

# EXCHANGE RATE DETECTION SYSTEM AND METHOD

## TECHNICAL FIELD

[0001] The present disclosure relates to the field of Internet technologies, and in particular, to an exchange rate detection system and method.

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## BACKGROUND

[0002] Currently, a foreign exchange rate is expressed in the following way: USD/RMB=6.9912, indicating that US dollar 1 can purchase RMB 6.9912. For overseas payment presentation, it is necessary to expose such a quoted foreign exchange rate to users. However, it is impossible to know whether this value is trustworthy using only such a quotation model. If the presentation operation fails or there is a serious system vulnerability, there may be a quotation of USD/RMB=69.912. If there is no good way to check the foreign exchange model, there will be very great presentation loss.

[0003] To ensure accuracy of a quoted foreign exchange rate and reduce a risk, it is of great necessity to provide a safe and accurate exchange rate detection system.

## SUMMARY

15 [0004] Embodiments of the present disclosure provide an exchange rate detection system and method, to solve at least a technical problem of how to ensure accuracy of a quoted exchange rate in a related technology.

[0005] According to an aspect of the embodiments of the present disclosure, an exchange rate detection system is provided, and includes: an acquisition module, configured to obtain an average value of historical quoted exchange rates and a current quoted exchange rate; a processing module, configured to determine a first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates; and a determining module, configured to determine whether the current quoted exchange rate is abnormal based on a size relationship between the first deviation degree and a first predetermined deviation degree.

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**[0006]** In some example embodiments, the acquisition module is further configured to obtain a previous quoted exchange rate; the processing module is further configured to determine a second deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate; and the determining module is further configured to determine whether the current quoted exchange rate is abnormal based on a size relationship between the second deviation degree and a second predetermined deviation degree.

**[0007]** In some example embodiments, the system further includes: a model output module, configured to send an exchange rate model to a presentation module when the current quoted exchange rate is normal, where the exchange rate model includes the following information: a base currency name, a quoted currency name, and the current quoted exchange rate.

**[0008]** In some example embodiments, the presentation module is configured to determine a first presentation deviation degree of the current quoted exchange rate relative to an average value of presented historical quoted exchange rates; and determine whether the current quoted exchange rate is abnormal based on a size relationship between the first presentation deviation degree and a first predetermined presentation deviation degree.

**[0009]** In some example embodiments, the presentation module is configured to determine a second presentation deviation degree of the current quoted exchange rate relative to a presented previous quoted exchange rates; and determine whether the current quoted exchange rate is abnormal based on a size relationship between the second presentation deviation degree and a second predetermined presentation deviation degree.

**[0010]** In some example embodiments, the presentation module is further configured to present the exchange rate model when the presentation module determines that the current quoted exchange rate is normal.

**[0011]** In some example embodiments, the system further includes: a storage module, configured to store the current quoted exchange rate when it is determined that the current quoted exchange rate is normal.

**[0012]** According to another aspect of the embodiments of the present disclosure, an exchange rate detection method is further provided, and includes: obtaining an average value of historical quoted exchange rates and a current quoted exchange rate; determining a first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates; and

determining whether the current quoted exchange rate is abnormal based on a size relationship between the first deviation degree and a first predetermined deviation degree.

**[0013]** In some example embodiments, the method further includes: obtaining a previous quoted exchange rate; determining a second deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate; and determining whether the current quoted exchange rate is abnormal based on a size relationship between the second deviation degree and a second predetermined deviation degree.

**[0014]** In some example embodiments, the method further includes: sending an exchange rate model to a presentation module when the current quoted exchange rate is normal, where the exchange rate model includes the following information: a base currency name, a quoted currency name, and the current quoted exchange rate.

**[0015]** In some example embodiments, the method further includes: determining a first presentation deviation degree of the current quoted exchange rate relative to an average value of presented historical quoted exchange rates; and determining whether the current quoted exchange rate is abnormal based on a size relationship between the first presentation deviation degree and a first predetermined presentation deviation degree.

**[0016]** In some example embodiments, the method further includes: determining a second presentation deviation degree of the current quoted exchange rate relative to a presented previous quoted exchange rates; and determining whether the current quoted exchange rate is abnormal based on a size relationship between the second presentation deviation degree and a second predetermined presentation deviation degree.

