

Method, Device for Feeding back abnormality information, Electronic Apparatus and Storage Medium

Technical Field

The present disclosure relates to the field of monitoring applications, in particular to a method, device for feeding back abnormality information, electronic apparatus and storage medium.

Background Art

As digitalizing works progress continuously, there are more and more applications involved in an electronic operation of an enterprise. In order to ensure a normal progress of the electronic operation, it is necessary to monitor running conditions of applications involved in the electronic operation. In the prior art, applications involved in the electronic operation are usually monitored in an undifferentiated manner, and when an abnormality of an application is detected, only the abnormality information of the application is fed back. However, monitoring in an undifferentiated manner will lead to a huge amount of monitoring tasks on the one hand, and on the other hand, since there are mutually associated applications in the applications involved in the electronic operation, if only the abnormality information of the application to which an abnormality occurs is fed back, it is not possible to monitor comprehensively and effectively the applications involved in the electronic operation, and thus it is not possible to ensure the normal progress of the electronic operation.

Summary

An object of an embodiment of the present disclosure is to provide a method, device for feeding back abnormality information, electronic apparatus and storage medium, so as to address the issues in the prior art where it is not possible to monitor comprehensively and effectively the applications involved in the electronic operation, and thus it is not possible to ensure the normal progress of the electronic operation.

The present disclosure provides a method for feeding back abnormality information, comprising: determining an initial application from at least one application according to application-related usage information; determining from at least one initial application a target application that runs abnormally according to a running log of the initial application; determining an associated application with the target application according to a preset correspondence between the applications; determining associated abnormality information corresponding to the associated application based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence; and feeding back the abnormality information and the associated abnormality information.

In an embodiment of the present disclosure, by means of determining an initial application from at least one application according to usage information of the application(s), a scope of monitoring may be narrowed down to better monitor applications within the scope of monitoring; after a target application that runs abnormally is determined from the at least one initial application, an associated application with the target application is determined according to a preset correspondence between the applications, and associated abnormality information corresponding to the associated application is determined based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence, and also the abnormality information and the associated abnormality information are fed back. The above facilitates an implementation of monitoring comprehensively and effectively the applications involved in an electronic operation, thus ensuring the normal progress of the electronic operation.

In an embodiment, the usage information comprises an error frequency, a usage frequency, and an installation time for the application. The step of determining an initial application from at least one application according to application-related usage information comprises: determining an application of which the error frequency is greater than a first preset frequency, or the usage frequency is greater than a second preset frequency, or the installation time falls within a specified time, as the initial application.

In an embodiment of the present disclosure, the effectiveness of monitoring can be further improved while the scope of monitoring is narrowed down, by means of determining an application of which the error frequency is greater than a first preset frequency, or the usage frequency is greater than a second preset frequency, or the installation time falls within a specified time, as the initial application,.

In an embodiment, the usage information comprises a service level of an application which is used to describe a service corresponding to the application, and the step of determining an initial application from at least one application according to usage information of the application(s) comprises: determining an application corresponding to a service of which the service level is within a preset level, as the initial application.

In an embodiment of the preset application, the monitoring is more targeted and more in line with the needs of the enterprise, by means of determining an application of which the service level is within a preset level, as the initial application.

In an embodiment, the step of determining from at least one initial application a target application that runs abnormally according to a running log of the initial application comprises: obtaining an error reporting log from a running log of each initial application respectively; performing a word segmentation processing on the error reporting log to obtain at least one word

segmentation result; and determining an initial application corresponding to the word segmentation result as the target application, when it is determined that the word segmentation result characterizes a running abnormality of the application, based on the word segmentation result and a correspondence between a word segmentation and abnormality information.

In an embodiment, the step of performing a word segmentation processing on the error reporting log to obtain at least one word segmentation result comprises: performing a word segmentation processing on the error reporting log to obtain at least one word segmentation block, and removing an interference word from the at least one word segmentation block to obtain the word segmentation result.

