermined result, and determining, by the UE, the third straight line as a straight line responding to the window message.

4. The method according to claim 3, wherein said identifying the target object to determine the first identity of the target object comprises:

acquiring a target facial image from a target image of the target object;

performing an authentication on the target facial image; and

determining that the target object is the first identity corresponding to a predetermined face module, when the authentication of the target facial image passes.

5. The method according to claim 4, wherein said performing the authentication on the target facial image comprises:

performing a regional division on the target facial image to obtain a target facial region, wherein the target facial region is a regional image of a human face;

binarizing the target facial region to obtain a binarized facial image;

dividing the binarized facial image into a plurality of regions each having a same area greater than a predetermined area size;

performing feature point extraction on the binarized facial image to obtain a plurality of feature points;

determining a feature point distribution density corresponding to each of the plurality of regions based on the plurality of feature points to obtain a plurality of feature point distribution densities;

determining a target mean square error based on the plurality of feature point distribution

densities;

determining a target quality evaluation value corresponding to the target mean square error according to a predetermined mapping relationship between mean square errors and quality evaluation values;

performing an image enhancement on the target facial image when the target quality evaluation value is smaller than a predetermined quality evaluation value, and matching the target facial image after the image enhancement with a predetermined human face template to obtain a matching value; and

determining that the authentication of the target facial image passes when the matching value is greater than a predetermined threshold value.

6. The method according to claim 3, wherein said extracting the weight value data corresponding to the first identity comprises:

configuring in advance a plurality of pieces of weight value data corresponding to a plurality of identities; and

extracting, from the plurality of pieces of weight value data corresponding to the plurality of identities, the weight value data corresponding to the first identity.

7. The method according to claim 3, wherein said extracting, by the UE, the data and information about each straight line on the software interface, and generating, by the UE, the respective piece of input data of the data and information about each straight line comprise:

determining, by the UE, a first size of the weight value data, determining a second size matching the first size, processing, by the UE, the data and information about each straight line to obtain a plurality of element values matching the second size, and arranging, by the UE, the plurality of element values to obtain the input data of the data and information about each straight line.

8. The method according to any of claims 1 to 7, further comprising:

identifying, by the UE, the software interface to determine operation types of all straight lines, and grouping straight lines of a same operation type into s same set; and

performing, by the UE, similarity calculation on data and information about a plurality of straight lines in the same set to obtain w similarities, and combining n straight lines with similarities smaller than a similarity threshold value into one straight line to be displayed on

the software interface.

9. The method according to claim 8, wherein said performing, by the UE, the similarity calculation on the data and information about the plurality of straight lines in the same set to obtain the w similarities comprises:

arranging, by the UE, the plurality of straight lines in the same set to obtain a queue, and calculating a price difference between every two adjacent straight lines in the queue to obtain w price differences, the w price differences being the w similarities.

10. The method according to claim 9, wherein said combining the n straight lines with the similarities smaller than the similarity threshold value into one straight line to be displayed on the software interface comprises:

determining a display magnification corresponding to the software interface, determining the similarity threshold value based on the display magnification, and comparing the w similarities with the similarity threshold value to determine the n straight lines with the similarities smaller than the similarity threshold value, wherein the n straight lines are all adjacent lines in the queue.

11. The method according to claim 8, further comprising:

ranking, according to a predetermined rule, n pieces of information corresponding to the n straight lines combined into said one straight line, and then displaying the n pieces of information in the ranked order in an information display region for said one straight line,

wherein the predetermined rule comprises a descending order of n time values of the n lines, an ascending order of the n time values of the n lines, a descending order of n prices of the n lines, or an ascending order of the n prices of the n lines.

12. The method according to claim 1, wherein said acquiring, by the UE, the coordinate set in the price coordinate system of the software interface comprises:

determining, by the UE, a financial display region of the software interface, acquiring, by the UE, all coordinate values corresponding to all transaction prices in the financial display region, and grouping, by the UE, said all coordinate values into one set to obtain the coordinate set.

13. The method according to claim 1, wherein said generating, by the UE, the first straight line matching the first price and the operation type and sending, by the UE, the

transaction request to the background server after superimposing, by the UE, the first straight line onto the software interface comprise:

generating, by the UE, the first straight line parallel to an X-axis, wherein a Y-axis coordinate value of the first straight line is a Y-axis coordinate value corresponding to the first price; superimposing, by the UE, the first straight line onto the software interface; and sending, by the UE, the transaction request to the background server.

14. A transaction system, comprising a user equipment (UE) and a background server, wherein

the user equipment is configured to collect operation information about a target object, and determine an operation type and an operation coordinate of the target object on the software interface based on the operation information; acquire a coordinate set in a price coordinate system of the software interface, the coordinate set comprising a plurality of coordinate values; calculate differences between the operation coordinate and the plurality of coordinate values to obtain a plurality of difference values, extract a minimum difference value from the plurality of difference values, and obtain a first price corresponding to the minimum difference value; generate a first straight line matching the first price and the operation type to generate an order corresponding to the first straight line, and send a transaction request to a background server after superimposing the first straight line onto the software interface, the transaction request comprising the first price and the operation type; and acquire a window message sent by the target object, acquire a second straight line responding to the window message and a state the second straight line is in, and terminate the window message and stop the responding of the second straight line when the second straight line is in a predetermined state; and

the background server is configured to refresh lines of a price chart on the software interface based on the first price and the operation type and return the refreshed price chart to the UE for display.

15. A user equipment, comprising:

a collecting unit configured to collect operation information about a target object;

a processing unit configured to determine an operation type and an operation coordinate of the target object on the software interface based on the operation information; acquire a

coordinate set in a price coordinate system of the software interface, the coordinate set comprising a plurality of coordinate values; calculate differences between the operation coordinate and the plurality of coordinate values to obtain a plurality of difference values, extract a minimum difference value from the plurality of difference values, and obtain a first price corresponding to the minimum difference value; and generate a first straight line matching the first price and the operation type to generate an order corresponding to the first straight line and superimpose the first straight line onto the software interface; and

a communication unit configured to send a transaction request to a background server, the transaction request comprising the first price and the operation type,

wherein the processing unit is further configured to acquire a window message sent by the target object, acquire a second straight line responding to the window message and a state the second straight line is in, and terminate the window message and stop the responding of the second straight line when the second straight line is in a predetermined state.

16. A computer-readable storage medium, having a computer program for electronic data exchange stored therein, wherein the computer program causes a computer to perform the method according to any of claims 1 to 13.