**[0017]** In some example embodiments, the method further includes: presenting the exchange rate model when the presentation module determines that the current quoted exchange rate is normal.

**[0018]** In some example embodiments, the method further includes: storing the current quoted exchange rate when it is determined that the current quoted exchange rate is normal.

**[0019]** According to another aspect of the embodiments of the present disclosure, an electronic device is further provided, and includes: a memory, configured to store a computer program product; and a processor, configured to execute the computer program product stored in the memory, and implement the method in any one of the previously described method embodiments when the computer program product is executed.

[0020] According to another aspect of the embodiments of the present disclosure, a computer-readable storage medium is further provided. The computer-readable storage medium stores computer program instructions, and steps in any one of the previously described method embodiments are implemented when the computer program instructions are executed by a processor.

5 [0021] The following further describes the technical solutions of the present disclosure in detail by using the accompanying drawings and the embodiments.

## **BRIEF DESCRIPTION OF DRAWINGS**

[0022] The following accompanying drawings are intended merely to give an example description and explanation of the present disclosure, and not to limit the scope of the present  
10 disclosure.

[0023] FIG. 1 is a schematic diagram of an exchange rate detection system according to some embodiments of the present disclosure;

[0024] FIG. 2 is a flowchart of an exchange rate detection method according to some embodiments of the present disclosure; and

15 [0025] FIG. 3 is a schematic diagram of system interaction in an exchange rate detection method according to some optional embodiments of the present disclosure.

## **DESCRIPTION OF EMBODIMENTS**

[0026] The following further describes this application in detail by using the accompanying drawings and the embodiments. These descriptions make features and advantages of this application  
20 clearer and more explicit.

[0027] The word "example" specially used here indicates "being used as an example or embodiment, or being illustrative". Any embodiment described as "example" here is not necessarily interpreted as superior to or better than other embodiments. Various aspects of the embodiments illustrated in the accompanying drawings may not be necessarily drawn to scale, unless otherwise  
25 specified.

[0028] In addition, technical features included in different implementations of this application described below can be combined with each other provided that they do not conflict with each other.

**[0029]** The embodiments provide an exchange rate detection system. FIG. 1 is a schematic diagram of an exchange rate detection system according to some embodiment of the present disclosure. As shown in FIG. 1, the system includes:

an acquisition module, configured to obtain an average value of historical quoted exchange rates and a current quoted exchange rate, where

the current quoted exchange rate is a quoted exchange rate that is most recently obtained, the historical quoted exchange rates can be all historical quoted exchange rates, historical quoted exchange rates within a certain period of time, or a plurality of quoted exchange rates selected from all historical quoted exchange rates, the current quoted exchange rate can be obtained from a professional institution such as a bank, or can be manually entered by a foreign exchange operator, or can be obtained after an exchange rate value entered by a professional institution or professional personnel is adjusted by a certain value, and the historical quoted exchange rates can be historically stored;

a processing module, configured to determine a first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates, where

the first deviation degree can be represented by a deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates, or can be represented by a difference between the current quoted exchange rate and the average value of the historical quoted exchange rates; and

a determining module, configured to determine whether the current quoted exchange rate is abnormal based on a size relationship between the first deviation degree and a first predetermined deviation degree.

**[0030]** The first predetermined deviation degree can be a predetermined deviation degree or difference between the current quoted exchange rate and the average value of the historical quoted exchange rates.

**[0031]** In the embodiments of the present disclosure, according to the system, the acquisition module is configured to obtain the average value of the historical quoted exchange rates and the current quoted exchange rate, the processing module is configured to determine the first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates, and the determining module is configured to determine whether the current quoted exchange rate is abnormal based on the size relationship between the first deviation degree and the first predetermined deviation degree, so that a technical problem that accuracy of a quoted exchange

rate cannot be ensured in a related technology can be solved. The deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates is determined, and the deviation degree is compared with the first predetermined deviation degree, to determine whether the current quoted exchange rate is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate and reducing a system risk.

[0032] In some optional embodiments, the acquisition module is further configured to obtain a previous quoted exchange rate.

[0033] The previous quoted exchange rate can be included in the several historical quoted exchange rates.