In an embodiment of the present disclosure, by means of removing the interference word, an influence of the interference word on determining whether the application has a running abnormality can be avoided.

In an embodiment, the preset correspondence between the applications includes a correspondence between execution orders and a correspondence between execution results, and the step of determining an associated application with the target application according to a preset correspondence between the applications comprises: determining two applications of which the execution orders are before and after that of the target application, respectively, as the associated application; and/or determining an application that uses the execution result of the target application as the associated application.

In an embodiment of the present disclosure, the effectiveness of monitoring can be facilitated to be improved, by means of determining two applications of which the execution orders are before and after that of the target application as the associated application and/or determining an application that uses the execution result of the target application as the associated application.

In an embodiment, the step of feeding back the abnormality information and the associated abnormality information comprises: feeding back the abnormality information to an operation and maintenance staff corresponding to the target application, and feeding back the associated abnormality information to an operation and maintenance staff corresponding to the associated application, based on a correspondence between the applications and the operation and maintenance staffs.

In an embodiment of the present disclosure, the operation and maintenance staff can be informed of an abnormal situation and deal with the abnormal situation in a timely manner, thereby facilitating to ensure the normal progress of an electronic operation, by means of feeding back the abnormality information to an operation and maintenance staff corresponding to the target application and feeding back the associated abnormality information to an operation and maintenance staff corresponding to the associated application,

based on a correspondence between the applications and the operation and maintenance staffs.

In an embodiment, the method further comprises: feeding back a repair strategy when it is determined that the repair strategy for the abnormality information and/or the associated abnormality information is a manual repair based on a corresponding between the abnormality information and the repair strategies.

In an embodiment of the present disclosure, the difficulty in the operation and maintenance can be facilitated to be reduced, so that an abnormality can be repaired in time, by means of feeding back a repair strategy when it is determined that the repair strategy for the abnormality information and/or the associated abnormality information is a manual repair based on a corresponding between the abnormality information and the repair strategies.

In an embodiment, the method further comprises: terminating the target application when it is determined that data in the running log indicates that feedback information from the target application cannot be received within a first time period or information fed back from the target application all is abnormal; and restarting the target application if the target application cannot be terminated and feedback information from the target application cannot be received within a second time period or the received information fed back from the target application all is abnormal, the first time period being shorter than the second time period.

The present disclosure further provides a device for feeding back abnormality information, comprising: a determining module configured to determine an initial application from at least one application according to usage information of the application(s); determine from at least one initial application a target application that runs abnormally according to a running log of the initial application; determine an associated application with the target application according to a preset correspondence between the applications; and determine associated abnormality information corresponding to the associated application based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence; and a feedback module configured to feed back the abnormality information and the associated abnormality information.

The present disclosure further provides an electronic apparatus comprising a memory and a processor, wherein the memory is stored therein with a computer readable instruction which, when executed by the processor, causes the processor to execute the above method for feeding back abnormality information or implement functions of the device for feeding back abnormality information.

The present disclosure further provides a non-volatile readable storage medium stored with a computer readable instruction which, when executed by a processor, causes the processor to execute the above method for feeding back abnormality information or implement functions of the device for feeding back abnormality information.

Details of one or more embodiments of the present disclosure are set forth in the following drawings and description. Other features, objects and advantages of the present disclosure will become apparent from the description, drawings and claims.

Brief Description of Drawings

To illustrate the technical solution of the embodiment of the present disclosure more clearly, drawings required for use in the embodiments of the present disclosure will be introduced briefly below. It should be understood that the following drawings show only some embodiments of the present disclosure and therefore should not be considered as a limitation to the scope, and those ordinary skilled in the art may obtain other related drawings in the light of the drawings without any inventive labor.

Figure 1 is a flowchart of a method for feeding back abnormality information provided by an embodiment of the present disclosure.

Figure 2 is a structural block diagram of a device for feeding back abnormality information provided by an embodiment of the present disclosure.

Figure 3 is a schematic structural diagram of an electronic apparatus provided by an embodiment of the present disclosure.

Reference signs: 10-device for feeding back abnormality information; 11-determining module; 13-feedback module; 15-processing module.

Detailed Description of the Embodiments

In order to make the objects, technical solutions and advantages of the present disclosure clearer, the present disclosure will be described in detail below with reference to the drawings and specific embodiments. It should be understood that the specific embodiments described here are only used to explain the present disclosure, and are not intended to limit the present disclosure.

The present disclosure provides a method for feeding back abnormality information and a device for feeding back abnormality information, which can be applied to various scenarios where a running condition of an application needs to be monitored, such as software development, testing, and an electronic operation of an enterprise. In following embodiments, the method for feeding back abnormality information and the device for feeding back abnormality information are introduced as an example in the case of by being

applied to monitor the running condition of the application involved in the electronic operation of the enterprise.

A brief description of some situations of an electronic operation an enterprise will be given first before illustrating the method for feeding back abnormality information and the device for feeding back abnormality information in detail.

An electronic operation of an enterprise refers to electronization of operations of an enterprise (including but not limited to transactions, approvals, attendance, etc.), which are all conducted online. Many different applications may be involved in the process of the electronic operation of the enterprise. Applications involved in the electronic operation of the enterprise may be hosted on a server. The server includes but not limited to a network server, a database server, a cloud server, or a server integration composed of a plurality of sub-servers. A user can access to these applications via networks by a terminal apparatus such as a mobile phone and a computer. The running log of the application can be saved in a memory of the server or of the server cluster.

Referring to Figure 1, an embodiment of the present disclosure provides a method for feeding back abnormality information. The method for feeding back abnormality information may comprise steps as follows.

Step S11. An initial application is determined from at least one application according to usage information of the application(s).

It may be understood that applications used by users of different types of work in an enterprise may be different, and therefore, there may be more applications involved in the electronic operation of an enterprise. If all applications involved in the electronic operation of an enterprise are monitored in an undifferentiated manner, a huge amount of monitoring tasks will be led to on the one hand, and on the other hand an application which requires to be monitored emphatically will not be monitored very well, affecting the effectiveness of monitoring. Therefore, in order to narrow down the scope of monitoring and also improve the effectiveness of monitoring, an initial application can be determined from all the applications involved in the electronic operation of an enterprise according to the usage information of the applications, as a monitoring object. In the above, the usage information of the application can be recorded in its running log.

In an embodiment, the usage information of the applications may include an error frequency, a usage frequency, and installation time corresponding to the application. In this case, Step S11 may comprise: determining an application of which the error frequency is greater than a first preset frequency, or the usage frequency is greater than a second preset frequency, or the installation time falls within a specified time, as the initial application. In the above, the first

preset frequency, the second preset frequency and the specified time may be set according to a specific need.

It may be understood that the greater the error frequency of the application is, the more emphatical the monitoring will be needed; the greater the usage frequency of the application is, it is indicated that the more important the application may be for the electronic operation of the enterprise will be, and the more emphatical the monitoring will be needed; and regarding an application of which the installation time falls within a specified time (for example, the last week, the last month, etc.), the application also needs to be monitored emphatically since a stability of the application may not be clear. The effectiveness of monitoring can be improved, by means of determining an application of which the error frequency is greater than a first preset frequency, or the usage frequency is greater than a second preset frequency, or the installation time falls within a specified time, as the initial application.

In an embodiment, the usage information of the application may further comprise a service level of the application which is used to describe a service corresponding to the application. Exemplarily, the service level may include: important, common, unimportant, etc. In this case, Step S11 may comprise: determining an application corresponding to a service of which the service level is within a preset level as the initial application. Exemplarily, an application whose service level is important may be determined as the initial application. By determining an application of which the service level is within a preset level as the initial application, the monitoring is more targeted and more in line with the needs of the enterprise.