[0034] The processing module is further configured to determine a second deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate.

[0035] The second deviation degree can be represented by a deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate, or can be represented by a difference between the current quoted exchange rate and the previous quoted exchange rate.

[0036] The determining module is further configured to determine whether the current quoted exchange rate is abnormal based on a size relationship between the second deviation degree and a second predetermined deviation degree.

[0037] The second predetermined deviation degree can be a predetermined deviation degree or difference between the current quoted exchange rate and the previous quoted exchange rate.

[0038] For example, in detection of an exchange rate of USD against RMB, the second predetermined deviation degree is set to 0.1%, the current quoted exchange rate of 6.9912 is obtained, and the previous quoted exchange rate of 6.9910 is further obtained. In this case, it can be determined whether the current quoted exchange rate is abnormal by substituting the values into a formula  $Y_1 = |(R_1 - R_2) / R_2| \leq X_1$ , where  $Y_1$  indicates the second deviation degree,  $R_1$  indicates the current quoted exchange rate,  $R_2$  indicates the previous quoted exchange rate, and  $X_1$  indicates the second predetermined deviation degree. By substituting the values into the formula, it can be determined that  $|(6.9912 - 6.9910) / 6.9910| \leq 0.1\%$  holds true, in other words, it indicates that the current quoted exchange rate is normal.

[0039] According to the previously described embodiments, the deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate is determined, and the deviation

degree is compared with the second predetermined deviation degree, to determine whether the current quoted exchange rate is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate and reducing a system risk.

[0040] In some optional embodiments, the system further includes: a model output module, configured to send an exchange rate model to a presentation module when the current quoted exchange rate is normal, where the exchange rate model includes the following information: a base currency name, a quoted currency name, and the current quoted exchange rate.

[0041] The base currency name is a concept corresponding to the quoted currency name. It costs several quoted currencies to purchase a base currency unit. The current quoted exchange rate means a quoted currency value needed to purchase a base currency unit. In the example of the exchange rate of USD against RMB, USD is the base currency name, and the RMB is the quoted currency name.

[0042] To be specific, after it is checked that the current quoted exchange rate is normal, the current quoted exchange rate is sent to the presentation module together with the base currency name and the quoted currency name corresponding to the current quoted exchange rate, so that the presentation module performs quotation to the outside during foreign exchange presentation, thereby improving accuracy of a foreign exchange presentation data source.

[0043] Optionally, the exchange rate model further includes at least one of the following information: the first deviation degree, the second deviation degree, the average value of the historical quoted exchange rates, and the previous quoted exchange rate.

[0044] In some optional embodiments, the presentation module is configured to determine a first presentation deviation degree of the current quoted exchange rate relative to an average value of presented historical quoted exchange rates; and determine whether the current quoted exchange rate is abnormal based on a size relationship between the first presentation deviation degree and a first predetermined presentation deviation degree.

[0045] The presented historical quoted exchange rates can be all historical quoted exchange rates that are historically stored, historical quoted exchange rates within a certain period of time, or a plurality of quoted exchange rates selected from all historical quoted exchange rates. The current quoted exchange rate can be obtained after a current quoted exchange rate in the exchange rate model is adjusted by a certain value.

[0046] The first presentation deviation degree can be represented by a deviation degree of the

current quoted exchange rate relative to the average value of the presented historical quoted exchange rates, or can be represented by a difference between the current quoted exchange rate and the average value of the presented historical quoted exchange rates.

[0047] The first predetermined presentation deviation degree can be a predetermined deviation degree or difference between the current quoted exchange rate and the average value of the presented historical quoted exchange rates.

[0048] According to the previously described embodiments, the presentation module determines the deviation degree of the current quoted exchange rate relative to the average value of the presented historical quoted exchange rates, and compares the deviation degree with the first predetermined presentation deviation degree, to determine whether the current quoted exchange rate of the presentation module is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate and reducing a risk of performing presentation to the outside.

[0049] In some optional embodiments, the presentation module is configured to determine a second presentation deviation degree of the current quoted exchange rate relative to a quoted exchange rates; and determine whether the current quoted exchange rate is abnormal based on a size relationship between the second presentation deviation degree and a second predetermined presentation deviation degree.