Step S12. A target application that runs abnormally is determined from the at least one initial application according to a running log of the initial application.

It may be understood that, since a running situation of an application is usually recorded in the running log, after an initial application is determined, a target application that runs abnormally may be determined from the at least one initial application according to a running log of the initial application.

In an embodiment, Step S12 may comprise the steps as follows.

First, an error reporting log is obtained from a running log of each initial application, respectively.

An error reporting log may be obtained from a running log of each initial application, respectively, by means of traversing running logs of respective initial applications after the initial application is determined.

Next, a word segmentation processing is performed on the error reporting log to obtain at least one word segmentation result.

Specifically, performing a word segmentation processing on the error reporting log to obtain at least one word segmentation result may comprise:

performing a word segmentation processing on the error reporting log to obtain at least one word segmentation block, and removing an interference word from the at least one word segmentation block to obtain the word segmentation result. By removing the interference word, an influence of the interference word on determining whether the application has a running abnormality can be avoided.

Next, based on the word segmentation result and a correspondence between a word segmentation and abnormality information, an initial application corresponding to the word segmentation result is determined as the target application when it is determined that the word segmentation result characterizes a running abnormality of an application. In the above, the correspondence between a word segmentation and abnormality information may be preset by a technician.

Step S13. An associated application of the target application is determined according to a preset correspondence between the applications.

In the present embodiment, the correspondence between the applications may be preset by a technician, and maintained when a change occurs to the correspondence. An associated application with the target application may be determined according to a preset correspondence between the applications after a target application is determined from at least one initial application.

In an embodiment, the preset correspondence between the applications includes an association relationship between the applications. It may be understood that there may be one or more applications having an association relationship with a certain application. The association relationship between the applications may be recorded in an association table. The association table may be created and maintained by a technician. After a target application is determined from at least one initial application, the target application may be looked up directly from the association table, thereby determining the associated application with the target application.

Exemplarily, the association table may record that the application A1 is associated with the application C1, and the application B1 is associated with the application D1 and the application E1. After the application A1 is determined as the target application, the application C1 can be determined as the associated application according to the association table.

In an embodiment, the preset correspondence between the applications may include a correspondence between execution orders and a correspondence between execution results. In this case, determining an associated application with the target application according to a preset correspondence between the applications comprises: determining two applications of which the execution orders are before and after that of the target application respectively, as the associated application; and/or

determining an application that uses the execution result of the target application as the associated application.

Exemplarily, the execution orders for the application A2, the application B2, and the application C2 may be: application A2-application B2-application C2. After the application B2 is determined as the target application, the application A2 and the application C2 may be determined as the associated applications.

Exemplarily, both the application E2 and the application F2 will use the execution result of the application D2. After the application D2 is determined as the target application, the application E2 and the application F2 may be determined as the associated applications.

The effectiveness of monitoring can be facilitated to be improved, by means of determining two applications whose execution orders are before and after that of the target application as the associated application and/or determining an application that uses the execution result of the target application as the associated application.

Step S14. Associated abnormality information corresponding to the associated application is determined based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence.

In the present embodiment, the preset abnormality-related correspondence indicates a correspondence between the abnormality information of the application and the associated abnormality information of the associated application. Therefore, after an associated application with the target application is determined, associated abnormality information corresponding to the associated application may be determined based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence.

It needs to be noted that the preset abnormality-related correspondence may be preset by a technician, and maintained when a change occurs to the abnormality-related correspondence.

It may be understood that in the process of an electronic operation of an enterprise, as time goes by, part of the associated applications of the application may be eliminated for various reasons. However, the preset abnormality-related correspondence may indicate abnormality information of all the applications and associated abnormality information of the associated applications (including the eliminated associated applications).

Exemplarily, the preset abnormality-related correspondence may indicate that the abnormality information $B_{\text{abnormal1}}$ of the application B2 is associated with the abnormality information $A_{\text{abnormal1}}$ of the application A2, and is associated with the abnormality information $D_{\text{abnormal1}}$ of the application D2; the

abnormality information $B_{\text{abnormal}2}$ of the application B2 is associated with the abnormality information $A_{\text{abnormal}2}$ of the application A2, is associated with the abnormality information $C_{\text{abnormal}1}$ of the application C2, is associated with the abnormality information $D_{\text{abnormal}2}$ of the application D2, and is associated with the abnormality information $E_{\text{abnormal}1}$ of the application E2. In this case, when it is determined that the application B2 is the target application, the abnormality information of the application B2 is abnormality information $B_{\text{abnormal}2}$, and the application A2 and the application C2 are the associated applications, then based on the abnormality information $B_{\text{abnormal}2}$ of the application B2, the associated application A2, the associated application C2, and the preset abnormality-related correspondence, it may be determined that the associated abnormality information of the associated application A2 is abnormality information $A_{\text{abnormal}2}$, and the associated abnormality information of the associated application C2 is $C_{\text{abnormal}1}$.

Step S15. The abnormality information and the associated abnormality information are fed back.

In an embodiment, the abnormality information and the associated abnormality information may be fed back to a terminal apparatus where a monitoring staff is located, so that the monitoring staff is informed of an abnormal situation of the application and deals with the abnormal situation of the application in a timely manner. The terminal apparatus where a monitoring staff is located is connected to the server through a network.

In an embodiment, a correspondence between the applications and the operation and maintenance staffs is preset. In this case, Step S15 may comprise: feeding back abnormality information to an operation and maintenance staff corresponding to the target application, and feeding back associated abnormality information to an operation and maintenance staff corresponding to the associated application, based on the correspondence between the applications and the operation and maintenance staffs. Exemplarily, a correspondence between the applications and the terminal apparatuses of the operation and maintenance staffs is preset, and in this case, the abnormality information may be fed back to the terminal apparatus where the operation and maintenance staff corresponding to the target application is located, and the associated abnormality information may be fed back to the terminal apparatus where the operation and maintenance staff corresponding to the associated application is located.

The operation and maintenance staff can be informed of an abnormal situation and deal with the abnormal situation in a timely manner, thereby facilitating to ensure the normal progress of an electronic operation, by means of feeding back abnormality information to an operation and maintenance staff corresponding to the target application, and feeding back associated abnormality information to an operation and maintenance staff corresponding

to the associated application, based on the correspondence between the applications and the operation and maintenance staffs.

In an embodiment, a correspondence between the abnormality information and repair strategies may also be preset. The correspondence between the abnormality information and the repair strategies may be preset by developers of respective applications. In this case, the method may further comprise: feeding back a repair strategy when it is determined that the repair strategy for the abnormality information and/or the associated abnormality information is a manual repair based on the corresponding between the abnormality information and the repair strategies. Specifically, the repair strategy may be fed back to the terminal apparatus where the monitoring staff is located, or the repair strategy for the abnormality information may be fed back to an operation and maintenance staff corresponding to the target application, and the repair strategy for the associated abnormality information may be fed back to an operation and maintenance staff corresponding to the associated application, based on the correspondence between the applications and the operation and maintenance staffs.

The difficulty in the operation and maintenance can be facilitated to be reduced, so that an abnormality can be repaired in time, by means of feeding back a repair strategy when it is determined that the repair strategy for the abnormality information and/or the associated abnormality information is a manual repair based on a corresponding between the abnormality information and the repair strategies.

In an embodiment of the present disclosure, by means of determining an initial application from at least one application according to usage information of an application, a scope of monitoring may be narrowed down to better monitor applications within the scope of monitoring. After a target application that runs abnormally is determined from the at least one initial application, an associated application of the target application can be determined according to a preset correspondence between the applications, and associated abnormality information corresponding to the associated application can be determined based on abnormality information of the target application and a preset abnormality-related correspondence, and also the abnormality information and the associated abnormality information can be fed back. The above facilitates an implementation of monitoring comprehensively and effectively the applications involved in an electronic operation, thus ensuring the normal progress of the electronic operation.