[0050] The presented previous quoted exchange rate can be included in the several presented historical quoted exchange rates. The second deviation degree can be represented by a deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate, or can be represented by a difference between the current quoted exchange rate and the previous quoted exchange rate.

[0051] The second predetermined deviation degree can be a predetermined deviation degree or difference between the current quoted exchange rate and the previous quoted exchange rate.

[0052] For example, in detection of the exchange rate of USD against RMB, the second predetermined deviation degree is set to 0.1%, the current quoted exchange rate of 6.9912 is obtained, and the previous quoted exchange rate of 6.9910 is further obtained. In this case, it can be determined whether the current quoted exchange rate is abnormal by substituting the values into a formula  $Y_1 = |(R_1 - R_2) / R_2| \leq X_1$ , where  $Y_1$  indicates the second deviation degree,  $R_1$  indicates the current quoted exchange rate,  $R_2$  indicates the previous quoted exchange rate, and  $X_1$  indicates the second

predetermined deviation degree. By substituting the values into the formula, it can be determined that  $|(6.9912-6.9910)/6.9910|\leq 0.1\%$  holds true, in other words, it indicates that the current quoted exchange rate is normal.

**[0053]** According to the previously described embodiments, the deviation degree of the current quoted exchange rate relative to the presented previous quoted exchange rate is determined, and the deviation degree is compared with the second predetermined presentation deviation degree, to determine whether the current quoted exchange rate is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate of the presentation module and reducing a risk of performing presentation to the outside.

**[0054]** In some optional embodiments, the presentation module is further configured to present the exchange rate model when the presentation module determines that the current quoted exchange rate is normal.

**[0055]** The presentation can be implemented by using a display.

**[0056]** To be specific, after it is checked that the current quoted exchange rate is normal, the current quoted exchange rate is presented together with the base currency name and the quoted currency name corresponding to the current quoted exchange rate, so that the presentation module can quote a foreign exchange rate to the outside.

**[0057]** In some optional embodiments, the system further includes: a storage module, configured to store the current quoted exchange rate when it is determined that the current quoted exchange rate is normal.

**[0058]** The stored current quoted exchange rate can be used by the presentation module and the acquisition module.

**[0059]** To be specific, the current quoted exchange rate that is checked normal is stored for subsequent check and used as a historical quoted exchange rate or a previous quoted exchange rate in the subsequent check process, and can also be used as a presented historical quoted exchange rate or a presented previous quoted exchange rate for check by the presentation module.

**[0060]** According to another aspect of the embodiments of the present disclosure, an exchange rate detection method is further provided. FIG. 2 is a flowchart of an exchange rate detection method according to some embodiments of the present disclosure. As shown in FIG. 2, the method includes the following steps.

[0061] Step S202: Obtain an average value of historical quoted exchange rates and a current quoted exchange rate.

[0062] Step S204: Determine a first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates.

5 [0063] Step S206: Determine whether the current quoted exchange rate is abnormal based on a size relationship between the first deviation degree and a first predetermined deviation degree.

[0064] According to step S202 to step S206, the average value of the historical quoted exchange rates and the current quoted exchange rate are obtained, the first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates is determined, and  
10 it is determined whether the current quoted exchange rate is abnormal based on the size relationship between the first deviation degree and the first predetermined deviation degree, so that a technical problem that accuracy of a quoted exchange rate cannot be ensured in a related technology can be solved. The deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates is determined, and the deviation degree is compared with the first  
15 predetermined deviation degree, to determine whether the current quoted exchange rate is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate and reducing a system risk.

[0065] In some optional embodiments, the method further includes:

obtaining a previous quoted exchange rate, where

20 the previous quoted exchange rate can be included in the several historical quoted exchange rates;

determining a second deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate, where

25 the second deviation degree can be represented by a deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate, or can be represented by a difference between the current quoted exchange rate and the previous quoted exchange rate; and

determining whether the current quoted exchange rate is abnormal based on a size relationship between the second deviation degree and a second predetermined deviation degree.

[0066] The second predetermined deviation degree can be a predetermined deviation degree or  
30 difference between the current quoted exchange rate and the previous quoted exchange rate.