In other embodiments, the method further comprises: terminating the target application when it is determined that data in the running log indicates that feedback information from the target application cannot be received within a first time period or information fed back from the target application is abnormal; and restarting the target application if the target application cannot be

terminated and feedback information from the target application cannot be received within a second time period or information fed back from the target application as received is abnormal, the first time period being shorter than the second time period.

Referring to Figure 2, based on the same inventive concept, an embodiment of the present disclosure further provides a device 10 for feeding back abnormality information. The device 10 for feeding back abnormality information comprises: a determining module 11 configured to determine an initial application from at least one application according to usage information of the application(s); determine a target application that runs abnormally from at least one initial application according to a running log of the initial application; determine an associated application with the target application according to a preset correspondence between the applications; and determine associated abnormality information corresponding to the associated application based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence; and a feedback module 13 configured to feed back the abnormality information and the associated abnormality information.

In an embodiment, the usage information of the application may include an error frequency, a usage frequency, and installation time corresponding to the application. The determining module 11 is specifically configured to determine an application of which the error frequency is greater than a first preset frequency, or the usage frequency is greater than a second preset frequency, or the installation time falls within a specified time, as the initial application.

In an embodiment, the usage information of the application may comprise a service level of the application which is used to describe a service corresponding to the application. The determining module 11 is specifically configured to determine an application corresponding to a service of which the service level is within a preset level as the initial application.

In an embodiment, the determining module 11 is specifically configured to obtain an error reporting log from a running log of each initial application respectively; perform a word segmentation processing on the error reporting log to obtain at least one word segmentation result; and based on the word segmentation result and a correspondence between a word segmentation and abnormality information, determine an initial application corresponding to the word segmentation result as the target application when it is determined that the word segmentation result characterizes a running abnormality of an application.

In an embodiment, the determining module 11 is specifically configured to perform a word segmentation processing on the error reporting log to obtain at least one word segmentation block, and remove an interference word from the at least one word segmentation block to obtain the word segmentation result.

In an embodiment, the preset correspondence between the applications includes a correspondence between execution orders and a correspondence between execution results, and the determining module 11 is specifically configured to determine two applications whose execution orders are respectively before and after the target application as the associated application; and/or determine an application that uses the execution result of the target application as the associated application.

In an embodiment, the feedback module 13 is specifically configured to feed back the abnormality information to an operation and maintenance staff corresponding to the target application, and/or to feed back the associated abnormality information to an operation and maintenance staff corresponding to the associated application, based on a correspondence between the applications and the operation and maintenance staffs.

In an embodiment, the feedback module 13 is further configured to feed back a repair strategy when it is determined that the repair strategy for the abnormality information and/or the associated abnormality information is a manual repair based on a correspondence between the abnormality information and the repair strategies.

In an embodiment, the device 10 for feeding back abnormality information further comprises a processing module 15 configured to terminate the target application when it is determined that data in the running log indicates that feedback information from the target application cannot be received within a first time period or information fed back from the target application is abnormal; and restart the target application if the target application cannot be terminated, and feedback information from the target application cannot be received within a second time period or information fed back from the target application as received is abnormal, the first time period being shorter than the second time period.

It may be understood that the device 10 for feeding back abnormality information provided by the present disclosure corresponds to the method for feeding back abnormality information provided by the present disclosure. In order to keep the description concise, the same or similar parts that may be referred to the contents of the method for feeding back abnormality information will not be repeated here.

Respective modules in the above device for feeding back abnormality information may be implemented completely or partially by software, hardware, and a combination thereof. The above respective modules may be embedded in the form of hardware or independent of the processor in the server, or may be stored in the form of software in the memory of the server, so that the processor may call and execute operations corresponding to the above modules. The processor may be a central processing unit (CPU), a microprocessor, a single-chip microcomputer, etc.

The method for feeding back abnormality information and/or the device for feeding back abnormality information may be implemented in a form of computer-readable instruction, and the computer-readable instruction may run on the electronic apparatus as shown in Figure 3.

The present disclosure further provides an electronic apparatus comprising a memory, a processor and computer-readable instructions stored in the memory and capable of running on the processor, where the processor implements the above method for feeding back abnormality information or functions of the device for feeding back abnormality information when the program instructions is executed.

Figure 3 is a schematic diagram of an internal structure of an electronic apparatus provided by an embodiment of the present disclosure, where the electronic apparatus may be a server. Referring to Figure 3, the electronic apparatus includes a processor, a non-volatile storage medium, an internal memory, an input device, a display screen, and a network interface connected through a system bus. In the above, the non-volatile storage medium of the electronic apparatus may store an operation system and computer-readable instructions. When executed, the computer-readable instructions may cause the processor to execute the method for feeding back abnormality information according to respective embodiments of the present disclosure. Reference may be made to the specific contents of Figure 1 for the specific implementation process of the method, which will not be repeated here. The processor of the electronic apparatus is configured to provide calculation and control capabilities to support running of the entire electronic apparatus. The internal memory may be stored therein with computer readable instructions, and when executed by the processor, the computer readable instructions may cause the processor to execute the method for feeding back abnormality information. The input device of the electronic apparatus is configured to input various parameters; the display screen of the electronic apparatus is configured to display; and the network interface of the electronic apparatus is configured for network communication. Those skilled in the art may understand that the structure shown in Figure 3 is only a block diagram of a part of the structure related to the technical solution of the present disclosure, and does not constitute a limitation on the electronic apparatus to which the solution of the present disclosure is applied. The specific electronic apparatus may include more or less components than those shown in the drawing, or combine some components, or have a different arrangement of components.

Based on the same inventive concept, an embodiment of the present disclosure provides a computer-readable storage medium having computer-readable instructions stored thereon, and when the program is executed by a processor, the steps in the above method for feeding back abnormality information are carried out.

Any reference to memory, storage, database, or other media as used herein may include being non-volatile. Suitable non-volatile memory may include a read only memory (ROM), a programmable ROM (PROM), an electrically programmable ROM (EPROM), an electrically erasable programmable ROM (EEPROM), or a flash memory.

In the embodiments provided in the present disclosure, it should be understood that the disclosed device and method may be implemented in other ways. The device embodiments described above are merely illustrative. For example, the division of the units is only a logical function division, and there may be other division manners in actual implementation. For example, multiple units or components may be combined or may be integrated into another system, or some features may be ignored or not executed. In addition, the displayed or discussed mutual coupling or direct coupling or communication connection may be indirect coupling or communication connection through some communication interfaces, device or units, and may be in electrical, mechanical or other forms.

In addition, the units described as separate components may or may not be physically separated, and the components displayed as units may or may not be physical units, that is, they may be located in one place, or they may be distributed over multiple network units. Some or all of the units may be selected as actually needed to achieve the objects of the solutions of the embodiments.

Furthermore, respective functional modules in the various embodiments of the present disclosure may be integrated together to form an independent part, or respective modules may exist alone, or two or more modules may be integrated to form an independent part.

Relational terms herein such as first and second are only used to distinguish one entity or operation from another entity or operation, and do not necessarily require or imply any such actual relationship or order exist between these entities or operations.

The above descriptions are only embodiments of the application, and are not intended to limit the scope of the present disclosure. For those skilled in the art, the application may have various modifications and changes. Any modification, equivalent replacement, or improvement, etc. made within the spirit and principle of the present disclosure shall be covered by the scope of the present disclosure.