[0067] For example, in detection of an exchange rate of USD against RMB, the second

predetermined deviation degree is set to 0.1%, the current quoted exchange rate of 6.9912 is obtained, and the previous quoted exchange rate of 6.9910 is further obtained. In this case, it can be determined whether the current quoted exchange rate is abnormal by substituting the values into a formula  $Y_1 = |(R_1 - R_2) / R_2| \leq X_1$ , where  $Y_1$  indicates the second deviation degree,  $R_1$  indicates the current quoted exchange rate,  $R_2$  indicates the previous quoted exchange rate, and  $X_1$  indicates the second predetermined deviation degree. By substituting the values into the formula, it can be determined that  $|(6.9912 - 6.9910) / 6.9910| \leq 0.1\%$  holds true, in other words, it indicates that the current quoted exchange rate is normal.

**[0068]** According to the previously described embodiments, the deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate is determined, and the deviation degree is compared with the second predetermined deviation degree, to determine whether the current quoted exchange rate is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate and reducing a system risk.

**[0069]** In some optional embodiments, the method further includes:

sending an exchange rate model to a presentation module when the current quoted exchange rate is normal, where the exchange rate model includes the following information: a base currency name, a quoted currency name, and the current quoted exchange rate.

**[0070]** The base currency name is a concept corresponding to the quoted currency name. It costs several quoted currencies to purchase a base currency unit. The current quoted exchange rate means a quoted currency value needed to purchase a base currency unit. In the example of the exchange rate of USD against RMB, USD is the base currency name, and the RMB is the quoted currency name.

**[0071]** To be specific, after it is checked that the current quoted exchange rate is normal, the current quoted exchange rate is sent to the presentation module together with the base currency name and the quoted currency name corresponding to the current quoted exchange rate, so that the presentation module performs quotation to the outside during foreign exchange presentation, thereby improving accuracy of a foreign exchange presentation data source.

**[0072]** Optionally, the exchange rate model further includes at least one of the following information: the first deviation degree, the second deviation degree, the average value of the historical quoted exchange rates, and the previous quoted exchange rate.

**[0073]** In some optional embodiments, the method further includes:

determining a first presentation deviation degree of the current quoted exchange rate

relative to an average value of presented historical quoted exchange rates; and determining whether the current quoted exchange rate is abnormal based on a size relationship between the first presentation deviation degree and a first predetermined presentation deviation degree.

[0074] The presented historical quoted exchange rates can be all historical quoted exchange rates that are historically stored, historical quoted exchange rates within a certain period of time, or a plurality of quoted exchange rates selected from all historical quoted exchange rates. The current quoted exchange rate can be obtained after a current quoted exchange rate in the exchange rate model is adjusted by a certain value.

[0075] The first presentation deviation degree can be represented by a deviation degree of the current quoted exchange rate relative to the average value of the presented historical quoted exchange rates, or can be represented by a difference between the current quoted exchange rate and the average value of the presented historical quoted exchange rates.

[0076] The first predetermined presentation deviation degree can be a predetermined deviation degree or difference between the current quoted exchange rate and the average value of the presented historical quoted exchange rates.

[0077] According to the previously described embodiments, the deviation degree of the current quoted exchange rate relative to the average value of the presented historical quoted exchange rates, and the deviation degree is compared with the first predetermined deviation degree, to determine whether the current quoted exchange rate is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate and reducing a risk of performing presentation to the outside.

[0078] In some optional embodiments, the method further includes: determining a second presentation deviation degree of the current quoted exchange rate relative to a presented previous quoted exchange rates; and determining whether the current quoted exchange rate is abnormal based on a size relationship between the second presentation deviation degree and a second predetermined presentation deviation degree.

[0079] The presented previous quoted exchange rate can be included in the several presented historical quoted exchange rates. The second deviation degree can be represented by a deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate, or can be represented by a difference between the current quoted exchange rate and the previous quoted exchange rate.

[0080] The second predetermined deviation degree can be a predetermined deviation degree or difference between the current quoted exchange rate and the previous quoted exchange rate.