Claims:

1. A method for feeding back abnormality information, characterized by comprising:
 - determining an initial application from at least one application, according to application-related usage information;
 - determining from at least one initial application a target application that runs abnormally, according to a running log of the initial application;
 - determining an associated application with the target application, according to a preset correspondence between the applications;
 - determining associated abnormality information corresponding to the associated application, based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence; and
 - feeding back the abnormality information and the associated abnormality information.
2. The method according to claim 1, wherein the usage information comprises an error frequency, a usage frequency, and an installation time for the application, and the step of determining from at least one application an initial application according to usage information of an application comprises:
 - determining an application of which the error frequency is greater than a first preset frequency, or the usage frequency is greater than a second preset frequency, or the installation time falls within a specified time, as the initial application.
3. The method according to claim 1, wherein the usage information comprises a service level of an application which is used to describe a service corresponding to the application, and the step of determining from at least one application an initial application according to usage information of an application comprises:
 - determining an application corresponding to a service of which the service level is within a preset level, as the initial application.
4. The method according to claim 1, wherein the step of determining from at least one initial application a target application that runs abnormally according to a running log of the initial application comprises:
 - obtaining an error reporting log from a running log of each initial application, respectively;

performing a word segmentation processing on the error reporting log to obtain at least one word segmentation result; and

determining an initial application corresponding to the word segmentation result as the target application, when it is determined that the word segmentation result characterizes a running abnormality of the application, based on the word segmentation result and a correspondence between a word segmentation and abnormality information.

5. The method according to claim 4, wherein the step of performing a word segmentation processing on the error reporting log to obtain at least one word segmentation result comprises:

performing a word segmentation processing on the error reporting log to obtain at least one word segmentation block, and removing an interference word from the at least one word segmentation block to obtain the word segmentation result.

6. The method according to claim 1, wherein a preset correspondence between the applications includes a correspondence between execution orders and a correspondence between execution results, and the step of determining an associated application with the target application according to a preset correspondence between the applications comprises:

determining two applications of which the execution orders are before and after that of the target application, respectively, as the associated application; and/or

determining an application that uses the execution result of the target application as the associated application.

7. The method according to claim 1, wherein the step of feeding back the abnormality information and the associated abnormality information comprises:

feeding back the abnormality information to an operation and maintenance staff corresponding to the target application, and feeding back the associated abnormality information to an operation and maintenance staff corresponding to the associated application, based on a correspondence between the applications and the operation and maintenance staffs.

8. The method according to any of claims 1-7, wherein the method further comprises:

feeding back a repair strategy when it is determined that the repair strategy for the abnormality information and/or the associated abnormality

information is a manual repair based on a corresponding between the abnormality information and the repair strategies.

9. The method according to any of claims 1-7, wherein the method further comprises:

terminating the target application when it is determined that data in the running log indicates that feedback information from the target application cannot be received within a first time period or the feedback information from the target application all is abnormal; and

restarting the target application if the target application cannot be terminated and the feedback information from the target application cannot be received within a second time period or the feedback information received from the target application all is abnormal, the first time period being shorter than the second time period.

10. A device for feeding back abnormality information, characterized by comprising:

a determining module configured to determine an initial application from at least one application according to application-related usage information; determine from at least one initial application a target application that runs abnormally according to a running log of the initial application; determine an associated application with the target application according to a preset correspondence between the applications; and determine associated abnormality information corresponding to the associated application based on abnormality information of the target application, the associated application and a preset abnormality-related correspondence; and

a feedback module configured to feed back the abnormality information and the associated abnormality information.

11. An electronic apparatus comprising a memory and a processor, wherein the memory is stored therein with a computer readable instruction which, when executed by the processor, causes the processor to execute the method for feeding back abnormality information according to any of claims 1-9 or implement functions of the device for feeding back abnormality information according to claim 10.
12. A non-volatile readable storage medium stored with a computer readable instruction which, when executed by a processor, causes the processor to execute the method for feeding back abnormality information according to any of claims 1-9 or implement functions of the device for feeding back abnormality information according to claim 10.