[0081] For example, in detection of the exchange rate of USD against RMB, the second predetermined deviation degree is set to 0.1%, the current quoted exchange rate of 6.9912 is obtained,

5 and the previous quoted exchange rate of 6.9910 is further obtained. In this case, it can be determined whether the current quoted exchange rate is abnormal by substituting the values into a formula  $Y_1 = |(R_1 - R_2) / R_2| \leq X_1$ , where  $Y_1$  indicates the second deviation degree,  $R_1$  indicates the current quoted exchange rate,  $R_2$  indicates the previous quoted exchange rate, and  $X_1$  indicates the second predetermined deviation degree. By substituting the values into the formula, it can be determined that  
10  $|(6.9912 - 6.9910) / 6.9910| \leq 0.1\%$  holds true, in other words, it indicates that the current quoted exchange rate is normal.

[0082] According to the previously described embodiments, the deviation degree of the current quoted exchange rate relative to the presented previous quoted exchange rate is determined, and the deviation degree is compared with the second predetermined presentation deviation degree, to  
15 determine whether the current quoted exchange rate is abnormal, thereby achieving technical effects of ensuring accuracy of a quoted foreign exchange rate of the presentation module and reducing a risk of performing presentation to the outside.

[0083] In some optional embodiments, the method further includes: presenting the exchange rate model when the presentation module determines that the current quoted exchange rate is normal.

20 [0084] The presentation can be implemented by using a display.

[0085] To be specific, after it is checked that the current quoted exchange rate is normal, the current quoted exchange rate is sent and presented together with the base currency name and the quoted currency name corresponding to the current quoted exchange rate, so that the presentation module can quote a foreign exchange rate to the outside.

25 [0086] In some optional embodiments, the method further includes: storing the current quoted exchange rate when it is determined that the current quoted exchange rate is normal.

[0087] The stored current quoted exchange rate can be used by the presentation module and an acquisition module.

[0088] To be specific, the current quoted exchange rate that is checked normal is stored for  
30 subsequent check and used as a historical quoted exchange rate or a previous quoted exchange rate

in the subsequent check process, and can also be used as a presented historical quoted exchange rate or a presented previous quoted exchange rate for check by the presentation module.

[0089] FIG. 3 is a schematic diagram of system interaction in an exchange rate detection method according to some optional embodiments of the present disclosure. As shown in FIG. 3, a bank, a foreign exchange system, a presentation system, a customer, and a foreign exchange operator are included.

[0090] Step S1: Actively obtain exchange rate data of a professional institution such as a bank.

[0091] Step S2: In an abnormal case, the foreign exchange operator manually implants an exchange rate.

[0092] Step S3: Generate a quoted exchange rate for the customer by using the exchange rate.

[0093] Step S4: Store the current quoted exchange rate value.

[0094] Step S5: Obtain historical quoted values, calculate an average value of the historical quoted values, obtain a previous quoted value, and calculate deviation degrees (namely, a first deviation degree and a second deviation degree) between the current quoted value (namely, the previously described current quoted exchange rate) and the historical average value (namely, the previously described average value of the historical quoted exchange rates), the previous quoted value (namely, the previously described previous quoted exchange rate), etc.; and perform self-check and finally perform output by using a foreign exchange rate new (FXRateNew) model.

[0095] Step S6: Obtain an exchange rate value (foreign exchange rate new, namely, the previously described current quoted exchange rate) FXRateNew, and perform self-check based on a number in FXRateNew (model).

[0096] Step S7: Present the foreign exchange rate FXRateNew to the customer.

[0097] According to the previously described steps, after obtaining FXRateNew, the presentation system performs check based on a deviation degree, that is, further performs validity check before exposing FXRateNew to the customer, to ensure validity of the exchange rate value output by the system. An expression method of the foreign exchange rate is more complex than before, and a quotation for which check is added can be simplified to convert the complexity of the expression method and the check process of the foreign exchange rate into logic processing of the system. As such, abnormal exchange rate fluctuations caused by manual errors or serious system vulnerabilities are completely avoided, and presentation loss is avoided.

**[0098]** Some embodiments of the present invention further provide an electronic device, including: a memory, configured to store a computer program product; and a processor, configured to execute the computer program product stored in the memory, and implement the steps in any one of the previously described method embodiments when the computer program product is executed.

5 **[0099]** Optionally, in the embodiments, the following steps are implemented when the computer program instructions are executed by the processor.

**[00100]** S1: Obtain an average value of historical quoted exchange rates and a current quoted exchange rate.

**[00101]** S2: Determine a first deviation degree of the current quoted exchange rate relative to the  
10 average value of the historical quoted exchange rates.

**[00102]** S3: Determine whether the current quoted exchange rate is abnormal based on a size relationship between the first deviation degree and a first predetermined deviation degree.

**[00103]** Some embodiments of the present invention further provide a computer-readable storage medium. The computer-readable storage medium stores computer program instructions, and steps in  
15 any one of the previously described method embodiments are implemented when the computer program instructions are executed by a processor.

**[00104]** In the descriptions of this application, it is worthwhile to note that an orientation or positional relationship indicated by terms "up", "down", "inside", "outside", "front", "back", "left", "right", etc. is an orientation or positional relationship based on a working state of this application, is  
20 intended only to facilitate the descriptions of this application and simplification of the descriptions rather than indicating or implying that an apparatus or an element indicated must have a specific orientation, or be constructed and operated in a specific orientation, and therefore cannot be construed as a limitation to this application.

**[00105]** In the descriptions of this application, it is worthwhile to note that unless otherwise  
25 specified and limited, the term "install", "connect to each other", "connect" should be understood broadly. A person of ordinary skill in the art can understand specific meanings of the terms in this application based on specific conditions.

**[00106]** This application is described above with reference to preferred implementations. However, these implementations are merely examples, and are merely used for illustration. On the basis of the  
30 above, various replacements and improvements can be made to this application, and such

replacements and improvements fall within the protection scope of this application.

## CLAIMS

What is claimed is:

1. An exchange rate detection system, comprising:

an acquisition module, configured to obtain an average value of historical quoted exchange rates

5 and a current quoted exchange rate;

a processing module, configured to determine a first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates; and

a determining module, configured to determine whether the current quoted exchange rate is abnormal based on a size relationship between the first deviation degree and a first predetermined  
10 deviation degree.

2. The exchange rate detection system according to claim 1, wherein

the acquisition module is further configured to obtain a previous quoted exchange rate;

the processing module is further configured to determine a second deviation degree of the current quoted exchange rate relative to the previous quoted exchange rate; and

15 the determining module is further configured to determine whether the current quoted exchange rate is abnormal based on a size relationship between the second deviation degree and a second predetermined deviation degree.

3. The exchange rate detection system according to claim 1 or 2, further comprising:

a model output module, configured to send an exchange rate model to a presentation module

20 when the current quoted exchange rate is normal, wherein the exchange rate model comprises a base currency name, a quoted currency name, and the current quoted exchange rate.

4. The exchange rate detection system according to claim 3, wherein

the presentation module is configured to determine a first presentation deviation degree of the current quoted exchange rate relative to an average value of presented historical quoted exchange  
25 rates; and determine whether the current quoted exchange rate is abnormal based on a size relationship between the first presentation deviation degree and a first predetermined presentation deviation degree.

5. The exchange rate detection system according to claim 3, wherein

the presentation module is configured to determine a second presentation deviation degree of

30 the current quoted exchange rate relative to a presented previous quoted exchange rate; and determine

whether the current quoted exchange rate is abnormal based on a size relationship between the second presentation deviation degree and a second predetermined presentation deviation degree.

6. The exchange rate detection system according to claim 4 or 5, wherein

the presentation module is further configured to present the exchange rate model when the presentation module determines that the current quoted exchange rate is normal.

7. The exchange rate detection system according to any one of claims 1, 2, 4, and 5, further comprising:

a storage module, configured to store the current quoted exchange rate when it is determined that the current quoted exchange rate is normal.

8. An exchange rate detection method, comprising:

obtaining an average value of historical quoted exchange rates and a current quoted exchange rate;

determining a first deviation degree of the current quoted exchange rate relative to the average value of the historical quoted exchange rates; and

determining whether the current quoted exchange rate is abnormal based on a size relationship between the first deviation degree and a first predetermined deviation degree.

9. An electronic device, comprising:

a memory, configured to store a computer program product; and

a processor, configured to execute the computer program product stored in the memory, and

implement the method according to claim 8 when the computer program product is executed.

10. A computer-readable storage medium, wherein the computer-readable storage medium stores computer program instructions, and the method according to claim 8 is implemented when the computer program instructions are executed by a processor.